

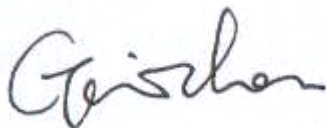
The following information was/were submitted and identified by/on behalf of the client:

Applicant : Munchkin Mats Pty Ltd
Address : 17/38 Limestone st Darra QLD 4076 Australia
Sample Name : Baby play mat
Sample Receive Date : Sep. 28, 2020
Sample Testing Period : Sep. 28, 2020 - Oct. 15, 2020
Test Result Summary : Please refer to the next page(s)

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Authorized signature:



Lab Manager: Gavin Zhou



Oct. 22, 2020

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As requested by the applicant, for details refer to attached page(s).

TEST ITEM(S)	TEST REQUESTED	CONCLUSION(S)
Mechanical and physical properties	Safety of toys - Part 1: EN 71-1:2014+A1:2018	PASS
Flammability	Safety of toys - Part 2: EN 71-2:2011+A1:2014	PASS
Migration of certain elements	Safety of toys - Part 3: EN 71-3:2019	PASS
Migration of Bisphenol A	Directive 2009/48/EC on the safety of toys and its amendments 2014/81/EU and (EU) 2017/898	PASS
Free and hydrolysed Formaldehyde content	Selected test(s) as requested by client	See Result(s)
Phthalates(DBP, BBP, DEHP, DIBP, DNOP, DINP and DIDP) content	Annex XVII items 51 & 52 of REACH Regulation (EC) No. 1907/2006 & its amendment (EC) No. 552/2009 and (EU) 2018/2005	PASS
Formamide content	Selected test(s) as requested by client	See Result(s)
Flame retardants content	Appendix C of Annex II to Directive 2009/48/EC for the safety of toys	PASS
Major Composition Qualitative Analysis	Selected test(s) as requested by client	See Result(s)

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Test Result(s):**1. Mechanical and physical properties****Test Method:** EN 71-1:2014+A1:2018

Labelled age grading : Not stated
Applicant's specified : 0+ years
age group for testing
Age grading for testing : 0+ years

Clause	Test Item	Assessment
4.	General Requirements	
4.1	Material cleanliness (by visual assessment)	PASS
4.2	Assembly	NA
4.3	Flexible plastic sheeting	NA
4.4	Toy bags	NA
4.5	Glass	NA
4.6	Expanding materials	NA
4.7	Edges	PASS
4.8	Points and metallic wires	PASS
4.9	Protruding parts	NA
4.10	Parts moving against each other	NA
4.10.1	Folding and sliding mechanisms	NA
4.10.2	Driving mechanisms	NA
4.10.3	Hinges	NA
4.10.4	Springs	NA
4.11	Mouth-actuated toys and other toys intended to be put in the mouth	NA
4.12	Balloons	NA
4.13	Cords of toy kites and other flying toys	NA
4.14	Enclosures	NA
4.14.1	Toys which a child can enter	NA
4.14.2	Masks and helmets	NA
4.15	Toys intended to bear the mass of a child	NA
4.15.1	Toys propelled by a child or by other means	NA
4.15.2	Toy bicycles	NA
4.15.3	Rocking horses and similar toys	NA
4.15.4	Toys not propelled by a child	NA
4.15.5	Toy scooters	NA

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Clause	Test Item	Assessment
4.16	Heavy immobile toys	NA
4.17	Projectile toys	NA
4.17.2	All projectiles	NA
4.17.3	Projectile toys with stored energy	NA
4.17.4	Certain projectile toys without stored energy	NA
4.18	Aquatic toys and inflatable toys	NA
4.19	Percussion caps specifically designed for use in toys and toys using percussion caps	NA
4.20	Acoustics	NA
4.20.2.2	Close-to-the-ear toys	NA
4.20.2.3	Table-top or floor toys	NA
4.20.2.4	Hand-held toys	NA
4.20.2.5	Toys using headphones or earphones	NA
4.20.2.6	Rattles	NA
4.20.2.7	Squeeze toys	NA
4.20.2.8	Pull-along or push toys	NA
4.20.2.9	Percussion toys	NA
4.20.2.10	Wind toys	NA
4.20.2.11	Cap-firing toys	NA
4.20.2.12	Voice toys	NA
4.21	Toys containing a non-electrical heat source	NA
4.22	Small balls	NA
4.23	Magnets	NA
4.23.2	Toys other than magnetic/electrical experimental sets intended for children over 8 years	NA
4.23.3	Magnetic/electrical experimental sets intended for children over 8 years	NA
4.24	Yo-yo balls	NA
4.25	Toys attached to food	NA
4.26	Toy Disguise Costumes	NA
4.27	Flying toys	NA
4.27.2	Rotors and propellers on flying toys	NA
4.27.3	Rotors and propellers on remote controlled flying toys	NA
5.	Toys intended for children under 36 months	
5.1	General requirements	PASS
5.2	Soft-filled toys and soft-filled parts of a toy	NA
5.3	Plastic sheeting	NA
5.4	Cords, chains and electrical cables in toys	NA
5.4.2	Cords and chains in toys intended for children under 18 months	NA

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Clause	Test Item	Assessment
5.4.3	Cords and chains in toys intended for children of 18 months or over but under 36 months	NA
5.4.4	Fixed loops, tangled loops and nooses	NA
5.4.5	Cords and chains on pull along toys	NA
5.4.6	Electrical cables	NA
5.4.7	Cross-sectional dimension of certain cords	NA
5.4.8	Self-retracting cords	NA
5.4.9	Toys attached to or intended to be strung across a cradle, cot or perambulator	NA
5.5	Liquid-filled toys	NA
5.6	Speed limitation of electrically-driven ride-on toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size of certain toys	NA
5.9	Toys comprising monofilament fibres	NA
5.10	Small balls	NA
5.11	Play figures	NA
5.12	Hemispheric-shaped toys	NA
5.13	Suction cups	NA
5.14	Straps intended to be worn fully or partially around the neck	NA
5.15	Sledges with cords for pulling	NA
6	Packaging	PASS
7	Warnings, markings and instructions for use	
7.1	General	PASS
7.2	Toys not intended for children under 36 months	NA
7.3	Latex balloons	NA
7.4	Aquatic toys	NA
7.5	Functional toys	NA
7.6	Hazardous sharp functional edges and points	NA
7.7	Projectile toys	NA
7.8	Imitation protective masks and helmets	NA
7.9	Toy kites	NA
7.10	Roller skates, inline skates, skateboards and certain other ride-on toys	NA
7.11	Toys intended to be strung across a cradle, cot, or perambulator	NA
7.12	Liquid-filled teethingers	NA
7.13	Percussion caps specifically designed for use in toys	NA
7.14	Acoustics	NA
7.15	Toy bicycles	NA
7.16	Toys intended to bear the mass of a child	NA
7.17	Toys comprising monofilament fibres	NA
7.18	Toy scooters	NA
7.19	Rocking horses and similar toys	NA
7.20	Magnetic/electrical experimental sets	NA

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Clause	Test Item	Assessment
7.21	Toys with electrical cables exceeding 300 mm in length	NA
7.22	Toys with cords or chains intended for children of 18 months and over but under 36 months	NA
7.23	Toys intended to be attached to a cradle, cot or perambulator	NA
7.24	Sledges with cords for pulling	NA
7.25	Flying toys	NA
7.26	Improvised projectiles	NA

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:

Items	Observation Result(s)	Location
Washing/Cleaning instruction	Not applicable	Toy/Packaging
CE mark	Present	Packaging
Importer's Name & Address	Present	Packaging
Manufacturer's Name & Address	Absent	Packaging
Product ID	Present	Packaging

Note: 1. NA = Not Applicable.

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2. Flammability

Test Method: EN 71-2:2011+A1:2014

<u>Clause</u>	<u>Test Item</u>	<u>Assessment</u>
4	Requirements	
4.1	General requirements	PASS
4.2	Toys to be worn on the head	NA
4.2.2	Beards, moustaches, wigs, etc., made from hair, pile or material with similar features(e.g. free-hanging ribbons, paper, cloth strands or other flowing elements), which protrude 50mm or more from the surface of the toy	NA
4.2.3	Beards, moustaches, wigs, etc., made from hair, pile or material with similar features(e.g. free-hanging ribbons, paper, cloth strands or other 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	Flowing elements of toys to be worn on the head (except those covered by 4.2.2 and 4.2.3), hoods, head-dresses, etc. and masks not covered by 4.2.4 which partially or fully cover the head(e.g. fabric and cardboard masks, eye masks, face masks), but excluding those covered by 4.3	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	NA

Note: 1. NA = Not Applicable.

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Test Sample Description:

Material No.	Material Description
<u>01</u>	White TPU with multicolor printing

3. Migration of certain elements

Test Method: EN 71-3:2019

For Category III: Scraped-off toy material

<u>Test item(s)</u>	<u>Limit</u>	<u>Unit</u>	<u>RL</u>	<u>Result(s)</u>
				<u>01</u>
Soluble Aluminum (Al)	28130	mg/kg	200	N.D.
Soluble Antimony (Sb)	560	mg/kg	10	N.D.
Soluble Arsenic (As)	47	mg/kg	10	N.D.
Soluble Barium (Ba)	18750	mg/kg	50	N.D.
Soluble Boron (B)	15000	mg/kg	50	N.D.
Soluble Cadmium (Cd)	17	mg/kg	10	N.D.
Soluble Chromium (III)	460	mg/kg	5	N.D.
Soluble Chromium (VI)	0.053	mg/kg	0.053	N.D.
Soluble Cobalt (Co)	130	mg/kg	10	N.D.
Soluble Copper (Cu)	7700	mg/kg	50	N.D.
Soluble Lead (Pb)	23	mg/kg	10	N.D.
Soluble Manganese (Mn)	15000	mg/kg	50	N.D.
Soluble Mercury (Hg)	94	mg/kg	10	N.D.
Soluble Nickel (Ni)	930	mg/kg	10	N.D.
Soluble Selenium (Se)	460	mg/kg	10	N.D.
Soluble Strontium (Sr)	56000	mg/kg	50	N.D.
Soluble Tin (Sn)	180000	mg/kg	50	N.D.
Soluble Organic Tin	12	mg/kg	5	N.D.
Soluble Zinc (Zn)	46000	mg/kg	200	N.D.
<u>Conclusion(s)</u>				PASS

- Note:**
- 1000mg/kg = 0.1%;
 - RL = Report Limit;
 - N.D. = Not Detected (<RL).

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4. Migration of Bisphenol A

Test Method: EN 71-10:2005 & EN 71-11:2005

Test Item	CAS No.	Unit	MDL	Limit	Result(s)	Conclusion(s)
					01	
Bisphenol A	80-05-7	mg/L	0.04	0.04	N.D.	PASS

Note: 1. MDL = Method Detection Limit;
2. N.D. = Not Detected (<MDL).

5. Free and hydrolysed Formaldehyde

Test Method: ISO 14184-1:2011

Material No.	Unit	MDL	Result(s)
01	mg/kg	16	N.D.

Note: 1. 1000mg/kg = 0.1%;
2. MDL = Method Detection Limit;
3. N.D. = Not Detected (<MDL).

6. Phthalates content

Test Method: US EPA 3550C:2007 & US EPA 8270E:2018 & GIG-WI-A3-C-123

/ Solvent extraction, analysis was performed by GC-MS

Following four phthalates intended for all the materials of toys and childcare articles

Test Items	CAS No.	Unit	MDL	Limit	Result(s)
					01
Dibutyl phthalate (DBP)	84-74-2	%	0.005	--	N.D.
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	--	N.D.
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	--	N.D.
Di-iso-butyl phthalate (DIBP)	84-69-5	%	0.005	--	N.D.
Sum of DBP, BBP, DEHP and DIBP	--	%	--	0.1	N.D.
Conclusion(s)					PASS

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Following three phthalates intended for materials of toys and childcare articles that can be placed in the mouth

<u>Test Items</u>	<u>CAS No.</u>	<u>Unit</u>	<u>MDL</u>	<u>Limit</u>	<u>Result(s)</u>
					<u>01</u>
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	--	N.D.
Di-iso-nonyl phthalate (DINP)	28553-12-0	%	0.010	--	N.D.
Di-iso-decyl phthalate (DIDP)	26761-40-0	%	0.010	--	N.D.
Sum of DNOP, DINP and DIDP	--	%	--	0.1	N.D.
<u>Conclusion(s)</u>					PASS

- Note:**
1. % = Percentage by weight;
 2. 0.1% = 1000mg/kg;
 3. MDL = Method Detection Limit;
 4. N.D. = Not Detected (<MDL).

7. Formamide content

Test Method: US EPA 3550C:2007 & US EPA 8270E:2018
/ Solvent extraction, analysis was performed by GC-MS.

<u>Substance Name</u>	<u>CAS No.</u>	<u>Unit</u>	<u>MDL</u>	<u>Limit*</u>	<u>Result(s)</u>
					<u>01</u>
Formamide content	75-12-7	mg/kg	10	200	N.D.
<u>Conclusion(s)</u>					PASS

- Note:**
1. 0.1%(w/w) = 1000 mg/kg;
 2. MDL = Method Detection Limit;
 3. N.D. = Not Detected (<MDL);
 4. "*" = According to client's requirement.

8. Flame retardants content

Test Method: US EPA 3550C:2007 & US EPA 8270E:2018
/ Solvent extraction, analysis was performed by GC-MS

<u>Test Items</u>	<u>CAS No.</u>	<u>Unit</u>	<u>MDL</u>	<u>Limit</u>	<u>Result(s)</u>
					<u>01</u>
Tris-(2-chloroethyl)phosphate (TCEP)	115-96-8	mg/kg	5	5	N.D.
Tris(1- chloro-2-propyl) phosphate(TCPP)	13674-84-5	mg/kg	5	5	N.D.

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Test Items	CAS No.	Unit	MDL	Limit	Result(s)
					01
Tris-(1,3-dichloro-2-propyl)phosphate (TDCP)	13674-87-8	mg/kg	5	5	N.D.
Conclusion(s)					PASS

- Note:**
1. 1000mg/kg = 0.1%;
 2. MDL = Method Detection Limit;
 3. N.D. = Not Detected (<MDL).

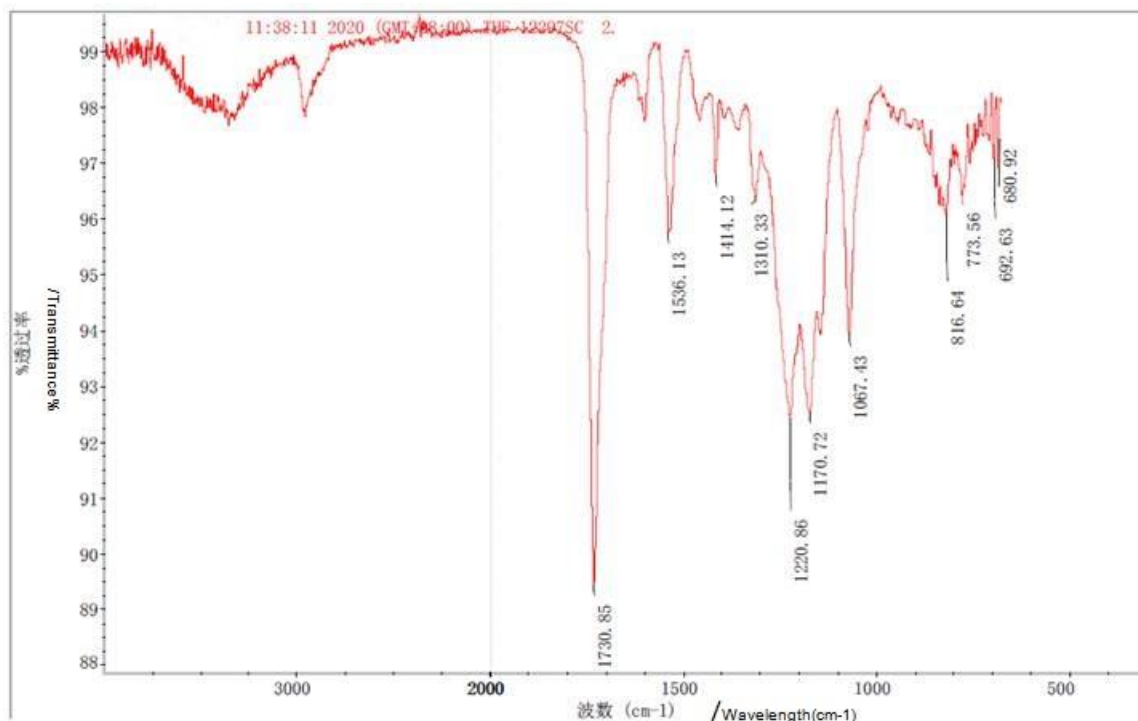
9. Major Composition Qualitative Analysis

Test Method: ASTM E1252-98(2013) ^{ε1}, analysis was performed by FTIR

Sample Technique: ATR

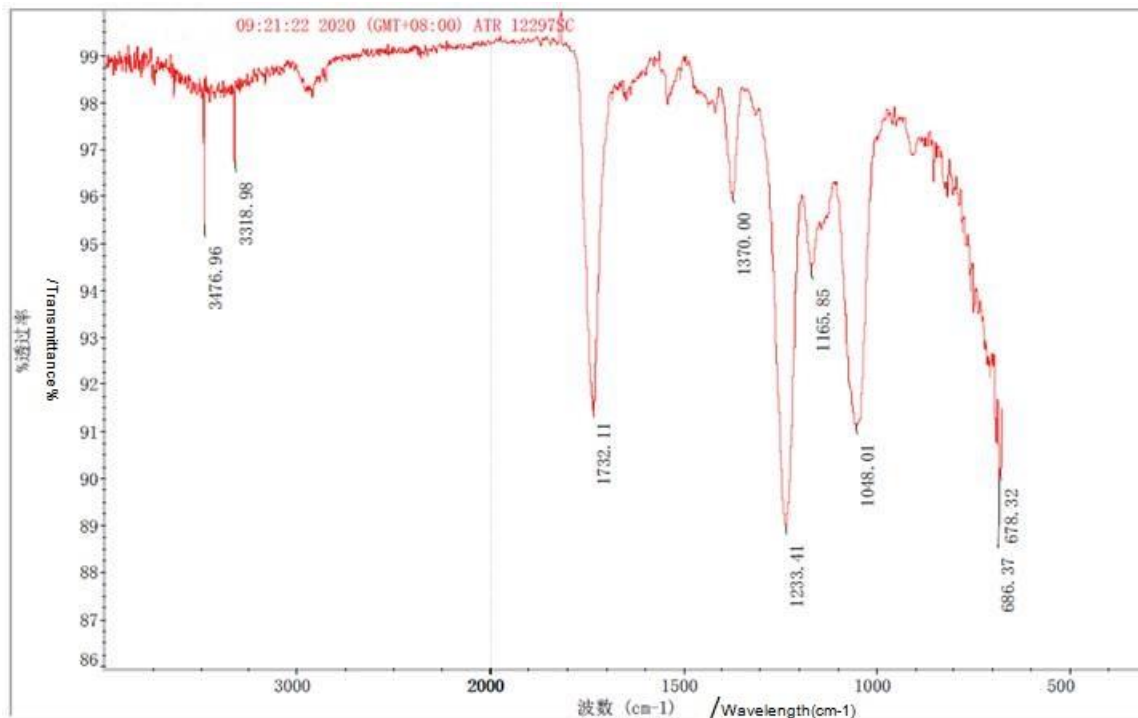
Test Items	Major composition
Major Composition Qualitative Analysis	Polyurethane with coating of Cellulose acetate (FTIR spectrum see Fig.1 & Fig.2)

Fig.1



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Fig.2



Note:

1. Fig.1 is Polyurethane, Fig.2 is Cellulose acetate
2. Test part is Surface film.

Equipment Information

Equipment	Model	Equipment No.	Calibration date	Next Calibration date
FTIR	NICOLET 380	NBPL-A024	2020-08-03	2021-08-02

3. The test results of Major Composition Qualitative Analysis come from report No.NBIN2009012297SC, Date: Oct. 14, 2020.

Sample Photo(s):



GIG authenticate the photo(s) on original report only

*****End of Report*****

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