



TEST REPORT

NINGBO HONGHEZI INTERNATIONAL TRADE CO.,LTD

Technical Report: (2422)025-8010

Feb.15,2022

Date Received: Jan.25,2022

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NINGBO HONGHEZI INTERNATIONAL TRADE CO.,LTD
C4-12A10,LV C4-12A10,LV CHENG YAN FA YUAN ,GUANGHUA
RD, HI-TECH ZONE, NINGBO CHINA

SAMPLE INFORMATION:

Sample Description:	GARDEN TOOLS SET 4 3 PC GARDEN TOOLS INCLUDES: G002-SY LEAF RAKE, G003-SY SHOVEL, T032-SY WORK GLOVES	Sample Quantity:	N/A
Vendor:	N/A	Style No(s):	SG014-03-SY
Manufacturer:	N/A	SKN/SKU No.:	N/A
Buyer:	N/A	PO No.:	N/A
Labeled Age Grade:	NOT PROVIDED	Ref #:	N/A
Appropriate Age Grade:	N/A	Country of Origin:	CHINA
Client Specified Age Grade:	OVER 3 YEARS OF AGE	Assortment No.:	N/A
Tested Age Grade:	OVER 3 YEARS OF AGE	Country of Destination:	US, CA, EU, UK, AU
UPC Code:	N/A	Color :	N/A

EXECUTIVE SUMMARY:

TEST REQUESTED	CONCLUSION
The mechanical and physical properties requirements of the tested subclauses of the European Standard, "Safety of toys", EN71: Part 1:2014+A1:2018, clauses 1-7.	NR SEEE NOTE 2
Labeling requirements of "CE marking, manufacturer/ Importer name and address, and product identification" under "Directive 2009/48/EC Safety of Toy.	NR
The flammability requirements of the European Standard "Safety of Toys", EN 71: Part 2: 2020	PASS
The mechanical and physical properties requirements of the tested subclauses of the European Standard, "Safety of toys", BS EN71: Part 1:2014+A1:2018, clauses 1-7	NR SEEE NOTE 2
The flammability requirements of the European Standard "Safety of Toys", BS EN 71: Part 2: 2020	PASS
Labeling requirements of UKCA mark & UK Toys (Safety) Regulation 2011 labeling	NR
The mechanical hazards requirements of ASTM F963-17, "Standard consumer safety specification for toy safety.	PASS
The labeling requirements of ASTM F963-17, "Standard consumer safety specification for toy safety.	NR SEEE NOTE 3
The flammability requirement of solids under ASTM F963-17 section 4.2 according to Annex A5, "Flammability testing procedure for solids and soft toys"	PASS
The mechanical hazards requirements of the tested sections of Canada Consumer Product Safety Act, Toys Regulations, SOR/2011-17 and Schedule 2.	PASS
The cellulose nitrate requirements of Canada Toys Regulations, SOR/2011-17, section 21	PASS
The mechanical and physical properties requirements of the tested subclauses of the AS/NZS Standard, "Safety of toys", AS/NZS ISO 8124: Part 1: 2019 +A1:2020+A2:2020 Except clause 4.6 sharp edge	PASS
The mechanical hazards and labeling requirements of Australia Competition and Consumer Act 2010 and Australia Trade Practices Act 1974.	N/A
The flammability requirements of the AS/NZS Standard, "Safety of toys", AS/NZS ISO 8124: Part 2: 2016.	PASS

Bureau Veritas Testing Technical Service (Zhejiang) Co.,Ltd
1F west, 6F east, 7F east, 8F, Building B,
No.66,Qingyi Road, Ningbo, Zhejiang, China
Tel:86-574-87091333, Fax:86-574-87971038
website:cps.bureauveritas.com

This report is governed by, and incorporates by reference, CPS Conditions of Service as posted at the date of issuance of this report at <http://www.bureauveritas.com/home/about-us/our-business/cps/about-us/terms-conditions> and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. Measurement uncertainty is only provided upon request for accredited tests. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence or if you require measurement uncertainty; provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents.



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The labeling requirements of the tested subclauses of the AS/NZS Standard, "Safety of toys",AS/NZS ISO 8124-1:2018+A1:2020+A2:2020.	NR SEEE NOTE 2
Migration of Certain Elements - Australian/New Zealand Standard AS/NZS ISO 8124.3: 2021	PASS
Total Lead in Surface Coating - ASTM International Standard ASTM F963-17, Section 4.3.5.1(1) for Total Lead Content in Surface Coating	PASS
Total Lead in Substrate Material - ASTM International Standard ASTM F963-17, Section 4.3.5.2(1) for Total Lead Content in Substrate Material	PASS
Soluble Heavy Metals Content in Substrate - ASTM International Standard ASTM F963-17, Section 4.3.5.2(2)(b)	PASS
Migration of Certain Elements – BS EN71-3:2019+A1:2021	PASS
Total Lead Content in Surface Coating- Reference to California Proposition 65 List of Chemicals & As Client's requirement	PASS
Total Lead Content in Substrate - Reference to California Proposition 65 List of Chemicals & As Client's requirement	PASS
Total Cadmium Content - Reference to California Proposition 65 List of Chemicals & As Client's requirement	PASS
Phthalates Content - Reference to California Proposition 65 List of Chemicals & As Client's requirement	PASS
Heavy Metals Content in Surface Coating - Canada Consumer Product Safety Act (CCPSA), S.C. 2010, c. 21, Toys Regulations SOR/2011-17 with its Latest Amendment, Section 23	PASS
Total Lead Content in Consumer Products - Canada Consumer Product Safety Act (CCPSA), S.C. 2010, c. 21, Consumer Products Containing Lead Regulations SOR/2018-83	PASS
Migration of Certain Elements - EN71-3:2019+A1:2021	PASS
Phthalates Content in Children's Toys and Child Care Articles - United States Code of Federal Regulations (CFR), Title 16, Part 1307	PASS
Phthalates Content – Reference to regulation (EC) No. 1907/2006 Annex XVII Entry 51 & 52	PASS
Phthalates Content –Canada Consumer Product Safety Act (CCPSA), S.C. 2010, c. 21, Phthalates Regulations SOR/2016-188, Section 2,3	PASS
Short Chain Chlorinated Paraffins (SCCPs) (C10 – C13) Content – Reference to Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on Persistent Organic Pollutants (POPs) (Recast)	PASS
Total Lead Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 63	PASS
Total Lead Content in Surface Coating – United States Consumer Product Safety Improvement Act (CPSIA), Section 101(a)(2)	PASS
Total Lead Content in Substrate - United States Consumer Product Safety Improvement Act (CPSIA) Section 101(a)(2)	PASS
Aromatic Amines Content from Azo Colorants - Regulation (EC) No. 1907/2006 Annex XVII Entry 43, Points 1 & 2	PASS
Formaldehyde Content & As Applicant's requirement	PASS

Note:

1.The sample is tested as "Over 3 years of age" per the client's request .

2.The sample was not evaluated to the Normal Use testing requirements specified in ASTM F963-17, Section 8.5. It is the responsibility of the manufacturer, vendor or distributor to conduct tests that will simulate normal use conditions. These tests shall ensure that hazards are not generated through normal wear and deterioration of the sample. These tests shall also simulate the normal play mode of the toy and to simulate the expected mode of use of the particular toy. The tests shall be conducted in an expected use environment. These normal use tests shall simulate the intended use of the toy based on its estimated lifetime.

3 No relevant packaging was provided with the submitted sample(s), consequently, evaluation of the labeling requirements of ASTM F963-17, was not conducted.



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BVCPS (ZHEJIANG) GENERAL CONTACT INFORMATION FOR THIS REPORT

TELEPHONE NO. : 86-574-87091207 / 87091330
E-MAIL : Heben.He@bureauveritas.com / Allen.He@bureauveritas.com

Bureau Veritas Testing Technical Service (Zhejiang) Co., Ltd

Heben He
Technical Supervisor (HARDLINE AND TOY DIVISION)



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APPROPRIATE AGE GRADE DETERMINATION

The Appropriate Age Grade is determined with reference to the EN71: Part 1:2014+A1:2018, European Union Guidance Documents, CEN ISO/TR 8124-8:2016 Safety of toys - Part 8: Age determination guidelines and Age Determination Guidelines: Relating Children's Ages to Toy Characteristics and Play Behavior, September, 2002

Note : The most stringent age grade from the Labeled Age Grade and the Appropriate Age Grade will be used for testing.

Note : If the client does not specify an age grade for testing or request Bureau Veritas Consumer Products Services, Inc. to determine an appropriate age grade, the labeled age grade will be used for testing.

EXPLANATION OF THE ABBREVIATIONS FOR PART 1. 2

Symbol	Explanation				
NM	The samples are NOT IN COMPLIANCE WITH the requirement of this Subclause				
M	The samples are IN COMPLIANCE WITH the requirement of this Subclause				
N/A	Not Applicable				
NR	Not Requested				
NE	Not Evaluated				
NP	None Present				
P	Present				
R	Refer to Comment Section of this report				
Symbol	Language Present	Symbol	Language Present	Symbol	Language Present
B	Belgian language	G	German language	PR	Portuguese language
D	Danish language	GR	Greek language	S	Spanish language
E	English language	H	Dutch language	SD	Swedish language
F	Finnish language	I	Italian language	SZ	Swiss language
FR	French language	N	Norwegian language		



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**MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1:2014+A1 :2018)**

Subclause	Requirement	Result
4.1	Material cleanliness	M
4.2	Assembly	N/A
4.3	Flexible plastic sheeting	N/A
4.4	Toy Bags	N/A
4.5	Glass	N/A
4.6	Expanding materials	N/A
4.7 & 7.6	Edges	M
4.8 & 7.6	Points and metallic wires	M
4.8e	Splinters	M
4.9	Protruding parts	N/A
4.10.1	Folding and sliding mechanisms	N/A
4.10.2	Driving mechanisms	N/A
4.10.3	Hinges	N/A
4.10.4	Springs	N/A
4.11	Mouth actuated toys and other toys intended to be put in the mouth	N/A
4.12 & 7.3	Balloons	N/A
4.13 & 7.9	Cord of toy kites and other flying toys	N/A
4.14.1	Toys which a child can enter	N/A
4.14.2 & 7.8	Masks and helmets	N/A
4.15.1	Toys propelled by child	
4.15.1.2 & 7.10.1 & 7.10.2 & 7.10.3 & 7.10.4 & 7.16	Toys propelled by child – Instructions for use	N/A
4.15.1.3	Toys propelled by child – Strength	N/A
4.15.1.4	Toys propelled by child – Stability	N/A
4.15.1.5	Toys propelled by child – Braking	N/A
4.15.1.6	Toys propelled by child - Transmission	N/A
4.15.1.7	Toys propelled by child – insertion mark	N/A
4.15.1.8	Electrically-driven ride-on toys	N/A
4.15.2	Toy bicycles	
4.15.2.2 & 7.15	Toy bicycles – Warnings and instructions for use	N/A
4.15.2.3	Toy bicycles – Braking	N/A
4.15.3 & 7.16 & 7.19	Rocking horses and similar toys	N/A
4.15.4 & 7.16	Toys not propelled by child	N/A
4.15.5 & 7.18	Toy scooters	N/A
4.16	Heavy immobile toys	N/A
4.17.2	All projectiles	N/A
4.17.3 & 7.7	Projectile toys with stored energy	N/A
4.17.4 & 7.26	Certain projectile toys without stored energy	N/A
4.18 & 7.4	Aquatic toys and inflatable toys	N/A
4.19 & 7.13 & 7.14	Percussion caps	N/A
*4.20.2.1- 4.20.2.8, 4.20.2.10, 4.20.2.12	Acoustics	N/A



**MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1:2014+A1 :2018)**

Subclause	Requirement	Result
4.20.2.9, 4.20.2.11 & 7.14	Acoustics – percussion toys & cap-firing toys	N/A
4.21	Toys containing a non-electrical heat source	N/A
4.22 & 7.2	Small balls	N/A
4.23	Magnet	
4.23.2 a, b & c	Toy other than magnetic / electrical experimental sets intended for children over 8 years	N/A
4.23.3 & 7.20	Magnetic / electrical experimental sets intended for children over 8 years	N/A
4.24	Yo-yo ball	N/A
4.25	Toys attached to food	N/A
4.26	Toy Disguise Costumes	N/A
4.27.1	Flying toys – General	N/A
4.27.2 & 7.25.1	Rotors and propellers on flying toys	N/A
4.27.3 & 7.25.2	Rotors and propellers on remote controlled flying toys	N/A
	FOR TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS	
5.1	General	N/A
5.1a	Small parts – as received	N/A
5.1b	Small parts, sharp points, sharp edges – after tests	N/A
5.1c	Cross section <2mm metal points & wires	N/A
5.1e	Toys contain glue	N/A
5.1f	Casing of toys	N/A
5.2	Fillings, coverings and seams	N/A
5.3	Adhesion of plastic sheeting	N/A
5.4.2	Cords and chains in toys intended for children under 18 months	N/A
5.4.3 & 7.22	Cords and chains in toys intended for children of 18 months or over but under 36 months	N/A
5.4.4	Fixed loops, tangled loops and nooses	N/A
5.4.5	Cords and chains on pull along toys	N/A
5.4.6 & 7.21	Electrical cables	N/A
5.4.7	Cross-sectional dimension of certain cords	N/A
5.4.8	Self-retracting cords	N/A
5.4.9 & 7.11 & 7.23	Toys attached to or intended to be strung across a cradle, cot or perambulator	N/A
5.5 & 7.12	Liquid filled toys	N/A
5.6	Electrically driven toys	N/A
5.7	Glass and porcelain	N/A
5.8	Shape and size	N/A
5.9 & 7.17	Monofilament fibres	N/A
5.10	Small balls	N/A
5.11	Play figures	N/A
5.12	Hemispheric shaped toys	N/A
5.13	Suction cups	N/A
5.14	Straps intended to be worn fully or partially around the neck	N/A
5.15 & 7.24	Sledges with cords for pulling	N/A
6	Packaging	N/A



**MECHANICAL & PHYSICAL PROPERTIES
(EN 71: PART 1:2014+A1 :2018)**

Subclause	Requirement	Result
WARNINGS, INSTRUCTIONS FOR USE		
7.1	General	SEE NOTE 2
7.2	Toys not intended for children under 36 months	SEE NOTE 2
7.5	Functional toys	SEE NOTE 2

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 1

Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method
4.3	8.25.1	4.14.2	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.11, 8.12	4.17.3	8.24.1	5.3	8.4.2.1, 8.25
4.5	8.5, 8.7, 8.11, 8.12	4.15.1.3	8.11, 8.12, 8.21, 8.22	4.17.4	8.24.2	5.4	8.20, 8.36, 8.38, 8.39, 8.40
4.6	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.14	4.15.1.4	8.23.1	4.18	8.2, 8.3, 8.4.2.1	5.5	8.15
4.7	8.11	4.15.1.5	8.26.1	4.20	8.28	5.6	8.29
4.8	8.12, 8.13	4.15.1.8	8.29	4.21	8.30	5.8	8.16
4.9	8.4.2.3, 8.11, 8.12	4.15.2.4	8.26.2	4.22	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.32	5.10	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9, 8.32
4.10.1	8.18.2, 8.18.3	4.15.3	8.21, 8.23.1	4.23	8.2, 8.3, 8.4.2.1, 8.4.2.2, 8.5, 8.6, 8.7, 8.8, 8.34, 8.35	5.11	8.33
4.10.2	8.5, 8.6, 8.7, 8.11, 8.12	4.15.4	8.21, 8.23.1	4.24	8.37	5.12	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9,
4.11	8.2, 8.3, 8.4.2.1, 8.9, 8.17	4.15.5	8.11, 8.12, 8.21, 8.22, 8.26.3, 8.27	4.25	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32.1	5.13	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32
4.13	8.19	4.16	8.23.2	5.1	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.9, 8.11, 8.12		
4.14.1	8.31.1, 8.31.2	4.17.1	8.4.2.3				



FLAMMABILITY (EN 71 PART 2: 2020)

Subclause	Requirement	Result
4.1	Cellulose nitrate	NP
4.1	Highly flammable solids	NP
4.1	Surface flash on a piled surface	N/A
4.1	Flammable gases	N/A
4.1	Extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels	N/A
4.2	Toys to be worn on the head	N/A
4.3	Toy disguise costumes and toys intended to be worn by child in play	N/A
4.3	warning on product and packaging (10 - 30 mm/s)	N/A
4.4	Toys intended to be entered by a child	N/A
4.4	warning on product and packaging (10 – 30 mm/s)	N/A
4.5	Soft-filled toys	N/A

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 2

Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method
4.2.2	5.2	4.2.4	5.3	4.3	5.4	4.5	5.5
4.2.3	5.3	4.2.5	5.4	4.4	5.4	-	-



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EXPLANATION OF THE ABBREVIATIONS FOR PART 1, 2

Symbol	Explanation				
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NE	Not Evaluated				
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P	Present				
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Symbol	Language Present	Symbol	Language Present	Symbol	Language Present
B	Belgian language	G	German language	PR	Portuguese language
D	Danish language	GR	Greek language	S	Spanish language
E	English language	H	Dutch language	SD	Swedish language
F	Finnish language	I	Italian language	SZ	Swiss language
FR	French language	N	Norwegian language		



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**MECHANICAL & PHYSICAL PROPERTIES
(BS EN 71: PART 1:2014+A1 :2018)**

Subclause	Requirement	Result
4.1	Material cleanliness	M
4.2	Assembly	N/A
4.3	Flexible plastic sheeting	N/A
4.4	Toy Bags	N/A
4.5	Glass	N/A
4.6	Expanding materials	N/A
4.7 & 7.6	Edges	M
4.8 & 7.6	Points and metallic wires	M
4.8e	Splinters	M
4.9	Protruding parts	N/A
4.10.1	Folding and sliding mechanisms	N/A
4.10.2	Driving mechanisms	N/A
4.10.3	Hinges	N/A
4.10.4	Springs	N/A
4.11	Mouth actuated toys and other toys intended to be put in the mouth	N/A
4.12 & 7.3	Balloons	N/A
4.13 & 7.9	Cord of toy kites and other flying toys	N/A
4.14.1	Toys which a child can enter	N/A
4.14.2 & 7.8	Masks and helmets	N/A
4.15.1	Toys propelled by child	
4.15.1.2 & 7.10.1 & 7.10.2 & 7.10.3 & 7.10.4 & 7.16	Toys propelled by child – Instructions for use	N/A
4.15.1.3	Toys propelled by child – Strength	N/A
4.15.1.4	Toys propelled by child – Stability	N/A
4.15.1.5	Toys propelled by child – Braking	N/A
4.15.1.6	Toys propelled by child - Transmission	N/A
4.15.1.7	Toys propelled by child – insertion mark	N/A
4.15.1.8	Electrically-driven ride-on toys	N/A
4.15.2	Toy bicycles	
4.15.2.2 & 7.15	Toy bicycles – Warnings and instructions for use	N/A
4.15.2.3	Toy bicycles – Braking	N/A
4.15.3 & 7.16 & 7.19	Rocking horses and similar toys	N/A
4.15.4 & 7.16	Toys not propelled by child	N/A
4.15.5 & 7.18	Toy scooters	N/A
4.16	Heavy immobile toys	N/A
4.17.2	All projectiles	N/A
4.17.3 & 7.7	Projectile toys with stored energy	N/A
4.17.4 & 7.26	Certain projectile toys without stored energy	N/A
4.18 & 7.4	Aquatic toys and inflatable toys	N/A
4.19 & 7.13 & 7.14	Percussion caps	N/A
*4.20.2.1- 4.20.2.8, 4.20.2.10, 4.20.2.12	Acoustics	N/A



**MECHANICAL & PHYSICAL PROPERTIES
(BS EN 71: PART 1:2014+A1 :2018)**

Subclause	Requirement	Result
4.20.2.9, 4.20.2.11 & 7.14	Acoustics – percussion toys & cap-firing toys	N/A
4.21	Toys containing a non-electrical heat source	N/A
4.22 & 7.2	Small balls	N/A
4.23	Magnet	
4.23.2 a, b & c	Toy other than magnetic / electrical experimental sets intended for children over 8 years	N/A
4.23.3 & 7.20	Magnetic / electrical experimental sets intended for children over 8 years	N/A
4.24	Yo-yo ball	N/A
4.25	Toys attached to food	N/A
4.26	Toy Disguise Costumes	N/A
4.27.1	Flying toys – General	N/A
4.27.2 & 7.25.1	Rotors and propellers on flying toys	N/A
4.27.3 & 7.25.2	Rotors and propellers on remote controlled flying toys	N/A
	FOR TOYS INTENDED FOR CHILDREN UNDER 36 MONTHS	
5.1	General	N/A
5.1a	Small parts – as received	N/A
5.1b	Small parts, sharp points, sharp edges – after tests	N/A
5.1c	Cross section <2mm metal points & wires	N/A
5.1e	Toys contain glue	N/A
5.1f	Casing of toys	N/A
5.2	Fillings, coverings and seams	N/A
5.3	Adhesion of plastic sheeting	N/A
5.4.2	Cords and chains in toys intended for children under 18 months	N/A
5.4.3 & 7.22	Cords and chains in toys intended for children of 18 months or over but under 36 months	N/A
5.4.4	Fixed loops, tangled loops and nooses	N/A
5.4.5	Cords and chains on pull along toys	N/A
5.4.6 & 7.21	Electrical cables	N/A
5.4.7	Cross-sectional dimension of certain cords	N/A
5.4.8	Self-retracting cords	N/A
5.4.9 & 7.11 & 7.23	Toys attached to or intended to be strung across a cradle, cot or perambulator	N/A
5.5 & 7.12	Liquid filled toys	N/A
5.6	Electrically driven toys	N/A
5.7	Glass and porcelain	N/A
5.8	Shape and size	N/A
5.9 & 7.17	Monofilament fibres	N/A
5.10	Small balls	N/A
5.11	Play figures	N/A
5.12	Hemispheric shaped toys	N/A
5.13	Suction cups	N/A
5.14	Straps intended to be worn fully or partially around the neck	N/A
5.15 & 7.24	Sledges with cords for pulling	N/A
6	Packaging	N/A



**MECHANICAL & PHYSICAL PROPERTIES
(BS EN 71: PART 1:2014+A1 :2018)**

Subclause	Requirement	Result
WARNINGS, INSTRUCTIONS FOR USE		
7.1	General	SEE NOTE 2
7.2	Toys not intended for children under 36 months	SEE NOTE 2
7.5	Functional toys	SEE NOTE 2

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 1

Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method
4.3	8.25.1	4.14.2	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.11, 8.12	4.17.3	8.24.1	5.3	8.4.2.1, 8.25
4.5	8.5, 8.7, 8.11, 8.12	4.15.1.3	8.11, 8.12, 8.21, 8.22	4.17.4	8.24.2	5.4	8.20, 8.36, 8.38, 8.39, 8.40
4.6	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.14	4.15.1.4	8.23.1	4.18	8.2, 8.3, 8.4.2.1	5.5	8.15
4.7	8.11	4.15.1.5	8.26.1	4.20	8.28	5.6	8.29
4.8	8.12, 8.13	4.15.1.8	8.29	4.21	8.30	5.8	8.16
4.9	8.4.2.3, 8.11, 8.12	4.15.2.4	8.26.2	4.22	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.32	5.10	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9, 8.32
4.10.1	8.18.2, 8.18.3	4.15.3	8.21, 8.23.1	4.23	8.2, 8.3, 8.4.2.1, 8.4.2.2, 8.5, 8.6, 8.7, 8.8, 8.34, 8.35	5.11	8.33
4.10.2	8.5, 8.6, 8.7, 8.11, 8.12	4.15.4	8.21, 8.23.1	4.24	8.37	5.12	8.3, 8.4.2.1, 8.5, 8.6, 8.7, 8.8, 8.9,
4.11	8.2, 8.3, 8.4.2.1, 8.9, 8.17	4.15.5	8.11, 8.12, 8.21, 8.22, 8.26.3, 8.27	4.25	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32.1	5.13	8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.32
4.13	8.19	4.16	8.23.2	5.1	8.2, 8.3, 8.4.2.1, 8.5, 8.7, 8.8, 8.9, 8.11, 8.12		
4.14.1	8.31.1, 8.31.2	4.17.1	8.4.2.3				



FLAMMABILITY (BS EN 71 PART 2: 2020)

Subclause	Requirement	Result
4.1	Cellulose nitrate	NP
4.1	Highly flammable solids	NP
4.1	Surface flash on a piled surface	N/A
4.1	Flammable gases	N/A
4.1	Extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels	N/A
4.2	Toys to be worn on the head	N/A
4.3	Toy disguise costumes and toys intended to be worn by child in play	N/A
4.3	warning on product and packaging (10 - 30 mm/s)	N/A
4.4	Toys intended to be entered by a child	N/A
4.4	warning on product and packaging (10 – 30 mm/s)	N/A
4.5	Soft-filled toys	N/A

REQUIREMENTS & TEST METHODS CROSS REFERENCE TABLE FOR PART 2

Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method	Sub-clause	Test Method
4.2.2	5.2	4.2.4	5.3	4.3	5.4	4.5	5.5
4.2.3	5.3	4.2.5	5.4	4.4	5.4	-	-



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APPROPRIATE AGE GRADE DETERMINATION

The Appropriate Age Grade is determined with reference to the Age Determination Guidelines of the Consumer Product Safety Commission (CPSC); and the ASTM F963-17, "Standard Consumer Safety Specification on Toy Safety". Annex A1

Note : The most stringent age grade from the Labeled Age Grade and the Appropriate Age Grade will be used for testing.

Note : If the client does not specify an age grade for testing or request BVCPS to determine an appropriate age grade, the labeled age grade will be used for testing.

USE AND ABUSE TESTS

The samples were undergo the tests in accordance with section 8.6 through 8.16, whichever is applicable

Test	Test Parameters	Standard Reference
Drop	4 x 3 ft	1500.53(b)
Torque	4 in-lbs	1500.53(e)
Tension	15 lbs	1500.53(f)



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PHYSICAL AND MECHANICAL HAZARDS (ASTM F963-17)

Section	Requirement	Result
4.1	Material Quality	M
4.3.7	Stuffing Materials	N/A
4.5	Sound-Producing Toys	N/A
4.6	Small Objects	N/A
4.7	Accessible Edges	M
4.8	Projections	N/A
4.9	Accessible Points	M
4.10	Wires and Rods	N/A
4.11	Nails and Fasteners	M
4.12	Plastic Film	N/A
4.13	Folding Mechanisms and Hinges	N/A
4.14	Cords, Straps and Elastics	N/A
4.15	Stability and Over-Load Requirements	N/A
4.16	Confined Spaces	N/A
4.17	Wheels, Tires, and Axles	N/A
4.18	Holes, Clearances and Accessibility of Mechanisms	N/A
4.19	Simulated Protective Devices	N/A
4.20	Pacifiers	N/A
4.21	Projectile Toys	N/A
4.22	Teethers and Teething Toys	N/A
4.23	Rattles	N/A
4.24	Squeeze Toys	N/A
4.25	Battery-Operated Toys (exclude Section 4.25.10 Battery-powered ride-on toys & Section 4.25.11 Toys that Contain Secondary Cells or Secondary Batteries)	N/A
4.26	Toys Intended to be Attached to a Crib or Playpen	N/A
4.27	Stuffed and Beanbag-Type Toys	N/A
4.30	Toy Gun Marking	N/A
4.32	Certain Toys with Nearly Spherical Ends	N/A
4.34	Small Balls	N/A
4.35	Pompoms	N/A
4.36	Hemispheric-Shaped Objects	N/A
4.37	Yo Yo Elastic Tether Toys	N/A
4.38	Magnets	N/A
4.39	Jaw Entrapment in Handles and Steering Wheels	N/A
4.40	Expanding Materials	N/A

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section



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LABELING AND INSTRUCTIONAL REQUIREMENT (ASTM F963-17)

Section	Requirement	Result
5.4 & 5.3	Aquatic Toys	NR
5.5 & 5.3	Crib and Playpen Toys	NR
5.6 & 5.3	Mobiles	NR
5.7 & 5.3	Stroller and Carriage Toys	NR
5.8 & 5.3	Toys Intended to be Assembled by an Adult	NR
5.9 & 5.3	Simulated Protective Devices	NR
5.10 & 5.3	Toys with Functional Sharp Edges or Sharp Points	NR
5.11	Small Objects, Small Balls, Marbles and Balloons (16 CFR 1500.19)	NR
5.12	Toy Caps (16CFR1500.86)	NR
5.13	Art Materials (16 CFR 1500.14(b)(8))	NR
5.15	Battery-Operated Toys (exclude 5.15.1 and 5.15.2)	NR
5.15.1 & 5.3	Battery-Powered Ride-On Toys	NR
5.15.2 & 5.3	Button or Coin Cell Batteries	NR
5.16	Promotional Materials	NR
5.17 & 5.3	Magnets	NR
6.1	Definition and Description	NR
6.2	Crib and Playpen Toys	NR
6.3	Mobiles	NR
6.4 & 5.3	Toys Intended to be Assembled by an Adult	NR
6.5	Battery-Operated Toys	NR
6.6	Battery-Powered Ride-On Toys	NR
6.7	Toys in Contact with Food	NR
7.1	Producer's Name and Address	NR
7.2	Battery-Powered Ride-on Toys	NR

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section

FLAMMABILITY (16 CFR SECTION 1500.3(c)(6)(vi))

Requirement	Test Method Reference	Findings
Burn rate no greater than 0.1 of an inch per second	16 CFR 1500.44	Ignited but self-extinguished



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CANADA CONSUMER PRODUCT SAFETY ACT

Test Method : CANADA CONSUMER PRODUCT SAFETY ACT

REASONABLY FORESEEABLE USE TESTS

Test	Test Parameters
Drop	4 x 3 ft
Push/pull	10 lbs

CANADA CONSUMER PRODUCT SAFETY ACT, TOYS REGULATIONS, SOR/2011-17

Section	Parameter / Requirement	Result
Mechanical Hazards		
4	Flexible film bag used for package	N/A
7	Small Toys and Detachable component	N/A
8	Metal edge	M
9	Wires frames	N/A
10	Plastic Edges	N/A
11	Wood	M
12	Glass	N/A
13	Nails and fasteners	M
14	Safety stops/Locking Device for Folding product	N/A
15 (a, b)	Moving Mechanism	N/A
15 (c)	Non- Detachable Winding Key Clearance	N/A
15 (d)	Detachable Key	N/A
16	Projectile Toy	N/A
17	Enclosures	N/A
18	Stability	N/A
19	Auditory hazards	N/A
Specific Products - Dolls, Plush Toys and Soft Toys		
28	Exposed Sharp Points and Edges	N/A
29. (a)	Stuffing Materials shall be clean and free from vermin	N/A
29. (b)	Stuffing Materials shall be free from hard and sharp foreign matter	N/A
30	Squeaker, Reed and Valve	N/A
31	Eyes and Nose	N/A
Specific Products		
35*&36*	Plant seeds	N/A
37	Pull and Push toys	N/A
38*	Toys Steam engine Boilers	N/A
39*	Finger Paints	N/A
40(a)	Rattles – Sharp wire	N/A
40(b, c)	Rattles – Impaction	N/A
41	Elastic	N/A
42	Yo-Yo type balls	N/A



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CANADA CONSUMER PRODUCT SAFETY ACT, SCHEDULE 2

Section	Parameter / Requirement	Result
Mechanical Hazards		
1*	Jequirity Beans	M
8*	Kites	N/A
9	Kite strings	N/A
14*	Lawn, darts with elongated tips	N/A

M = Meet NM = Not Meet NA = Not Applicable R = Refer to Comment Section

* = Non-accredited section

SOR/2018-138 Amending the Toys Regulations (Magnetic Toys)

Section	Parameter / Requirement	Result
43	Magnetic force	N/A
44	Educational experimental kit - Labeling	N/A

M = Meet NM = Not Meet NA = Not Applicable R = Refer to Comment Section

**FLAMMABILITY OF CELLULOSE NITRATE
TOY REGULATIONS SOR/2011-17 SECTION 21**

Requirement Reference	Observation	Flammability Classification
Section 21	No Flash Effect	M
Section 21	With Flash Effect	N/A

M = Meet NM-See comment = Not Meet - Refer to Comment Section NA = Not Applicable



APPROPRIATE AGE GRADE DETERMINATION

The Appropriate Age Grade is determined with reference to the Age-grading guidelines of the Annex A of the AS/NZS Standard, "Safety of toys", AS/NZS ISO 8124.1:2019 +A1:2020+A2:2020

Note : The most stringent age grade from the Labeled Age Grade and the Appropriate Age Grade will be used for testing.

Note : If the client does not specify an age grade for testing or request BVHK to determine an appropriate age grade, the labeled age grade will be used for testing.

MECHANICAL & PHYSICAL PROPERTIES – (AS/NZS ISO 8124.1:2019+A1:2020+A2:2020)

Subclause	Requirement	Result
4.1	Normal use	M
4.2	Reasonably foreseeable abuse	M
4.3	Material	M
4.4	Small parts	N/A
4.5	Shape, size and strength of certain toys	N/A
4.6	Edges	M
4.7	Points	M
4.8	Projections	N/A
4.9	Metal wires and rods	N/A
4.10	Plastic film or plastic bags in packaging and in toys	N/A
4.11	Cords	N/A
4.12	Folding mechanisms	N/A
4.13	Holes, clearances and accessibility of mechanisms	N/A
4.14	Springs	N/A
4.15	Stability and overload requirements	N/A
4.16	Enclosures	N/A
4.17	Simulated protective equipment	N/A
4.18	Projectile toys	N/A
4.19	Rotors and propellers	N/A
4.20	Aquatic toys	N/A
4.21	Braking	N/A
4.22	Toy bicycles	N/A
4.23	Speed limitation of electrically driven ride-on toys	N/A
4.24	Toys containing a heat source	N/A
4.25	Liquid-filled toys	N/A
4.26	Mouth-actuated toys	N/A
4.27	Toy roller skates, toy inline skates and toy skateboards	N/A
4.28	Percussion caps specifically designed for use in toys	N/A
4.29	Acoustic requirement	N/A
4.30	Toy scooters	N/A
4.31	Magnets and magnetic components	N/A
4.32	Yo-yo balls	N/A
4.33	Straps intended to be worn fully or partially around the neck	N/A
4.34	Sledges and toboggans with cords for pulling	N/A
4.35	Jaw entrapment in handles and steering wheels	N/A
4.36	Assembly	N/A

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section



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FLAMMABILITY (AS/NZS ISO 8124.2: 2016)

Subclause	Requirement	Result
4.1	Celluloid (cellulose nitrate)	NP
4.1	Surface flash on a piled surface	N/A
4.1	Flammable Gases	N/A
4.1	Extremely flammable liquids, highly flammable liquids, flammable liquids and flammable gels	N/A
4.2	Toys to be worn on the head	N/A
4.3	Toy disguise costumes and toys intended to be worn by a child in play	N/A
4.3	warning on product and packaging (10 - 30 mm/s)	N/A
4.4	Toys intended to be entered by a child	N/A
4.4	warning on product and packaging (10 - 30 mm/s)	N/A
4.5	Soft - filled toys	N/A

M = Meet NM = Not Meet N/A = Not Applicable R = Refer to Comment Section P = Present NP = Not Present

Age grading & manufacturer's markings

Requirement	Annex B	Result
Age grading	B.2.2	NOT PROVIDED
Manufacturer's markings	B.4	NOT PROVIDED



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Tested Component(s) Breakdown List

Test Item(s)	Description	Location(s)	Style(s)
39	Beige wood	-	-
40	Brown rope	-	-
46	Yellow fabric	-	-
47	Black fabric	-	-
54	Black coating	-	-
55	Yellow coating	-	-
63	Silvery metal	-	-



Migration of Certain Elements - Australian/New Zealand Standard AS/NZS ISO 8124.3: 2021

Test Method : Australian/New Zealand Standard AS/NZS ISO 8124.3:2021

Soluble Element(s)		As	Ba	Cd	Cr	Hg	Pb	Sb	Se
Maximum Allowable Limit (mg/kg) (See List of Material Types)	All materials except modelling clay (Type I to VII, IX & X)	25	1000	75	60	60	90	60	500
	Modelling clay (Type VIII)	25	250	50	25	25	90	60	500
Analytical Correction (%)		60	30	30	30	50	30	60	60

-	Unit	Result							
Test Item(s)	-	39	40	46	47				
Type	-	VI	IV	IV	IV				
Parameter	-	-	-	-	-				
Mass of Trace Amount	g	-	-	-	-				
Soluble Arsenic (As)	mg/kg	ND	ND	ND	ND				
Soluble Barium (Ba)	mg/kg	ND	ND	ND	ND				
Soluble Cadmium (Cd)	mg/kg	ND	ND	ND	ND				
Soluble Chromium (Cr)	mg/kg	ND	ND	ND	ND				
Soluble Mercury (Hg)	mg/kg	ND	ND	ND	ND				
Soluble Lead (Pb)	mg/kg	ND	ND	ND	ND				
Soluble Antimony (Sb)	mg/kg	ND	ND	ND	ND				
Soluble Selenium (Se)	mg/kg	ND	ND	ND	ND				
Conclusion	-	PASS	PASS	PASS	PASS				

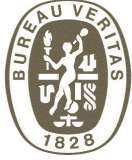
Note / Key :

ND = Not detected mg/kg = milligram(s) per kilogram
 Detection Limit (mg/kg) :
 For Type I to VII, IX & X - As : 2.5; Ba : 100; Cd : 7.5; Each (Cr, Hg, & Sb) : 6.0; Pb : 9.0; Se : 50
 For Type VIII - Each (As, Cr & Hg) : 2.5; Ba : 25; Cd : 5.0; Sb : 6.0; Pb : 9.0; Se : 50

Remark :

- -Test Item(s) was (were) tested according to Australian/New Zealand Standard AS/NZS ISO 8124.3: 2021.
- The received sample(s) contained accessible component(s) of less than 10 milligrams by weight on one single sample, therefore such component(s) was (were) not subject to migration of certain elements of Australian/New Zealand Standard, " Safety of Toys, AS/NZS ISO 8124.3: 2021 ", as specified in Section 7 - Selection of test portions.
- -C denotes as reported result(s) was (were) adjusted by analytical correction in Key(s) section.

List of Material Types :			
Type	Material Description(s)	Type	Material Description(s)
I	Coatings	VI	Other materials whether mass coloured or not
II	Polymeric materials	VII	Materials intended to leave a trace
III	Paper and paper board	VIII	Pliable modeling materials - modelling clay
IV	Textiles	IX	Pliable modeling materials - non-modelling clay
V	Glass/ Ceramic/ Metallic materials	X	Paints, varnishes lacquers, glazing powders and similar materials in solid or in liquid form



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Total Lead in Surface Coating - ASTM International Standard ASTM F963-17, Section 4.3.5.1(1) for Total Lead Content in Surface Coating

Test Method: ASTM International Standard ASTM F963-17, Section 8.3.1.1 and CPSC-CH-E1003-09.1 Standard Operating Procedure for Determining Lead (Pb) in Paint and Other Similar Surface Coating

Element:		Lead (Pb)		Conclusion
Requirement: Maximum allowable limit:		90		
Test Item	Unit	Result		
54	mg/kg	<10		PASS
55	mg/kg	<10		PASS

Note / Key : Detection Limit (mg/kg) : 10 mg/kg = milligram(s) per kilogram
< = Less than

Total Lead in Substrate Material - ASTM International Standard ASTM F963-17, Section 4.3.5.2(1) for Total Lead in Substrate Material

Test Method:

non-metal ASTM International Standard ASTM F963-17, Section 8.3.1.1 and CPSC-CH-E1002-08.3 Standard Operating Procedure for Determining Lead (Pb) In Non-metal Children's Products

metal CPSC-CH-E1001-08.3 Standard Operating Procedure for Determining Lead (Pb) In Metal Children's Products

Element:		Lead (Pb)		Conclusion
Requirement: Maximum allowable limit:		100		
Test Item	Unit	Result		
39	mg/kg	<10		PASS
63	mg/kg	<10		PASS

Note / Key : Detection Limit (mg/kg) : 10 mg/kg = milligram(s) per kilogram
< = Less than



Soluble Heavy Metals Content in Substrate - ASTM International Standard ASTM F963-17, Section 4.3.5.2(2)(b)

Test Method: ASTM International Standard ASTM F963-17, Section 8.3.5 (Excluding 8.3.5.5(3)).

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se
Max. Limit (mg/kg)	25	1000	75	60	60	90	60	500
Analytical Correction	60%	30%	30%	30%	50%	30%	60%	60%

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Conclusion
Test Item	Result (mg/kg)								
39	<2.5	<5	<5	<5	<5	<5	<5	<5	PASS
40	<2.5	<5	<5	<5	<5	<5	<5	<5	PASS
46	<2.5	<5	<5	<5	<5	<5	<5	<5	PASS
47	<2.5	<5	<5	<5	<5	<5	<5	<5	PASS

Note / Key : mg/kg = milligrams per kilogram
< = Less Than

As = Arsenic, Ba = Barium, Cd = Cadmium,
Cr = Chromium, Hg = Mercury, Pb = Lead,
Sb = Antimony, Se = Selenium

Remark :

- ^c denotes as reported result(s) was (were) adjusted by analytical correction shown in limit table.

Migration of Certain Elements – BS EN71-3:2019+A1:2021

Test Method : BS EN71-3:2019+A1:2021 , Section 8.

See Soluble Element (Parameter) and its corresponding Maximum Allowable Limit (Req.) in Result Table	Category I	Dry, brittle, powder-like or pliable toy material
	Category II	Liquid or sticky toy material
	Category III	Scraped-off toy material

-	Unit	Req.	Result			
Test Item(s)	-		39	40	46	47
Category	-	III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	-	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	28130	<2813	<2813	<2813	<2813
Chromium III (Cr III)	mg/kg	460	<46	<46	<46	<46
Chromium VI (Cr VI)	mg/kg	0.053	<0.020	<0.020	<0.020	<0.020
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46



Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600		
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7		
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000		
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*		
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56		
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875		
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4		
Lead (Pb)	mg/kg	23	<2.3	<2.3	<2.3	<2.3		
Conclusion	-	-	PASS	PASS	PASS	PASS		

Note / Key:

Req. = Requirement

mg/kg = milligram per kilogram

Remark :

- If combined Cr content exceeds 0.02mg/kg in I mat., 0.005 mg/kg in II mat., or 0.053mg/kg in III mat., confirmation Cr(VI) by IC-ICP-MS or IC-UV/VIS, Cr(III)=Combined Cr – Cr(VI).
- *Result(s) of organic tin was (were) reported as soluble tin content.
- The European Commission proposed to amend the maximum allowable limit(s) of migratable aluminium of European Parliament and Council Directive 2009/48/EC in particular regarding to Annex II, Part III, Point 13 in order to ensure the alignment to the scientific evidence from The Scientific Committee on Health, Environmental and Emerging Risks (SCHEER) and increase children`s safety. See details in Comment.

Total Lead Content in Surface Coating- Reference to California Proposition 65 List of Chemicals & As Client's requirement

Test Method : U.S. CPSC-CH-E1003-09.1

Maximum Allowable Limit :	90 mg/kg
----------------------------------	-----------------

Parameter	Unit	MDL	Result			
			54	55		
Total Lead (Pb)	mg/kg	10	ND	ND		
Conclusion	-	-	PASS	PASS		

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit

Total Lead Content in Substrate - Reference to California Proposition 65 List of Chemicals & As Client's requirement

Test Method : U.S. CPSC-CH-E1001-08.3 or U.S. CPSC-CH-E1002-08.3

Parameter	Unit	MDL	Result			
			39	63		
Total Lead (Pb)	mg/kg	10	ND	ND		
Conclusion	-	-	PASS	PASS		

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit



Total Cadmium Content - Reference to California Proposition 65 List of Chemicals & As Client's requirement

Test Method : The sample is digested with acid, then analyzed by ICP-OES and AAS.

Maximum Allowable Limit:	100 mg/kg
---------------------------------	------------------

Parameter	Unit	MDL	Result					
			39	54	55	63		
Total Cadmium (Cd)	mg/kg	10	ND	ND	ND	ND		
Conclusion	-	-	PASS	PASS	PASS	PASS		

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit

Phthalates Content - Reference to California Proposition 65 List of Chemicals & As Client's requirement

Test Method : Extraction with solvent, analysed by Gas Chromatography Mass Spectrometer.

Maximum Allowable Limit	Each 0.1 %
--------------------------------	-------------------

Tested Item(s)	Result			Conclusion
	Detected Analyte(s)	Conc.	Unit	
39	ND	ND	%	PASS
54	ND	ND	%	PASS
55	ND	ND	%	PASS

Note / Key:

ND = Not Detected

Conc. = Concentration

Detection Limit (%): Each 0.005

% = percentage

Remark:

- The list of phthalates is summarized in table of Appendix.

APPENDIX

List of Phthalates:					
No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Butyl benzyl phthalate (BBP)	85-68-7	5	Di-n-octyl phthalate (DNOP)	117-84-0
2	Dibutyl phthalate (DBP)	84-74-2	6	Di-iso-decyl phthalate (DIDP)	26761-40-0
3	Di-2-ethylhexyl phthalate (DEHP)	117-81-7	7	Di-n-hexyl phthalate (DnHP)	84-75-3
4	Di-iso-nonyl phthalate (DINP)	28553-12-0	8	Diisobutyl phthalate (DiBP)	84-69-5



Heavy Metals Content in Surface Coating - Canada Consumer Product Safety Act (CCPSA), S.C. 2010, c. 21, Toys Regulations SOR/2011-17 with its Latest Amendment, Section 23

Test Item(s)	Maximum Allowable Limit :
Total Lead (Pb)	90 mg/kg
Total Mercury (Hg)	No mercury compounds introduced

-	Unit	Result			
Test Item(s)	-	54	55		
Total Lead	mg/kg	ND	ND		
Total Mercury		ND	ND		
Conclusion	-	PASS	PASS		

Note / Key :

mg/kg = milligram(s) per kilogram = ppm = part(s) per million ND = Not detected

Detection Limit (mg/kg) :

Total metal(s) content analysis - Pb : 10; Hg : 10;

Total Lead Content in Consumer Products - Canada Consumer Product Safety Act (CCPSA), S.C. 2010, c. 21, Consumer Products Containing Lead Regulations SOR/2018-83

Maximum Allowable Limit :	90 mg/kg
----------------------------------	-----------------

-	Unit	Result			
Test Item(s)	-	39	63		
Parameter	-	-	-		
Total Lead (Pb)	mg/kg	ND	ND		
Conclusion	-	PASS	PASS		

Note / Key :

ND = Not detected

mg/kg = milligram(s) per kilogram = ppm = part(s) per million

10 000 mg/kg = 1 % % = percent

Detection Limit (mg/kg) - 10



Migration of Certain Elements - EN71-3:2019+A1:2021

Test Method : European Standard EN71-3:2019+A1:2021

See Soluble Element (Parameter) and its corresponding Maximum Allowable Limit (Req.) in Result Table	Category I	Dry, brittle, powder-like or pliable toy material
	Category II	Liquid or sticky toy material
	Category III	Scraped-off toy material

-	Unit	Req.	Result					
			39	40	46	47		
Test Item(s)	-		39	40	46	47		
Category	-	III	III	III	III	III		
Parameter	-	-	-	-	-	-		
Mass of Trace Amount	g	-	-	-	-	-		
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500		
Aluminium (Al)	mg/kg	28130	<2813	<2813	<2813	<2813		
Chromium III (Cr III)	mg/kg	460	<46	<46	<46	<46		
Chromium VI (Cr VI)	mg/kg	0.053	<0.020	<0.020	<0.020	<0.020		
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500		
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13		
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93		
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770		
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600		
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7		
Selenium (Se)	mg/kg	460	<46	<46	<46	<46		
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600		
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7		
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000		
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*		
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56		
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875		
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4		
Lead (Pb)	mg/kg	23	<2.3	<2.3	<2.3	<2.3		
Conclusion	-	-	PASS	PASS	PASS	PASS		

Note / Key:

Req. = Requirement

mg/kg = milligram per kilogram

Remark :

- Test Item(s) was (were) tested according to European Standard EN 71-3: 2019 + A1: 2021, Section 8.
- Results of Cr III and Cr VI were reported as sum of soluble chromium content unless further verified.
- *Result(s) of organic tin was (were) calculated by assuming the soluble tin content was wholly contributed from tributyltin (TBT) cation unless further specified.
- The pH measured shall be reported after migration if it was outside the range of 1.1 to 1.3.
- European Standard EN 71 Part 3: 2019 is currently harmonized under European Parliament and Council Directive 2009/48/EC and will be superseded when European Standard EN 71 Part 3: 2019 + A1: 2021 is harmonized.



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- The received sample(s) contained accessible component(s) of less than 10 milligrams by weight on one single sample, therefore such component(s) was (were) not subject to migration of certain elements of European Standard, "Safety of Toys, EN 71 Part 3: 2019 + A1: 2021", as specified in Section 7.1 - Selection of test portions.
- * denotes as result(s) was (were) verified by :
For organic tin content - Test method with reference to European Standard EN 71-3: 2019 + A1: 2021 and reported as tributyltin (TBT) cation.
For Cr VI content - In house ion chromatography analysis.

Phthalates Content in Children`s Toys and Child Care Articles - United States Code of Federal Regulations (CFR), Title 16, Part 1307

Test Method: CPSC-CH-C1001-09.4

Maximum Allowable Limit	Each 0.1 %
--------------------------------	-------------------

Tested Item(s)	Result			Conclusion
	Detected Analyte(s)	Conc.	Unit	
39	ND	ND	%	PASS
54	ND	ND	%	PASS
55	ND	ND	%	PASS

Note / Key:

ND = Not Detected
Detection Limit (%): Each 0.005

Conc. = Concentration
% = percentage

Remark:

- The list of phthalates is summarized in table of Appendix.

APPENDIX

List of Phthalates:					
No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Butyl benzyl phthalate (BBP)	85-68-7	5	Diisobutyl phthalate (DiBP)	84-69-5
2	Dibutyl phthalate (DBP)	84-74-2	6	Di-n-pentyl phthalate (DPENP)	131-18-0
3	Di-2-ethylhexyl phthalate (DEHP)	117-81-7	7	Di-n-hexyl phthalate (DHEXP)	84-75-3
4	Di-iso-nonyl phthalate (DINP)	28553-12-0	8	Dicyclohexyl phthalate (DCHP)	84-61-7



Phthalates Content – Reference to regulation (EC) No. 1907/2006 Annex XVII Entry 51 & 52

Test Method : Extraction with solvent, analysed by Gas Chromatography Mass Spectrometer.

Maximum Allowable Limit:	Sum of DBP, BBP, DEHP, DIBP: 0.1 % Sum of DNOP, DIDP, DINP: 0.1 %
---------------------------------	--

A. For toys and childcare articles

Parameter	CAS No.	Unit	MDL	Result			
				54	55		
Dibutyl phthalate (DBP)	84-74-2	%	0.005	ND	ND		
Butyl benzyl phthalate (BBP)	85-68-7	%	0.005	ND	ND		
Di-2-ethylhexyl phthalate (DEHP)	117-81-7	%	0.005	ND	ND		
Diisobutyl phthalate (DiBP)	84-69-5	%	0.005	ND	ND		
<i>Sum</i>	-	%	-	ND	ND		
Conclusion	-	-	-	PASS	PASS		

B. Additional requirements for toys and childcare articles, which can be placed in mouth by the children (See remark)

Parameter	CAS No.	Unit	MDL	Result			
				54	55		
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	ND	ND		
Di-iso-decyl phthalate (DIDP)	26761-40-0	%	0.005	ND	ND		
Di-iso-nonyl phthalate (DINP)	28553-12-0	%	0.005	ND	ND		
Sum	-	%	-	ND	ND		
Conclusion	-	-	-	PASS	PASS		

Note / Key:

ND = Not Detected

% = percentage

MDL = Method Detection Limit

Remark:

- Toys and childcare articles, which can be placed in mouth by the children, shall meet the requirements of both Part A and B.



Phthalates Content –Canada Consumer Product Safety Act (CCPSA), S.C. 2010, c. 21, Phthalates Regulations SOR/2016-188, Section 2.3

Test Method: Extraction with solvent, analysed by Gas Chromatography Mass Spectrometer.

Maximum Allowable Limit :	1 000 mg/kg (Each of all listed phthalates)
----------------------------------	--

A.Phthalates Content in Toys and Child Care Articles composed of Vinyl

Test Item(s)	Result			Conclusion
	Detected Analyte(s)	Conc.	Unit	
54	ND	ND	mg/kg	PASS
55	ND	ND	mg/kg	PASS

APPENDIX

List of Phthalates [CCPSA, Phthalates Regulations SOR/2016-188, Section 2] :

No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Butyl benzyl phthalate (BBP)	85-68-7	3	Di-2-ethylhexyl phthalate (DEHP)	117-81-7
2	Dibutyl phthalate (DBP)	84-74-2	-	-	-

CAS-No. = Chemical Abstracts Service registry number

B.Phthalates Content in Toys and Child Care Articles composed of Vinyl which can be placed in Mouth by Children under 4 Years of Age

Test Item(s)	Result			Conclusion
	Detected Analyte(s)	Conc.	Unit	
54	ND	ND	mg/kg	PASS
55	ND	ND	mg/kg	PASS

APPENDIX

List of Phthalates [CCPSA, Phthalates Regulations SOR/2016-188, Section 3] :

No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	Di-n-octyl phthalate (DNOP)	117-84-0	3	Di-iso-decyl phthalate (DIDP)	26761-40-0
2	Di-iso-nonyl phthalate (DINP)	28553-12-0	-	-	-

CAS-No. = Chemical Abstracts Service registry number

Note / Key:

ND = Not detected
mg/kg = milligram(s) per kilogram = ppm = part(s) per million
10 000 mg/kg = 1 %
Detection Limit (mg/kg) - Each of the listed phthalates : 50

Conc. = Concentration
% = percent

Remark :

The list of phthalates is summarized in table of Appendix.



Short Chain Chlorinated Paraffins (SCCPs) (C10 – C13) Content – Reference to Regulation (EU) 2019/1021 of the European Parliament and of the Council of 20 June 2019 on Persistent Organic Pollutants (POPs) (Recast)

Test Method: Organic solvent extraction and analysis by Gas Chromatograph Mass Spectrometer in Negative Chemical Ionization mode (GC-MS-NCI).

Limit :	Less than 1500 mg/kg
----------------	-----------------------------

Parameter	Unit	MDL	Result			
			54	55		
Short Chain Chlorinated Paraffins (SCCPs) (C10 – C13)	mg/kg	30	ND	ND		
Conclusion	-	-	PASS	PASS		

Note / Key :

ND = Not detected

">" = Greater than

No. = Number(s)

mg/kg = milligram(s) per kilogram = ppm = part(s) per million

10 000 mg/kg = 1 %

% = percent

Detection Limit (mg/kg) - 30

Total Cadmium Content in Paints on Painted Article - European Parliament and Council Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) with its Latest Amendment, Annex XVII, Entry 23

Test Method : The sample is comminuted and digested with acid mixtures, then analyzed by ICP-OES technique

Maximum Allowable Limit:	1000 mg/kg
---------------------------------	-------------------

Parameter	Unit	MDL	Result			
			54	55		
Cadmium (Cd)	mg/kg	10	ND	ND		
<i>Conclusion</i>	-	-	PASS	PASS		

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit



Total Lead Content – Reference to Regulation (EC) No. 1907/2006 Annex XVII Entry 63

Test Method : The sample is digested with acid, then analyzed by ICP-OES and AAS .

Maximum Allowable Limit:	500 mg/kg
---------------------------------	------------------

Parameter	Unit	MDL	Result			
			39	54	55	63
Total Lead (Pb)	mg/kg	10	ND	ND	ND	ND
Conclusion	-	-	PASS	PASS	PASS	PASS

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit

Total Lead Content in Surface Coating – United States Consumer Product Safety Improvement Act (CPSIA), Section 101(a)(2)

Test Method : U.S. CPSC-CH-E1003-09.1

Maximum Allowable Limit :	90 mg/kg
----------------------------------	-----------------

Parameter	Unit	MDL	Result	
			54	55
Total Lead (Pb)	mg/kg	10	ND	ND
Conclusion	-	-	PASS	PASS

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit

Total Lead Content in Substrate - United States Consumer Product Safety Improvement Act (CPSIA) Section 101(a)(2)

Test Method : U.S. CPSC-CH-E1001-08.3 or U.S. CPSC-CH-E1002-08.3.

Maximum Allowable Limit :	100 mg/kg
----------------------------------	------------------

Parameter	Unit	MDL	Result	
			39	63
Total Lead (Pb)	mg/kg	10	ND	ND
Conclusion	-	-	PASS	PASS

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

MDL = Method Detection Limit



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Aromatic Amines Content from Azo Colorants - Regulation (EC) No. 1907/2006 Annex XVII Entry 43, Points 1 & 2

Test Method I : EN ISO 14362-1:2017

Test Method II : ISO 17234-1: 2015

Test Method III : EN ISO 14362-3: 2017

Quantification analysis by GC-MS and confirmation by LC-DAD.

Maximum Allowable Limit:	30 mg/kg (Each)
---------------------------------	------------------------

Tested Item(s)	Test Method	Result			Conclusion
		Detected Analyte(s)	Concentration	Unit	
40	I	ND	ND	mg/kg	PASS
46	I	ND	ND	mg/kg	PASS
47	I	ND	ND	mg/kg	PASS

Note / Key:

ND = Not Detected

mg/kg = milligram per kilogram

Detection Limit (mg/kg): Each 10

Remark:

- *Azo colorants that are able to form p-aminoazobenzene, generate aniline and 1,4-phenylenediamine under the condition of test method I. If aniline and/or 1,4-phenylenediamine is not found by test method I, test result for 4-aminoazobenzene (CAS no. 60-09-3) is considered as "Not detected". Otherwise, the test method III will be employed to verify the presence of 4-aminoazobenzene.
- The list of amines in azo dyestuff is summarized in table of Appendix.

APPENDIX

List of Amines in Azo Dyestuff:					
No.	Name of Analytes	CAS-No.	No.	Name of Analytes	CAS-No.
1	4-Aminodiphenyl	92-67-1	12	3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0
2	Benzidine	92-87-5	13	p-Chloroaniline	106-47-8
3	4-Chloro-o-Toluidine	95-69-2	14	p-Cresidine	120-71-8
4	2-Naphthylamine	91-59-8	15	4,4'-Methylene-bis-(2-chloraniline)	101-14-4
5	o-Aminoazotoluene	97-56-3	16	4,4'-Oxydianiline	101-80-4
6	2-Amino-4-nitrotoluene	99-55-8	17	4,4'-Thiodianiline	139-65-1
7	2,4-Diaminoanisole	615-05-4	18	2,4-Toluenediamine	95-80-7
8	4,4'-Diaminodiphenylmethane	101-77-9	19	o-Toluidine	95-53-4
9	3,3'-Dichlorobenzidine	91-94-1	20	2,4,5-Trimethylaniline	137-17-7
10	3,3'-Dimethoxybenzidine (o-Dianisidine)	119-90-4	21	o-Anisidine	90-04-0
11	3,3'-Dimethylbenzidine (o-Tolidine)	119-93-7	22	*p-Aminoazobenzene (4-Amino-azobenzene)	60-09-3



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Formaldehyde Content & As Applicant's requirement

Test method : ISO 14184-1: 2011

Parameter	Unit	MDL	Result			Client's Limit
			40	46	47	
Formaldehyde	mg/kg	16	ND	ND	ND	75
Conclusion	-	-	PASS	PASS	PASS	-

Note / Key:

ND = Not Detected
MDL = Method Detection Limit

mg/kg = milligram per kilogram



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