CARPENTERS MANUFACTORY LIMITED

Technical Report: (8519)065-0820(A) / (8518)318-0676(D)

March 26, 2019

CARPENTERS MANUFACTORY LIMITED
HUANG JIN JI INDUSTRIAL ZONE
SHANG JIE VILLAGE
QI SHI TOWN, DONGGUAN CITY
GUANGDONG PROVINCE,
P.R. CHINA

Details of samples submitted on March 07, 2019:

Sample Description:	800HX880L MOBILE INCLINED SHELVING UNIT(TRAYS NOT INCLUDED) 800HX880L MOBILE SHELVING UNIT (TRAYS NOT INCLUDED) STEM WALL 39 PIECE GEARS AND CHAIN SET STEM WALL 100LX200H WALL PANEL 1 PIECE SET STEM WALL 100LX400H WALL PANEL 1 PIECE SET STEM WALL 200LX200H WALL PANEL 1 PIECE SET STEM WALL 200LX400H WALL PANEL 1 PIECE SET FREE STANDING STEM WALL 860LX1250H FREE STANDING STEM WALL 1660LX1250H STEM WALL - 512 PIECE PEGS (6 COLOURS) SET II STEM WALL - LACING PEGS AND ACCESSORIES		
Vendor:	CARPENTERS MANUFACTORY LIMITED 东莞天志木制品有限公司	Sample Size:	1 LOT(S)
Manufacturer:	N/A	Style No(s):	N/A
Buyer:	N/A	SKN/SKU No.:	N/A
Labeled Age Grade:	NOT PRESENT	PO No.:	N/A
Appropriate Age Grade:	NOT REQUESTED	Ref #:	N/A
Client Specified Age Grade:	NOT SPECIFIED	Country of Origin:	CHINA
Tested Age Grade:	N/A	Assortment No.:	N/A
UPC Code:	N/A	Country of Destination :	GLOBAL 全球

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Details of samples submitted on January 25, 2019:

Sample Description:	800HX880L MOBILE INCLINED SHELVING UNIT(TRAYS NOT INCLUDED) 800HX880L MOBILE SHELVING UNIT (TRAYS NOT INCLUDED) STEM WALL 39 PIECE GEARS AND CHAIN SET STEM WALL 100LX200H WALL PANEL 1 PIECE SET STEM WALL 100LX400H WALL PANEL 1 PIECE SET STEM WALL 200LX200H WALL PANEL 1 PIECE SET STEM WALL 200LX400H WALL PANEL 1 PIECE SET FREE STANDING STEM WALL 860LX1250H FREE STANDING STEM WALL 1660LX1250H STEM WALL - 512 PIECE PEGS (6 COLOURS) SET II STEM WALL - LACING PEGS AND ACCESSORIES 1.) 800HX880L MOBILE INCLINED SHELVING UNIT(TRAYS NOT INCLUDED) 2.) 800HX880L MOBILE SHELVING UNIT (TRAYS NOT INCLUDED) 3.) STEM WALL 39 PIECE GEARS AND CHAIN SET 4.) STEM WALL 100LX200H WALL PANEL 1 PIECE SET 5.) STEM WALL 100LX400H WALL PANEL 1 PIECE SET 6.) STEM WALL 200LX200H WALL PANEL 1 PIECE SET 7.) STEM WALL 200LX400H WALL PANEL 1 PIECE SET 8.) FREE STANDING STEM WALL 860LX1250H 9.) FREE STANDING STEM WALL 1660LX1250H 10.) STEM WALL - 512 PIECE PEGS (6 COLOURS) SET II 11.) STEM WALL - LACING PEGS AND ACCESSORIES		
Vendor:	CARPENTERS MANUFACTORY LIMITED	Sample Size:	21
Manufacturer:	N/A	Style No(s):	ME13095, ME13705, ME13460, ME14061, ME14078, ME14085, ME14092, ME09531/PA90812/PA90867/PA90935, ME09548/PA90812/PA90867/PA90942, ME14450, ME14467
Buyer:	N/A	SKN/SKU No.:	N/A
Labeled Age Grade:	3 YEARS+	PO No.:	N/A
Appropriate Age Grade:	NOT REQUESTED	Ref #:	N/A
Client Specified Age Grade:	NOT SPECIFIED	Country of Origin:	CHINA
Tested Age Grade:	OVER 3 YEARS OF AGE	Assortment No.:	N/A
UPC Code:	6955920013095, 6955920013705, 6955920013460, 6955920090812, 6955920090867, 6955920090935, 6955920090812, 6955920090867, 6955920090942	COUNTRY OF DESTINATION :	GLOBAL

EXECUTIVE SUMMARY:

The samples submitted on March 07, 2019 are as follow:

The sample(s) MEET the following requirement(s):

- The labeling requirements of ASTM F963-17, “Standard consumer safety specification for toy safety”.

The test results of the samples submitted on January 25, 2019 as reported in Technical Report No. (8518)318-0676 are as follow:

The sample(s) MEET the following requirement(s):

- The flammability requirements of 16 CFR 1500.3(c)(6)(vi), "Flammable solid" (FHSA regulations).
- The migration of certain elements requirements of the AS/NZS Standard, “Safety of toys”, AS/NZS 8124: Part 3: 2012 with Amendment No. 1: 2016.
- The labeling requirements of the tested subclauses of the AS/NZS Standard, “Safety of toys”, AS/NZS 8124: Part 1: 2016.
- The mechanical and physical properties requirements of the tested subclauses of the AS/NZS Standard, “Safety of toys”, AS/NZS 8124: Part 1: 2016.
- The flammability requirements of the AS/NZS Standard, “Safety of toys”, AS/NZS 8124: Part 2: 2016.
- The mechanical hazards requirements of ASTM F963-17, “Standard consumer safety specification for toy safety”.
- The soluble heavy metals content in surface coating requirements of ASTM F963-17, "Standard Consumer Safety Specification for Toy Safety," Section 4.3.5.1(2).
- The soluble heavy metals content in substrate requirements of ASTM F963-17, "Standard Consumer Safety Specification for Toy Safety," Section 4.3.5.2(2)(b).
- The applicable heavy metals content requirements for surface coatings of the Canada Consumer Product Safety Act, Toys Regulations, SOR/2011-17 Sec. 23 with Amendment in SOR/2016-195.
- The mechanical hazards requirements of the tested sections of Canada Consumer Product Safety Act, Toys Regulations, SOR/2011-17 and Schedule 2.
- The total lead content of 100ppm requirements by composite testing in substrate materials (Consumer Products Safety Improvement Act (CPSIA) of 2008).
- The total lead content of 90ppm requirements of 16 CFR 1303, “Ban of lead-containing paint and certain consumer products bearing lead-containing paint” as mandated by Congress in section 101(f) of the Consumer Products Safety Improvement Act (CPSIA) of 2008, Public Law 110-314.
- The cellulose nitrate requirements of Canada Toys Regulations, SOR/2011-17, section 21.
- The BBP, DBP and DEHP content requirements of the European Regulation (EC) No. 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII concerning the Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles, Item no. 51.

EXECUTIVE SUMMARY:

The test results of the samples submitted on January 25, 2019 as reported in Technical Report No. (8518)318-0676 are as follow:

The sample(s) MEET the following requirement(s):

- The cadmium content requirement of the European Regulation (EC) No. 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII concerning the Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles, Item no. 23 (amended up to EU No. 2016/217).

- The DNOP, DINP and DIDP content requirements of the European Regulation (EC) No. 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII concerning the Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles, Item no. 52.

- The flammability requirements of the European Standard "Safety of Toys", EN 71: Part 2: 2011+ A1: 2014.

- The listed aromatic amines (azocolourants) content requirement of the European Regulation (EC) No. 1907/2006 of the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), Annex XVII concerning the Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles, Item no. 43, Points 1 and 2.

- Labeling requirements of "CE marking, manufacturer/ Importer name and address, and product identification" under "Directive 2009/48/EC Safety of Toy".

- The phthalates (BBP, DBP, DEHP, DINP, DIBP, DPENP, DHEXP & DCHP) content requirements of the Consumer Product Safety Improvement Act (CPSIA) of 2008 Sec. 108(a) and 108(c), 16 CFR 1307).

- The diisobutyl phthalate (DIBP) content requirement in toys of the European Council Directive 2009/48/EC (and its amendments), Annex II, Part III, Point 3.

- The labeling requirements of the tested subclauses of the European Standard, "Safety of toys", EN71: Part 1:2014+A1:2018, clause 7.

- The migration of certain elements in Category III - Scraped off toy material requirements of the European Standard, "Safety of Toys", EN 71 Part 3: 2013+A3:2018.

- The 17 phthalates content requirements of the client's specifications.

Note: The sample(s) 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(s). 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.

Note: According to the associated documents of Consumer Product Safety Improvement Act (CPSIA) of 2008, exemptions were granted to certain materials or products, such as natural materials / paper and similar materials / CMYK process printing inks / metal & alloys / electronics devices components / ordinary books / dyed & undyed textiles. Therefore, the lead content analysis of some components was not conducted.

EXECUTIVE SUMMARY:

The test results of the samples submitted on January 25, 2019 as reported in Technical Report No. (8518)318-0676 are as follow:

Note: The composite test sample(s) of the submitted samples was prepared in the manner requested by the client, when subject to the test performed.

Note: The sample not have assembly instruction.

Note: Based on visual evaluation and/or material breakdown received, there is no applicable material(s) found in the sample(s) submitted and thus the corresponding testing of EC directive 2009/48/EC formamide has/have not been conducted.

Note: Based on visual evaluation and/or material breakdown received, there is no polyvinyl chloride (PVC) found in the samples submitted and thus the corresponding testing of the Canada Consumer Product Safety Act, Phthalates Regulations, SOR/2016-188 regarding to the restriction of use of certain phthalates content have not been conducted.

BUREAU VERITAS SHENZHEN CO., LTD.

Hon Yin Kan
Manager
Toys And Juvenile Products Department

HK/ su

RESULTS:

PART 1

The samples submitted on March 07, 2019 are as follow:

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 for 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 Bureau Veritas Consumer Products Services, Inc. to determine an appropriate age grade, the labeled age grade will be used for testing.

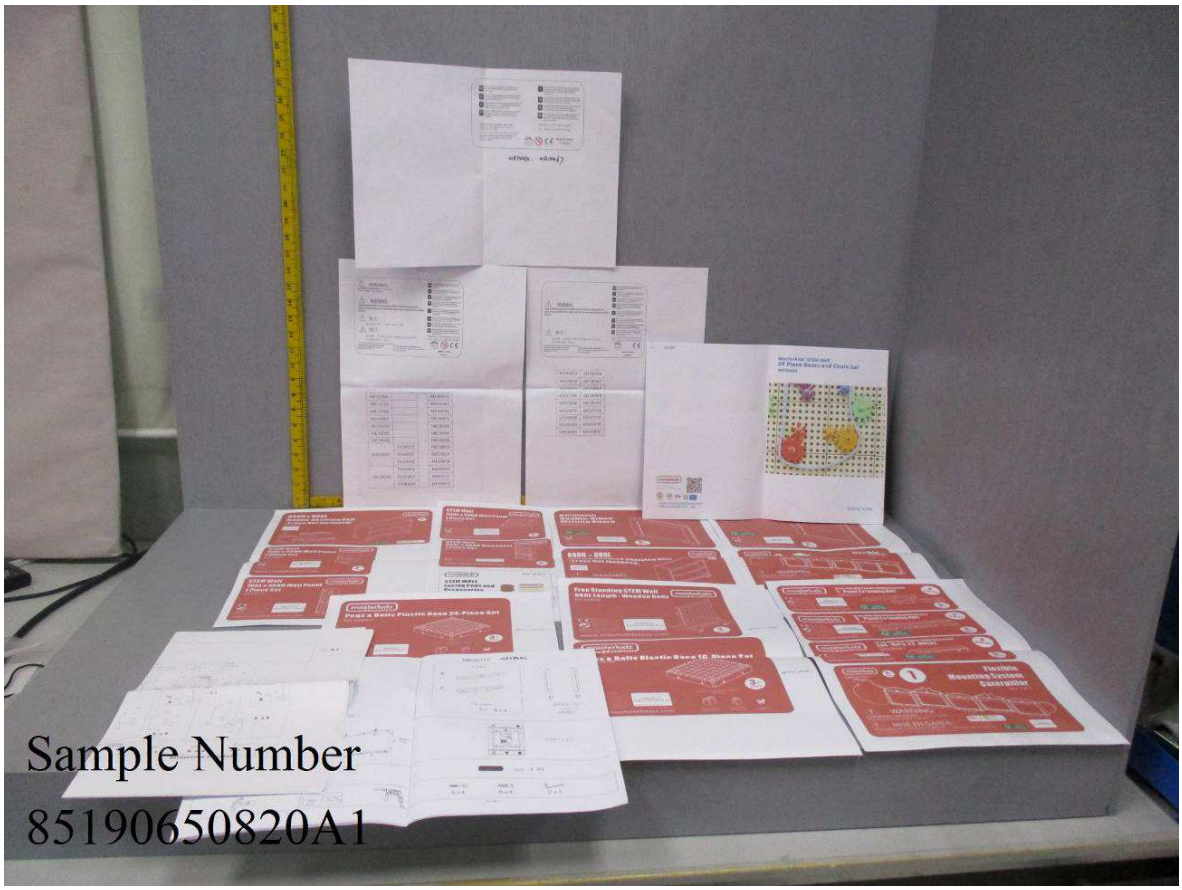
LABELING AND INSTRUCTIONAL REQUIREMENT (ASTM F963-17)

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

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

RESULTS:

PART 1



RESULTS:

PART 2

The test results of the samples submitted on January 25, 2019 as reported in Technical Report No. (8518)318-0676 are as follow:

RESULTS:

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 for 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 Bureau Veritas Consumer Products Services, Inc. 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
Impact Test	4 x 3 ft	1500.53(b)
Tip Over Test	3 times	1500.53(b)(4)(i)
Torque Test	4 in-lbs	1500.53(e)
Tension Test	15 lbs	1500.53(f)
Compression Test	30 lbs	1500.53(g)

RESULTS:

PART 2

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	M
4.13	Folding Mechanisms and Hinges	N/A
4.14	Cords, Straps and Elastics	N/A
4.15	Stability and Over-Load Requirements	M
4.16	Confined Spaces	N/A
4.17	Wheels, Tires, and Axles	M
4.18	Holes, Clearances and Accessibility of Mechanisms	M
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

RESULTS:

PART 2

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.

RESULTS:

PART 2

APPROPRIATE AGE GRADE DETERMINATION

The Appropriate Age Grade is determined with reference to the EN71 : Part 1 : 2014, CEN ISO/TR 8124-8:2016 Safety of toys - Part 8: Age determination guidelines prepared by Technical Committee CEN/TC 52 and Age Grade Determination Guidelines of the Consumer Product Safety Commission (CPSC).	
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 & 6

Symbol	Explanation
NM	The sample(s) DOES NOT MEET the requirement of this Subclause
M	The sample(s) MEETS the requirement of this Subclause
N/A	Not Applicable
NR	Not Requested
NE	Not Evaluated
NT	Not Tested
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		

2009/48/EC General Labeling Requirement

Requirement	Result
CE Mark	M
Manufacturer/ Importer name and address	M
Product Identification	M

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

RESULTS:

PART 2

FLAMMABILITY (EN 71 PART 2: 2011 + A1: 2014)

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

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	-	-

RESULTS:

PART 2

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 ISO Standard, “Safety of toys”, ISO 8124:Part 1:2016.	
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.

RESULTS:

PART 2

MECHANICAL & PHYSICAL PROPERTIES – (AS/NZS 8124.1:2016)

Subclause	Requirement	Result
4.1	Normal use	M
4.2	Reasonably foreseeable abuse	M
4.3	Material	-
4.3.1	Material quality	M
4.3.2	Expanding materials	N/A
4.4	Small parts	-
4.4.1	Small parts (under 36 months)	N/A
4.4.2	Small parts warning (36 months and over but under 72 months)	M
4.5	Shape, size and strength of certain toys	-
4.5.1	Squeeze toys, rattles, fasteners, and certain other toys and components of toys	N/A
4.5.2a	Small ball (under 36 months)	N/A
4.5.2b	Small ball warning (36 months and over but under 96 months)	N/A
4.5.3	Pompoms	N/A
4.5.4	Pre-school play figures	N/A
4.5.5	Toy pacifiers	N/A
4.5.6	Balloons Warning	N/A
4.5.7	Marbles Warning	N/A
4.5.8	Hemispheric-shaped toys	N/A
4.6	Edges	-
4.6.1	Accessible sharp edges of glass or metal	M
4.6.2	Functional sharp edges warning	N/A
4.6.3	Edges on metal toys	M
4.6.4	Edges on moulded toys	M
4.6.5	Edges on exposed bolts or threaded rods	N/A
4.7	Points	-
4.7.1	Accessible sharp points	M
4.7.2	Functional sharp points warning	N/A
4.7.3	Wooden toys	M
4.8	Projections	-
4.8.1	General	N/A
4.8.2	Special considerations for bath toy projections	-
4.9	Metal wires and rods	-
4.9a	Metal wires and rods intended to be bent	N/A
4.9b	Metal wires and rods likely to be bent	N/A
4.9c	End of spokes	N/A
4.10	Plastic film or plastic bags in packaging and in toys	M
4.11	Cords and elastics	-
4.11.1	Cords and elastics (under 18 months)	N/A
4.11.2	Self-retracting pull cords (under 18 months)	N/A
4.11.3	Cords for pull toys (under 36 months)	N/A

RESULTS:

PART 2

MECHANICAL & PHYSICAL PROPERTIES – (AS/NZS 8124.1:2016)

Subclause	Requirement	Result
4.11.4	Cords on toy bags	N/A
4.11.5	Crib or playpen toys and mobiles warning & instruction for use	N/A
4.11.6	Crib gyms and similar toys warning & instruction for use	N/A
4.11.7	Cords, strings and lines for flying toys	N/A
	Warning - Toy kites and other flying toys with cord	N/A
4.12	Folding mechanisms	-
4.12.1	Toy pushchairs, perambulators and similar toys	N/A
4.12.2	Other toys with folding mechanisms	N/A
4.12.3	Hinge-line clearance	N/A
4.13	Holes, clearances and accessibility of mechanisms	-
4.13.1	Circular holes in rigid materials (under 60 months)	M
4.13.2	Accessible clearances for movable segments (under 96 months)	N/A
4.13.3	Chains or belts in ride-on toys	N/A
4.13.4	Other driving mechanisms	N/A
4.13.5	Winding keys (under 36 months)	N/A
4.14	Springs	N/A
4.15	Stability and overload requirements	-
4.15.1	Stability of ride-on toys and seats (under 60 months)	-
4.15.1.1	Sideways stability, feet available for stabilization	N/A
4.15.1.2	Sideways stability, feet unavailable for stabilization	N/A
4.15.1.3	Fore and aft stability	N/A
4.15.2	Overload requirements for ride-on toys and seats	N/A
4.15.3	Stability of stationary floor toys	M
4.16	Enclosures	-
4.16.1	Ventilation	N/A
4.16.2	Closures	-
4.16.2.1	Lids, doors and similar devices	N/A
4.16.2.2	Lid support for toy chests and similar toys	N/A
	Instruction for assembly	N/A
4.16.3	Toys that enclose the head	N/A
4.17	Simulated protective equipment	N/A
	Warning	N/A
4.18	Projectile toys	-
4.18.1	General	-
4.18.2	Projectiles	N/A
4.18.3	Projectile toys with stored energy	N/A
	Instruction for use	N/A
4.18.4	Projectile toys without stored energy	N/A
	Instruction for use	N/A
4.19	Rotors and propellers	N/A

RESULTS:

PART 2

MECHANICAL & PHYSICAL PROPERTIES – (AS/NZS 8124.1:2016)

Subclause	Requirement	Result
4.20	Aquatic toys	N/A
	Warning	N/A
4.21	Braking	N/A
4.22	Toy bicycles	-
4.22.1	Toy bicycles – Instruction for use	N/A
4.22.2	Toy bicycles – Maximum saddle height	N/A
4.22.3	Toy bicycles – Braking requirements	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
	Warning	N/A
4.26	Mouth-actuated toys	N/A
4.27	Toy roller skates, toy inline skates and toy skateboards	N/A
	Warning	N/A
4.28	Percussion caps	N/A
	Warning	N/A
4.29	Acoustic requirement	N/A
	Warning	N/A
4.30	Toy scooters	N/A
4.31	Magnets and magnetic components	-
4.31.1	Magnetic/electrical experimental sets (for children 8 years and over)	N/A
	Warning	N/A
4.31.2	All other toys with magnets and magnetic components (under 8 years)	-
4.31.2 a	Loose-as-received magnet(s) and magnetic component(s)	N/A
4.31.2 b	Wooden toys, toys intended in water and mouth pieces of mouth-actuated toys with magnets or magnetic components	N/A
4.31.2 c	Magnet(s) and magnetic component(s) liberated from toy	N/A

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

RESULTS:

PART 2

FLAMMABILITY (AS/NZS 8124.2: 2016)

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

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

RESULTS:

PART 2

APPROPRIATE AGE GRADE DETERMINATION

The Appropriate Age Grade is recommended with reference to the Toys: Age Classification Guidelines (1998-01-13) of the Product Safety Bureau, Health Canada.

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.

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

Section	Parameter / Requirement	Result
Mechanical Hazards		
4	Flexible film bag used for package	M
7	Small Toys and Detachable component	NA
8	Metal edge	NA
9	Wires frames	NA
10	Plastic Edges	NA
11	Wood	NA
12	Glass	NA
13	Nails and fasteners	M
14	Safety stops/Locking Device for Folding product	NA
15 (a, b)	Moving Mechanism	NA
15 (c)	Non- Detachable Winding Key Clearance	NA
15 (d)	Detachable Key	NA
16	Projectile Toy	NA
17	Enclosures	NA
18	Stability	M
19	Auditory hazards	NA
Specific Products - Dolls, Plush Toys and Soft Toys		
28	Exposed Sharp Points and Edges	NA
29. (a)	Stuffing Materials shall be clean and free from vermin	NA
29. (b)	Stuffing Materials shall be free from hard and sharp foreign matter	NA
30	Squeaker, Reed and Valve	NA
31	Eyes and Nose	NA

RESULTS:

PART 2

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

Section	Parameter / Requirement	Result
Specific Products		
35*&36*	Plant seeds	NA
37	Pull and Push toys	NA
38*	Toys Steam engine Boilers	NA
39*	Finger Paints	NA
40(a)	Rattles – Sharp wire	NA
40(b, c)	Rattles – Impaction	NA
41	Elastic	NA
42	Yo-Yo type balls	NA

CANADA CONSUMER PRODUCT SAFETY ACT, SCHEDULE 2

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

M = Meet NM = Not Meet NA = Not Applicable R = Refer to Comment Section
** = Non-accreditated section*

FLAMMABILITY OF CELLULOSE NITRATE

TOY REGULATIONS SOR/2011-17 SECTION 21

Requirement Reference	Observation	Flammability Classification
Section 21	No Flash Effect	M

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

RESULTS:

PART 2

TOTAL LEAD CONTENT IN SURFACE COATING BY COMPOSITE TESTING ("Ban of Lead-containing paint and certain consumer products bearing Lead-containing paint", Consumer Product Safety Improvement Act (CPSIA) of 2008)

Test Method: U.S. CPSC-CH-E1003.09.1:2011

Element:				Lead		
Requirement: Maximum allowable limit:				90 mg/kg		
Sample Description				Result (mg/kg)		Conclusion
Color / Component		Location	Style	Overall	Potential	
(A)	blue coating black coating	pattern on gear pegs	C J	LT 10	-	Pass
(B)	Clear coating	Paint	A,B,D-I	LT 10	-	Pass
(C)	Bright orange coating	A1Y	A,B,C,H,I	LT 10	-	Pass
(D)	Green coating	A5Y	A – B , H, I	13	-	Pass
(E)	Blue coating	A7Y	A – B , H, I	19	-	Pass

LT = Less Than
** = Average of duplicate analyses*
mg/kg = milligrams per kilogram (ppm = parts per million)
Potential = Estimated lead content per component is based on calculation by component individual weight

RESULTS:

PART 2

TOTAL LEAD CONTENT IN SUBSTRATE BY COMPOSITE TESTING (100PPM) (Consumer Product Safety Improvement Act (CPSIA) of 2008)

Test Method: U.S. CPSC-CH-E1001-08.3:2012 or U.S. CPSC-CH-E1002-08.3:2012

Analyte	Lead	
Requirement: Maximum allowable limit:	100 mg/kg	

Analyte				Lead (Pb)	
Sample Description				Result	Conclusion
Color / Component		Location	Style	(mg/kg)	
(A)	light green plastic	wheels	A,B,H,I	LT 10	Pass
	white plastic	wheels	A,B,H,I		
	deep grey plastic	cap on wheels	A,B,H,I		
(B)	dark grey plastic	fixtuer & brake of wheels	A,B,H,I	LT 10	Pass
	blue plastic	gears	C		
	green plastic	gears	C		
(C)	yellow plastic	gears	C	LT 10	Pass
	orange plastic	gears	C		
	red plastic	gears	C		
(D)	magenta plastic	gears	C	LT 10	Pass
	flesh plastic	gears	C		
	bright flesh plastic	center of gears wall panel	C D-I		
(E)	bright grey plastic	chain	C	LT 10	Pass
	bright white plastic	pegs	J		
	bright blue plastic	pegs	J		
(F)	bright green plastic	pegs	J	LT 10	Pass
	bright pink plastic	pegs	J		
	bright light grey plastic	pegs	J		
(G)	bright brown plastic	pegs	J	LT 10	Pass
	bright light brown plastic	pegs	K		
	transparent plastic	terminal of rope	K		
(H)	silvery metal	Hinge	A,B,H,I	LT 10	Pass
(I)	bright silvery metal	metal plate of wheels	A,B,H,I	LT 10	Pass
(J)	shiny silvery metal	bolt on gears	C	LT 10	Pass
(K)	soft silvery metal	smal screws	A,B	LT 10	Pass
(L)	matt silvery metal	long screws	A,B	LT 10	Pass
(M)	pale silvery metal	fixture of long screws	A,B	LT 10	Pass
(N)	light silvery metal	hex bolt	A,B,H,I	LT 10	Pass
(O)	deep silvery metal	philip's head screw	A,B,D-G	LT 10	Pass

RESULTS:

PART 2

TOTAL LEAD CONTENT IN SUBSTRATE BY COMPOSITE TESTING (100PPM) (Consumer Product Safety Improvement Act (CPSIA) of 2008)

Test Method: U.S. CPSC-CH-E1001-08.3:2012 or U.S. CPSC-CH-E1002-08.3:2012

Analyte	Lead	
Requirement: Maximum allowable limit:	100 mg/kg	

Analyte				Lead (Pb)	Conclusion
Sample Description				Result (mg/kg)	
Color / Component		Location	Style		
(P)	dark silvery metal	hex screw	D-G	LT 10	Pass
(Q)	Flesh wood	Wood board	A,B,D-I	LT 10	Pass

LT = Less Than *mg/kg = milligrams per kilogram (ppm = parts per million)*
** = Average of duplicate analyses*

RESULTS:

PART 2

SOLUBLE HEAVY METALS CONTENT IN SURFACE COATING (ASTM F963-17, Section 4.3.5.1(2))

Test Method: ASTM International Standard ASTM F963-17, Section 8.3.2 to 8.3.4

Sample Identity	Color	Location	Style
A.	blue coating	pattern on gear	C
B.	black coating	pegs	J
C.	Clear coating	Paint	A,B,D-I
D.	Bright orange coating	A1Y	A,B,C,H,I
E.	Green coating	A5Y	A – B , H, I
F.	Blue coating	A7Y	A – B , H, I

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se
Maximum 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	Mass of Trace Amount	Conclusion
Sample	Result (mg/kg)								(g)	
A.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	0.0139	Pass
B.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	0.0167	Pass
C.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	0.0503	Pass
D.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	Pass
E.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	Pass
F.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	Pass

LT = Less Than
CR = adjusted analytical result
mg/kg = milligrams per kilogram (ppm=parts per million)
** = Average of duplicate analysis*

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

RESULTS:

PART 2

SOLUBLE HEAVY METALS CONTENT IN SUBSTRATE (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))

Sample Identity	Color	Location	Style
Type I: Substrate other than modeling clay			
A	light green plastic	wheels	A,B,H,I
B	white plastic	wheels	A,B,H,I
C	deep grey plastic	cap on wheels	A,B,H,I
D	dark grey plastic	fixtuer & brake of wheels	A,B,H,I
E	blue plastic	gears	C
F	green plastic	gears	C
G	yellow plastic	gears	C
H	orange plastic	gears	C
I	red plastic	gears	C
J	magenta plastic	gears	C
K	flesh plastic	gears	C
L	bright flesh plastic	center of gears wall panel	C D-I
M	bright grey plastic	chain	C
N	bright white plastic	pegs	J
O	bright blue plastic	pegs	J
P	bright green plastic	pegs	J
Q	bright pink plastic	pegs	J
R	bright light grey plastic	pegs	J
S	bright brown plastic	pegs	J
T	bright light brown plastic	pegs	K
U	transparent plastic	terminal of rope	K
V	blue rope	rope	K
W	green rope	rope	K
X	yellow rope	rope	K
Y	orange rope	rope	K
Z	red rope	rope	K
AA	purple rope	rope	K
AB	Flesh wood	Wood board	A,B,D-I

RESULTS:

PART 2

SOLUBLE HEAVY METALS CONTENT IN SUBSTRATE (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 Type I (mg/kg)	25	1000	75	60	60	90	60	500
Max. Limit Type II (mg/kg)	25	250	50	25	25	90	60	500
Analytical Correction	60%	30%	30%	30%	50%	30%	60%	60%

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Mass of Trace Amount	Conclusion
Sample	Result (mg/kg)								(g)	
A	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
B	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
C	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
D	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
E	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
F	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
G	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
H	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
I	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
J	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
K	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
L	LT 2	LT 2	LT 2	LT 2	LT 2	4	LT 2	LT 2		Pass
M	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
N	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
O	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
P	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
Q	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass

RESULTS:

PART 2

SOLUBLE HEAVY METALS CONTENT IN SUBSTRATE (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 Type I (mg/kg)	25	1000	75	60	60	90	60	500
Max. Limit Type II (mg/kg)	25	250	50	25	25	90	60	500
Analytical Correction	60%	30%	30%	30%	50%	30%	60%	60%

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Mass of Trace Amount	Conclusion
Sample	Result (mg/kg)								(g)	
R	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
S	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
T	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
U	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
V	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
W	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
X	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
Y	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
Z	LT 2	8	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
AA	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
AB	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass

mg/kg = milligrams per kilogram (ppm=parts per million)
CR = adjusted analytical result
LT = Less Than
ND = None Detected

As = Arsenic, Ba = Barium, Cd = Cadmium,
Cr = Chromium, Hg = Mercury, Pb = Lead,
Sb = Antimony, Se = Selenium
Detection limit (mg/kg): Each element 2

Remark:
Textiles (natural or synthetic) are exempted for lead content requirement according to clarification of Toy Industry Association for ASTM F963-17. The lead content analysis result of corresponding material herein is for client's reference only.

RESULTS:

PART 2

HEAVY METALS CONTENT IN SURFACE COATING (Canada Consumer Product Safety Act - Toys Regulations, SOR/2011-17 Sec. 23 with Amendment in SOR/2016-195)

Sample Identity	Color	Location	Style
(A)	blue coating black coating	pattern on gear pegs	C J
(B)	Clear coating	Paint	A,B,D-I
(C)	Bright orange coating	A1Y	A,B,C,H,I
(D)	Green coating	A5Y	A – B , H, I
(E)	Blue coating	A7Y	A – B , H, I

Analyte		As	Ba	Cd	Hg	Pb	Sb	Se	
Maximum Limit (mg/kg)	(T)	-	-	-	ND	90	-	-	
	(S)	1000	1000	1000	-	-	1000	1000	

Analyte		As	Ba	Cd	Hg	Pb	Sb	Se	
	Method	Result (mg/kg)							Conclusion
(A)	(T)	LT 10	340	LT 10	ND	LT 10	LT 10	LT 10	PASS
	(S)	-	-	-	-	-	-	-	
(B)	(T)	LT 10	LT 10	LT 10	ND	LT 10	LT 10	LT 10	PASS
	(S)	-	-	-	-	-	-	-	
(C)	(T)	LT 10	14	LT 10	ND	LT 10	LT 10	LT 10	PASS
	(S)	-	-	-	-	-	-	-	
(D)	(T)	LT 10	LT 10	LT 10	ND	13	LT 10	LT 10	PASS
	(S)	-	-	-	-	-	-	-	
(E)	(T)	LT 10	LT 10	LT 10	ND	19	LT 10	LT 10	PASS
	(S)	-	-	-	-	-	-	-	

mg/kg = milligrams per kilogram (ppm=parts per million)
**= Average of duplicate analysis*
ND = Not detected
(T) = Total Analysis
(S) = Soluble analysis

LT = Less Than
As = Arsenic, Ba = Barium, Cd = Cadmium,
Hg = Mercury, Pb = Lead, Sb = Antimony,
Se = Selenium

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Test Method : European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Sample Identity	Color	Location	Style
A.	blue coating	pattern on gear	C
B.	black coating	pegs	J
C.	light green plastic	wheels	A,B,H,I
D.	white plastic	wheels	A,B,H,I
E.	deep grey plastic	cap on wheels	A,B,H,I
F.	dark grey plastic	fixtuer & brake of wheels	A,B,H,I
G.	blue plastic	gears	C
H.	green plastic	gears	C
I.	yellow plastic	gears	C
J.	orange plastic	gears	C
K.	red plastic	gears	C
L.	magenta plastic	gears	C
M.	flesh plastic	gears	C
N.	bright flesh plastic	center of gears wall panel	C D-I
O.	bright grey plastic	chain	C
P.	bright white plastic	pegs	J
Q.	bright blue plastic	pegs	J
R.	bright green plastic	pegs	J
S.	bright pink plastic	pegs	J
T.	bright light grey plastic	pegs	J
U.	bright brown plastic	pegs	J
V.	bright light brown plastic	pegs	K
W.	transparent plastic	terminal of rope	K
X.	blue rope	rope	K
Y.	green rope	rope	K
Z.	yellow rope	rope	K

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Test Method : European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Sample Identity	Color	Location	Style
AA.	orange rope	rope	K
AB.	red rope	rope	K
AC.	purple rope	rope	K
AD.	Clear coating	Paint	A,B,D-I
AE.	Flesh wood	Wood board	A,B,D-I
AF.	Deep flesh wood	Wood board	C,H-I
AG.	Bright orange coating	A1Y	A,B,C,H,I
AH.	Green coating	A5Y	A – B , H, I
AI.	Blue coating	A7Y	A – B , H, I

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Test Method : European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	A.	B.	C.	D.	E.	F.
Aluminium (Al)	70000	10	3	LT 2	2	3	LT 2
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Boron (B)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Barium (Ba)	18750	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	0.18	0.67	LT 0.05	LT 0.05	LT 0.05	LT 0.05
Chromium VI (Cr VI)	0.2		#LT 0.002				
Copper (Cu)	7700	3	LT 2	LT 2	LT 2	LT 2	LT 2
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	2	LT 2	LT 2	LT 2	LT 2	LT 2
Lead (Pb)	23	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	LT 2	LT 2	LT 2	3	LT 2
Zinc (Zn)	46000	2	LT 2	LT 2	LT 2	LT 2	LT 2
Mass of trace amount (gram)		0.0139	0.0167	-	-	-	-
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Test Method : European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	G.	H.	I.	J.	K.	L.
Aluminium (Al)	70000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Boron (B)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Barium (Ba)	18750	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	LT 0.05	LT 0.05	LT 0.05	LT 0.05	LT 0.05	LT 0.05
Chromium VI (Cr VI)	0.2						
Copper (Cu)	7700	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Lead (Pb)	23	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Zinc (Zn)	46000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Mass of trace amount (gram)		-	-	-	-	-	-
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Test Method : European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	M.	N.	O.	P.	Q.	R.
Aluminium (Al)	70000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Boron (B)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Barium (Ba)	18750	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	LT 0.05	LT 0.05	LT 0.05	LT 0.05	LT 0.05	LT 0.05
Chromium VI (Cr VI)	0.2						
Copper (Cu)	7700	LT 2	13	LT 2	LT 2	LT 2	LT 2
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Lead (Pb)	23	LT 2	4	LT 2	LT 2	LT 2	LT 2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Zinc (Zn)	46000	LT 2	18	LT 2	LT 2	LT 2	LT 2
Mass of trace amount (gram)		-	-	-	-	-	-
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Test Method : European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	S.	T.	U.	V.	W.	X.
Aluminium (Al)	70000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Boron (B)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Barium (Ba)	18750	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	LT 0.05	LT 0.05	LT 0.05	LT 0.05	LT 0.05	0.085
Chromium VI (Cr VI)	0.2						
Copper (Cu)	7700	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	LT 2	LT 2	LT 2	2	LT 2	LT 2
Lead (Pb)	23	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Zinc (Zn)	46000	LT 2	LT 2	LT 2	2	LT 2	LT 2
Mass of trace amount (gram)		-	-	-	-	-	-
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Test Method : European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	Y.	Z.	AA.	AB.	AC.	AD.
Aluminium (Al)	70000	5	2	LT 2	LT 2	LT 2	LT 2
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Boron (B)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Barium (Ba)	18750	LT 2	LT 2	LT 2	8	LT 2	LT 2
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Chromium III (Cr III)	460	0.056	0.064	LT 0.05	LT 0.05	LT 0.05	LT 0.05
Chromium VI (Cr VI)	0.2						
Copper (Cu)	7700	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Manganese (Mn)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Nickel (Ni)	930	4	LT 2	LT 2	5	2	LT 2
Lead (Pb)	23	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Strontium (Sr)	56000	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2
Zinc (Zn)	46000	4	3	LT 2	LT 2	3	520
Mass of trace amount (gram)		-	-	-	-	-	0.0503
Conclusion		Pass	Pass	Pass	Pass	Pass	Pass

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

Test Method : European Standard EN 71 Part 3: 2013+A3:2018, Annex E.

Class: Category III - Scraped off toy material

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
	Category III	AE.	AF.	AG.	AH.	AI.	-
Aluminium (Al)	70000	2	4	6	4	3	-
Arsenic (As)	47	LT 2	LT 2	LT 2	LT 2	LT 2	-
Boron (B)	15000	LT 2	LT 2	LT 2	LT 2	LT 2	-
Barium (Ba)	18750	2	2	LT 2	LT 2	LT 2	-
Cadmium (Cd)	17	LT 2	LT 2	LT 2	LT 2	LT 2	-
Cobalt (Co)	130	LT 2	LT 2	LT 2	LT 2	LT 2	-
Chromium III (Cr III)	460	LT 0.05	0.62	LT 0.05	LT 0.05	LT 0.05	-
Chromium VI (Cr VI)	0.2		#LT 0.002				
Copper (Cu)	7700	LT 2	LT 2	LT 2	LT 2	LT 2	-
Mercury (Hg)	94	LT 2	LT 2	LT 2	LT 2	LT 2	-
Manganese (Mn)	15000	4	15	LT 2	LT 2	LT 2	-
Nickel (Ni)	930	LT 2	LT 2	LT 2	LT 2	LT 2	-
Lead (Pb)	23	LT 2	LT 2	LT 2	LT 2	LT 2	-
Antimony (Sb)	560	LT 2	LT 2	LT 2	LT 2	LT 2	-
Selenium (Se)	460	LT 2	LT 2	LT 2	LT 2	LT 2	-
Tin (Sn)	180000	LT 2	LT 2	LT 2	LT 2	LT 2	-
Organic tin	12	LT 2	LT 2	LT 2	LT 2	LT 2	-
Strontium (Sr)	56000	5	2	LT 2	LT 2	LT 2	-
Zinc (Zn)	46000	8	9	280	160	160	-
Mass of trace amount (gram)		-	-	-	-	-	-
Conclusion		Pass	Pass	Pass	Pass	Pass	-

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A3:2018)

mg/kg = milligrams per kilogram (ppm=parts per million) LT = Less Than
** = Average of duplicate analysis*
Organic tin = migration of total organic tin is expressed as tributyl tin cation content in mg/kg
 # = Verified results (see note)

Remark:
- Results of Cr III and Cr VI were reported as sum of soluble Chromium content unless specified.
- Result(s) of organic tin was (were) calculated while assuming the tin content wholly contributed from tributyltin cation unless specified.

Note:
If soluble chromium content or soluble tin content exceeded the screening limits of soluble chromium (VI) or organic tin content, the results were verified by below method
- Chromium VI: In house Ion-chromatography analysis
- Organic tin: EN71 part 3:2013+A3:2018, Annex G by Gas Chromatography – Mass Spectroscopy analysis.

RESULTS:

PART 2

CADMIUM CONTENT (European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 23)

Category:				Plastics			
Element:				Cadmium			
Test Method				BS EN 1122: 2001, Method B			
Maximum Allowable Limit:				100 mg/kg (0.01% by weight)			
Sample Description				Reading 1	Reading 2	Average	Conclusion
Color / Component		Location	Style	Result (mg/kg)			
(A)	light green plastic	wheels	A,B,H,I	LT 10	LT 10	LT 10	Pass
	white plastic	wheels	A,B,H,I				
	deep grey plastic	cap on wheels	A,B,H,I				
	dark grey plastic	fixtuer & brake of wheels	A,B,H,I				
(B)	blue plastic	gears	C	LT 10	LT 10	LT 10	Pass
	green plastic	gears	C				
	yellow plastic	gears	C				
	orange plastic	gears	C				
(C)	red plastic	gears	C	LT 10	LT 10	LT 10	Pass
	magenta plastic	gears	C				
	flesh plastic	gears	C				
	bright flesh plastic	center of gears wall panel	C D-I				
(D)	bright grey plastic	chain	C	LT 10	LT 10	LT 10	Pass
	bright white plastic	pegs	J				
	bright blue plastic	pegs	J				
	bright green plastic	pegs	J				
(E)	bright pink plastic	pegs	J	LT 10	LT 10	LT 10	Pass
	bright light grey plastic	pegs	J				
	bright brown plastic	pegs	J				
(F)	bright light brown plastic	pegs	K	LT 10	LT 10	LT 10	Pass
	transparent plastic	terminal of rope	K				
	soft white plastic	fixture inner wall	D-G				

LT = Less than *mg/kg = milligrams per kilogram (ppm = parts per million)*
 # = Insufficient sample for duplicate analyses *Operator: Tsui Chi Piu, Cyrus*

RESULTS:

PART 2

CADMIUM CONTENT (European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 23)

Category:				Paints on Painted Article	
Element:				Cadmium	
Test Method:				In house acid digestion	
Maximum Allowable Limit:				1000 mg/kg (0.1% by weight)	
Test Component				Result (mg/kg)	Conclusion
	Colour/Component	Location	Style		
A	blue coating black coating	pattern on gear pegs	C J	LT 10	PASS
B	Clear coating	Paint	A,B,D-I	LT 10	PASS
C	Bright orange coating	A1Y	A,B,C,H,I	LT 10	PASS
D	Green coating	A5Y	A – B , H, I	LT 10	PASS
E	Blue coating	A7Y	A – B , H, I	LT 10	PASS

LT = Less than *mg/kg = milligrams per kilogram (ppm = parts per million)*
** = Average of duplicate analyses*

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (AS/NZS 8124 Part 3: 2012 with Amendment No. 1: 2016)

Test Method: Soluble heavy metals content analysis was determined by Inductively Coupled Plasma Spectrometry.

Sample Identity	Color / Component	Location	Style
Type I: Coatings			
A.	blue coating	pattern on gear	C
B.	black coating	pegs	J
Type II: Polymeric Materials			
C.	light green plastic	wheels	A,B,H,I
D.	white plastic	wheels	A,B,H,I
E.	deep grey plastic	cap on wheels	A,B,H,I
F.	dark grey plastic	fixtuer & brake of wheels	A,B,H,I
G.	blue plastic	gears	C
H.	green plastic	gears	C
I.	yellow plastic	gears	C
J.	orange plastic	gears	C
K.	red plastic	gears	C
L.	magenta plastic	gears	C
M.	flesh plastic	gears	C
N.	bright flesh plastic	center of gears wall panel	C D-I
O.	bright grey plastic	chain	C
P.	bright white plastic	pegs	J
Q.	bright blue plastic	pegs	J
R.	bright green plastic	pegs	J
S.	bright pink plastic	pegs	J
T.	bright light grey plastic	pegs	J
U.	bright brown plastic	pegs	J
V.	bright light brown plastic	pegs	K
W.	transparent plastic	terminal of rope	K

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (AS/NZS 8124 Part 3: 2012 with Amendment No. 1: 2016)

Test Method: Soluble heavy metals content analysis was determined by Inductively Coupled Plasma Spectrometry.

Sample Identity	Color / Component	Location	Style
Type IV: Textiles			
X.	blue rope	rope	K
Y.	green rope	rope	K
Z.	yellow rope	rope	K
AA.	orange rope	rope	K
AB.	red rope	rope	K
AC.	purple rope	rope	K
Type I: Coatings			
AD.	Clear coating	Paint	A,B,D-I
AE.	Bright orange coating	A1Y	A,B,C,H,I
AF.	Green coating	A5Y	A – B , H, I
AG.	Blue coating	A7Y	A – B , H, I
Type VI: Other Materials Whether Mass Coloured Or Not			
AH.	Flesh wood	Wood board	A,B,D-I
AI.	Deep flesh wood	Wood board	C,H-I

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (AS/NZS 8124 Part 3: 2012 with Amendment No. 1: 2016)

Test Method: Soluble heavy metals content analysis was determined by Inductively Coupled Plasma Spectrometry.

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se
Max. Limit All except Type VIII (mg/kg)	25	1000	75	60	60	90	60	500
Max. Limit Type VIII (mg/kg)	25	250	50	25	25	90	60	500
Analytical Correction	60%	30%	30%	30%	50%	30%	60%	60%

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Mass of Trace Amount	Conclusion
Sample	Result (mg/kg)								(g)	
A.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	0.0139	Pass
B.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	0.0167	Pass
C.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
D.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
E.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
F.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
G.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
H.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
I.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
J.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
K.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
L.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
M.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
N.	LT 2	LT 2	LT 2	LT 2	LT 2	4	LT 2	LT 2		Pass
O.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
P.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (AS/NZS 8124 Part 3: 2012 with Amendment No. 1: 2016)

Test Method: Soluble heavy metals content analysis was determined by Inductively Coupled Plasma Spectrometry.

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se
Max. Limit All except Type VIII (mg/kg)	25	1000	75	60	60	90	60	500
Max. Limit Type VIII (mg/kg)	25	250	50	25	25	90	60	500
Analytical Correction	60%	30%	30%	30%	50%	30%	60%	60%

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Mass of Trace Amount	Conclusion
Sample	Result (mg/kg)								(g)	
Q.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
R.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
S.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
T.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
U.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
V.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
W.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
X.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
Y.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
Z.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
AA.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
AB.	LT 2	8	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
AC.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2		Pass
AD.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	0.0503	Pass
AE.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	Pass
AF.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	Pass

RESULTS:

PART 2

MIGRATION OF CERTAIN ELEMENTS (AS/NZS 8124 Part 3: 2012 with Amendment No. 1: 2016)

Test Method: Soluble heavy metals content analysis was determined by Inductively Coupled Plasma Spectrometry.

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	
Max. Limit All except Type VIII (mg/kg)	25	1000	75	60	60	90	60	500	
Max. Limit Type VIII (mg/kg)	25	250	50	25	25	90	60	500	
Analytical Correction	60%	30%	30%	30%	50%	30%	60%	60%	

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Mass of Trace Amount	Conclusion
Sample	Result (mg/kg)								(g)	
AG.	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	Pass
AH.	LT 2	2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	Pass
AI.	LT 2	2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	Pass

mg/kg = milligrams per kilogram (ppm=parts per million)
CR = adjusted analytical result
LT = Less Than
** = Average of duplicate analysis*

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

RESULTS:

PART 2

BBP/DBP/DEHP CONTENTS IN TOYS AND CHILDCARE ARTICLES (European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 51)

Test Method: With referenced to EN 14372:2004 Section 6.3.2, sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer

Sample Identity	Test Component	Location	Style
A.	blue coating black coating	pattern on gear pegs	C J
B.	light green plastic white plastic deep grey plastic	wheels wheels cap on wheels	A,B,H,I A,B,H,I A,B,H,I
C.	dark grey plastic blue plastic green plastic	fixtuer & brake of wheels gears gears	A,B,H,I C C
D.	yellow plastic orange plastic red plastic	gears gears gears	C C C
E.	magenta plastic flesh plastic bright flesh plastic	gears gears center of gears wall panel	C C C D-I
F.	bright grey plastic bright white plastic bright blue plastic	chain pegs pegs	C J J
G.	bright green plastic bright pink plastic bright light grey plastic	pegs pegs pegs	J J J
H.	bright brown plastic bright light brown plastic transparent plastic	pegs pegs terminal of rope	J K K
I.	soft white plastic	fixture inner wall	D-G
J.	Clear coating	Paint	A,B,D-I
K.	Bright orange coating	A1Y	A,B,C,H,I
L.	Green coating	A5Y	A – B , H, I
M.	Blue coating	A7Y	A – B , H, I

RESULTS:

PART 2

BBP/DBP/DEHP CONTENTS IN TOYS AND CHILDCARE ARTICLES (European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 51)

Test Method: With referenced to EN 14372:2004 Section 6.3.2, sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer

Test Parameter:	BBP	DBP	DEHP	Sum of three phthalates	
Limit (%):	0.1	0.1	0.1	0.1	
Sample	Result (%)				Conclusion
A.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
B.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
C.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
D.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
E.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
F.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
G.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
H.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
I.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
J.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
K.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
L.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
M.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass

Detection Limit :
BBP = Butyl benzyl phthalate (0.005%)
DBP = Dibutyl phthalate (0.005%)
DEHP = Di(2-ethylhexyl) phthalate (0.005%)

Results reported in percentage
LT = Less than
ND = None detected

RESULTS:

PART 2

DNOP/DINP/DIDP CONTENTS IN TOYS AND CHILDCARE ARTICLES WHICH CAN BE PLACED IN MOUTH BY THE CHILDREN (European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 52)

Test Method: With referenced to EN 14372:2004 Section 6.3.2, sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer

Sample Identity	Test Component	Location	Style
A.	blue coating black coating	pattern on gear pegs	C J
B.	light green plastic white plastic deep grey plastic	wheels wheels cap on wheels	A,B,H,I A,B,H,I A,B,H,I
C.	dark grey plastic blue plastic green plastic	fixtuer & brake of wheels gears gears	A,B,H,I C C
D.	yellow plastic orange plastic red plastic	gears gears gears	C C C
E.	magenta plastic flesh plastic bright flesh plastic	gears gears center of gears wall panel	C C C D-I
F.	bright grey plastic bright white plastic bright blue plastic	chain pegs pegs	C J J
G.	bright green plastic bright pink plastic bright light grey plastic	pegs pegs pegs	J J J
H.	bright brown plastic bright light brown plastic transparent plastic	pegs pegs terminal of rope	J K K
I.	Clear coating	Paint	A,B,D-I
J.	Bright orange coating	A1Y	A,B,C,H,I
K.	Green coating	A5Y	A – B , H, I
L.	Blue coating	A7Y	A – B , H, I

RESULTS:

PART 2

DNOP/DINP/DIDP CONTENTS IN TOYS AND CHILDCARE ARTICLES WHICH CAN BE PLACED IN MOUTH BY THE CHILDREN (European Regulation (EC) No. 1907/2006 REACH Annex XVII, Item no. 52)

Test Method: With referenced to EN 14372:2004 Section 6.3.2, sample was extracted with organic solvent and then analyzed by Gas Chromatograph Mass Spectrometer

Test Parameter:	DNOP	DINP	DIDP	Sum of three phthalates	
Limit (%):	0.1	0.1	0.1	0.1	
Sample	Result (%)				Conclusion
A.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
B.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
C.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
D.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
E.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
F.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
G.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
H.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
I.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
J.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
K.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass
L.	LT 0.005	LT 0.005	LT 0.005	LT 0.015	Pass

Detection Limit :
DNOP = Di-n-octyl phthalate (0.005%)
DINP = Di-iso-nonyl phthalate (0.005%)
DIDP = Di-iso-decyl phthalate (0.005%)

Results reported in percentage
LT = Less than
ND = None detected

RESULTS:

PART 2

PHTHALATES CONTENT IN CHILDREN`S TOYS AND CHILD CARE ARTICLES (Consumer Product Safety Improvement Act (CPSIA) of 2008, Section 108(a) and 108(c), 16 CFR 1307)

Test Method: With reference to U. S. CPSC-CH-C1001-09.3 (April 1, 2010) / CPSC-CH-C1001-09.4 (January 17, 2018).

Sample Identity	Color / Component	Location	Style
A.	blue coating black coating	pattern on gear pegs	C J
B.	light green plastic white plastic deep grey plastic	wheels wheels cap on wheels	A,B,H,I A,B,H,I A,B,H,I
C.	dark grey plastic blue plastic green plastic	fixtuer & brake of wheels gears gears	A,B,H,I C C
D.	yellow plastic orange plastic red plastic	gears gears gears	C C C
E.	magenta plastic flesh plastic bright flesh plastic	gears gears center of gears wall panel	C C C D-I
F.	bright grey plastic bright white plastic bright blue plastic	chain pegs pegs	C J J
G.	bright green plastic bright pink plastic bright light grey plastic	pegs pegs pegs	J J J
H.	bright brown plastic bright light brown plastic transparent plastic	pegs pegs terminal of rope	J K K
I.	Clear coating	Paint	A,B,D-I
J.	Bright orange coating	A1Y	A,B,C,H,I
K.	Green coating	A5Y	A – B , H, I
L.	Blue coating	A7Y	A – B , H, I

RESULTS:

PART 2

PHTHALATES CONTENT IN CHILDREN`S TOYS AND CHILD CARE ARTICLES (Consumer Product Safety Improvement Act (CPSIA) of 2008, Section 108(a) and 108(c), 16 CFR 1307)

Test Method: With reference to U. S. CPSC-CH-C1001-09.3 (April 1, 2010) / CPSC-CH-C1001-09.4 (January 17, 2018).

Test Parameter:	Listed Phthalates (See Remark)		
Requirement:	Each 0.1%		
Sample ID	Detected Analyte	Concentration (%)	Conclusion
A.	ND	ND	Pass
B.	ND	ND	Pass
C.	ND	ND	Pass
D.	ND	ND	Pass
E.	ND	ND	Pass
F.	ND	ND	Pass
G.	ND	ND	Pass
H.	ND	ND	Pass
I.	ND	ND	Pass
J.	ND	ND	Pass
K.	ND	ND	Pass
L.	ND	ND	Pass

Results reported in percentage
ND = None detected
Detection Limit: Each Phthalate (0.005%)

LIST OF RESTRICTED PHTHALATES		
Number	Chemical Name	CAS Number
1.	Butyl benzyl phthalate (BBP)	85-68-7
2.	Dibutyl phthalate (DBP)	84-74-2
3.	Di(2-ethylhexyl) phthalate (DEHP)	117-81-7
4.	Di-iso-nonyl phthalate (DINP)	28553-12-0 & 68515-48-0
5.	Di-iso-butyl phthalate (DIBP)	84-69-5
6.	Di-n-pentyl phthalate (DPENP or DnPP)	131-18-0
7.	Di-n-hexyl phthalate (DHEXP or DnHP)	84-75-3
8.	Dicyclohexyl phthalate (DCHP)	84-61-7

RESULTS:

PART 2

DIBP CONTENT IN TOYS (2009/48/EC and its amendments, Annex II, Part III, Point 3)

Test Parameter:				DIBP	
Limit (%):				0.3	
	Color / Component	Location	Style	Result (%)	Conclusion
A.	blue coating black coating	pattern on gear pegs	C J	LT 0.005	Pass
B.	light green plastic white plastic deep grey plastic	wheels wheels cap on wheels	A,B,H,I A,B,H,I A,B,H,I	LT 0.005	Pass
C.	dark grey plastic blue plastic green plastic	fixtuer & brake of wheels gears gears	A,B,H,I C C	LT 0.005	Pass
D.	yellow plastic orange plastic red plastic	gears gears gears	C C C	LT 0.005	Pass
E.	magenta plastic flesh plastic bright flesh plastic	gears gears center of gears wall panel	C C C D-I	LT 0.005	Pass
F.	bright grey plastic bright white plastic bright blue plastic	chain pegs pegs	C J J	LT 0.005	Pass
G.	bright green plastic bright pink plastic bright light grey plastic	pegs pegs pegs	J J J	LT 0.005	Pass
H.	bright brown plastic bright light brown plastic transparent plastic	pegs pegs terminal of rope	J K K	LT 0.005	Pass
I.	soft white plastic	fixture inner wall	D-G	LT 0.005	Pass
J.	Clear coating	Paint	A,B,D-I	LT 0.005	Pass
K.	Bright orange coating	A1Y	A,B,C,H,I	LT 0.005	Pass
L.	Green coating	A5Y	A – B , H, I	LT 0.005	Pass
M.	Blue coating	A7Y	A – B , H, I	LT 0.005	Pass

Remark:
DIBP (CAS No: 84-69-5) = Diisobutyl phthalate

Results reported in percentage
ND = None detected
Detection Limit: Each Phthalate (0.005%)

RESULTS:

PART 2

CLIENT'S 17 PHTHALATES CONTENT SPECIFICATION

- **BBP/DBP/DEHP/DNOP/DINP/DIDP Content**

	Color / Component	Location	Style
	Composite of		
A.	blue coating	pattern on gear	C
	black coating	pegs	J
B.	light green plastic	wheels	A,B,H,I
	white plastic	wheels	A,B,H,I
	deep grey plastic	cap on wheels	A,B,H,I
C.	dark grey plastic	fixtuer & brake of wheels	A,B,H,I
	blue plastic	gears	C
	green plastic	gears	C
D.	yellow plastic	gears	C
	orange plastic	gears	C
	red plastic	gears	C
E.	magenta plastic	gears	C
	flesh plastic	gears	C
	bright flesh plastic	center of gears	C
		wall panel	D-I
F.	bright grey plastic	chain	C
	bright white plastic	pegs	J
	bright blue plastic	pegs	J
G.	bright green plastic	pegs	J
	bright pink plastic	pegs	J
	bright light grey plastic	pegs	J
H.	bright brown plastic	pegs	J
	bright light brown plastic	pegs	K
	transparent plastic	terminal of rope	K
I.	soft white plastic	fixture inner wall	D-G
J.	Clear coating	Paint	A,B,D-I
K.	Bright orange coating	A1Y	A,B,C,H,I
L.	Green coating	A5Y	A – B , H, I
M.	Blue coating	A7Y	A – B , H, I

RESULTS:

PART 2

CLIENT'S 17 PHTHALATES CONTENT SPECIFICATION

- **BBP/DBP/DEHP/DNOP/DINP/DIDP Content**

Test Parameter	BBP	DBP	DEHP	DNOP	DINP	DIDP	
Limit (%)	0.1	0.1	0.1	0.1	0.1	0.1	
Sample	Result (%)						Conclusion
A	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
B	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
C	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
D	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
E	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
F	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
G	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
H	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
I	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
J	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
K	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
L	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
M	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass

Detection Limit :
DNOP = Di-n-octyl phthalate (0.005%) 117-84-0
DINP p
DIDP = Di-iso-decyl phthalate (0.005%) 26761-40-0 / 68515-49-1
BBP = Butyl benzyl phthalate (0.005%) 85-68-7
DBP = Dibutyl phthalate (0.005%) 84-74-2
DEHP = Di(2-ethylhexyl) phthalate (0.005%) 117-81-7

Results reported in percentage
LT = Less than
ND = None detected

RESULTS:

PART 2

CLIENT'S 17 PHTHALATES CONTENT SPECIFICATION

- **EC No. 201-559-5 /** *DiBP* **/** *DHNUP* **/** *DIHP* **/** *DMEP* **/** *DIPP* **/** *DnPP* **/** *DPP* **/** *PiPP* **/** *DHP* **/** *1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear* **Content**

Test Parameter	EC No. 201-559-5	DiBP	DHNUP	DIHP	DMEP	DIPP	
Limit (%)	0.1	0.1	0.1	0.1	0.1	0.1	
Sample							Conclusion
A	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
B	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
C	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
D	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
E	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
F	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
G	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
H	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
I	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
J	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
K	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
L	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
M	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass

RESULTS:

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CLIENT'S 17 PHTHALATES CONTENT SPECIFICATION

Test Parameter	DnPP	DPP	PiPP	DHP	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	
Limit (%)	0.1	0.1	0.1	0.1	0.1	
Sample						Conclusion
A	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
B	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
C	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
D	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
E	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
F	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
G	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
H	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
I	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
J	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
K	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
L	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass
M	LT 0.005	LT 0.005	LT 0.005	LT 0.005	LT 0.005	Pass

RESULTS:

PART 2

CLIENT'S 17 PHTHALATES CONTENT SPECIFICATION

Results reported in percentage
LT = Less than
ND = None detected

Detection Limit:
DiBP = Diisobutylphthalate 84-69-5
DHNUP = 1,2-Benzenedicarboxylic acid,di-C7,11-branched and linear alkyl esters 68515-42-4
DIHP = 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich 71888-89-6
DMEP = Dimethoxyethyl phthalate 117-82-8
DIPP = Diisopentylphthalate 605-50-5
DnPP = Dipentylphthalate 131-18-0
DPP = 1,2-benzenedicarboxylic acid dipentylester, branched and linear 84777-06-0
PiPP = n-Pentyl-Isopentylphthalate 776297-69-9
DHP = Dihexylphthalate 84-75-3
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear 68515-50-4
EC No. 201-559-5 = 1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate 68515-51-5 /68648-93-1

RESULTS:

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AROMATIC AMINES (AZOCOLOURANTS) CONTENT (European Regulation (EC) No. 1907/2006 REACH, Annex XVII, Item no. 43, Points 1 and 2)

Test Method: Quantification by Gas Chromatography/Mass Spectrometry (GC/MS)
Additional chromatographic technique employed to confirm positive result by HPLC/TLC

Sample ID	Color / Component	Location	Style
A.	Composite of		
	blue rope	rope	K
	green rope	rope	K
	yellow rope	rope	K
B.	orange rope	rope	K
	red rope	rope	K
	purple rope	rope	K

Test Parameter:		Aromatic Amines (Azocolourants)		
Requirement:		30 mg/kg		
Sample ID	Test Method	Detected Amine Number	Concentration (mg/kg (ppm))	Conclusion
A.	I	-	LT 10	Pass
B.	I	-	LT 10	Pass

ND = Not Detected (Detection Limit = 10 mg/kg (ppm)) *ppm = parts per million*
mg/kg = milligrams per kilogram *NR = Not Requested*
** = The specimen is a minor component. As only a reduced mass (< 0.5 g) could be used for the test the result may have a greater uncertainty due to lower material homogeneity*

Amine No. = Refer to List of Banned Amines for the description of the detected Amine.
Test Method I = European Standard EN 14362-1: 2017, Clauses 9, 10.2 and afterwards.
Test Method II = European Standard EN 14362-1: 2017, Clauses 9, 10.1, 10.3 and afterwards.
Test Method III = International Standard ISO 17234-1: 2015.

Remark:
The list of aromatic amines in azo colorants is summarized in table of Appendix.
The CAS-number 97-56-3 (no. 5) and 99-55-8 (no. 6) are further reduced to CAS-number 95-53-4 (no. 18) and 95-80-7 (no. 19), respectively.
The colorant(s) of Test Item(s), that are able to form 4-aminoazobenzene, is (are) able to generate aniline and 1,4-phenylenediamine under the condition of Test Method.
The absence of 4-aminoazobenzene is inferred by the absence of aniline and 1,4-phenylenediamine under the condition of Test Method.

RESULTS:

PART 2

AROMATIC AMINES (AZOCOLOURANTS) CONTENT (European Regulation (EC) No. 1907/2006 REACH, Annex XVII, Item no. 43, Points 1 and 2)

LIST OF BANNED AMINES **Specified Amines**		
Number	Chemical Name	CAS Number
9.	4-aminobiphenyl	92-67-1
10.	Benzidine	92-87-5
11.	4-chloro-o-toluidine	95-69-2
12.	2-naphthylamine	91-59-8
13.	o-aminoazotoluene	97-56-3
14.	5-nitro-o-toluidine	99-55-8
15.	4-chloroaniline	106-47-8
16.	4-methoxy-m-phenylenediamine	615-05-4
17.	4,4'-diaminodiphenylmethane	101-77-9
18.	3,3'-dichlorobenzidine	91-94-1
19.	3,3'-dimethoxybenzidine	119-90-4
20.	3,3'-dimethylbenzidine	119-93-7
21.	4,4'-methylenedi-o-toluidine	838-88-0
22.	p-cresidine	120-71-8
23.	4,4'-methylene-bis-(2-chloro-aniline)	101-14-4
24.	4,4'-oxydianiline	101-80-4
25.	4,4'-thiodianiline	139-65-1
26.	o-toluidine	95-53-4
27.	4-methyl-m-phenylenediamine	95-80-7
28.	2,4,5-trimethylaniline	137-17-7
29.	o-anisidine	90-04-0
30.	4-amino azobenzene	60-09-3

RESULTS:

PART 2


Sample Number
85183180676A1


Sample Number
85183180676B1


Sample Number
85183180676C1


Sample Number
85183180676D1


Sample Number
85183180676E1


Sample Number
85183180676F1

RESULTS:

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Sample Number
85183180676G1


Sample Number
85183180676H1


Sample Number
8518318067611


Sample Number
8518318067611


Sample Number
85183180676K1

END OF REPORT