



PROLUME LIMITED AND BIOTOY LLC

Technical Report: (8814)344-0042(R2)

Jan 7, 2015

Date Received: Dec 12, 2014

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PROLUME LIMITED AND BIOTOY LLC
SUITE 1404, TUNG WAI COMMERCIAL BUILDING,
109-111 GLOUCESTER ROAD, WAN CHAI, HK

Sample Description: SPLASHLIGHT TOY

- (1) BLUE
 - (2) RED
 - (3) FUCHSIA
- PARTS

Vendor: PROLUME ASIA LIMITED
Manufacturer: PROLUME ASIA LIMITED
Buyer: N/A
Labeled Age Grade: SUITABLE FOR AGES 8+
Appropriate Age Grade: N/A
Client Specified Age Grade: 8+
Tested Age Grade: OVER 8 YEARS OF AGE

Sample Size: N/A
Style No(s): N/A
SKN/SKU No.: 5148931301
PO No.: N/A
Ref #: N/A
Country of Origin: 中国广东省
Country of Destination: 北美, 欧洲, 澳大利亚&
新西兰, 中国, 日本

UPC Code: N/A
Test Starting Date: DEC 12, 2014

Assortment No.: N/A
Test Finished Date: DEC 25, 2014

EXECUTIVE SUMMARY:

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

- The mechanical and physical properties requirements of the tested subclauses of the Japan Toy Safety Standard, "Safety of toys", ST 2012: Part 1: 2012, clauses 1 – 6.
- The labeling requirements of the tested subclauses of the Japan Toy Safety Standard, "Safety of toys", ST 2012: Part 1.

To be continued

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REMARK

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EXECUTIVE SUMMARY:

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

- The flammability requirements of the Japan Toy Safety Standard, "Safety of toys", ST 2012: Part 2.
- The coloring matters requirements of Japan Toy Safety Standard ST-2012 Part 3, Chemical properties, clauses 1.1, 1.8.1 and 2.1.
- The BBP, DBP and DEHP content requirement of Japan Toy Safety Standard ST-2012 Part 3, Chemical properties, clause 1.9.1.
- The hazardous substances requirements of paper/rubber-made toy of Japan Toy Safety Standard ST-2012 Part 3, Chemical properties, clause 1.3.
- The heavy metals requirements of the tested clause(s) of Japan Toy Safety Standard ST-2012 Part 3, Chemical properties.

Note: At the request of the client, the sample(s) was evaluated for use by children 8 years up.



RESULTS:

MECHANICAL & PHYSICAL PROPERTIES – (JAPAN TOY SAFETY STANDARD, ST 2012)

Subclause	Requirement	Result
4.1	Normal use	M
4.2	Reasonably foreseeable abuse	N/A
4.3	Material	-
4.3.1	Material quality	M
4.3.2	Expanding materials	N/A
4.3.3	Stuffing materials	N/A
4.3.4	Glass and pottery	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 96 months)	N/A
4.5	Shape, size and strength of certain toys	-
4.5.1	Squeeze toys, rattles and certain other 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
4.5.9	Suction cup	N/A
4.6	Edges	-
4.6.1	Accessible sharp edges of glass or metal	N/A
4.6.2	Functional sharp edges warning	N/A
4.6.3	Edges on metal toys	N/A
4.6.4	Edges on moulded toys	N/A
4.6.5	Edges on exposed bolts or threaded rods	N/A
4.7	Points	-
4.7.1	Accessible sharp points	N/A
4.7.2	Functional sharp points warning	N/A
4.7.3	Wooden toys	N/A
4.8	Projections	-
4.8.1	Projections	N/A
4.8.2	Handlebars and other tubes	N/A
4.9	Metal wires and rods	-
4.9a	Metal wires and rods intended to be bent	N/A



RESULTS:

MECHANICAL & PHYSICAL PROPERTIES – (JAPAN TOY SAFETY STANDARD, ST 2012)

Subclause	Requirement	Result
4.9b	End of spokes	N/A
4.10	Plastic film or plastic bags in toys	N/A
4.11	Cords and elastics	-
4.11.1	Cord and chain (under 36 months)	-
4.11.1a	Cords connected to self-retraction mechanism or in pull along toys	N/A
4.11.1b	Cords and chains that can form tangled loop or noose Warning	N/A
4.11.1c	Fixed loop of cords or chains Warning	N/A
4.11.1d	Nooses	N/A
4.11.1e	Self-retraction mechanism	N/A
4.11.1f	Toy across cradle, cot or perambulator Warning	N/A
4.11.1g	Cords and chains with free end (exclude pull along toy) Warning	N/A
4.11.1h	Cords and chains with free end on pull along toy	N/A
4.11.1i	Electrical cables Warning	N/A
4.11.2	Cords, string, and lines for flying toys	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)	N/A
4.13.2	Accessible clearances for movable segments (under 96 months)	N/A
4.13.3	Other driving mechanisms	N/A
4.13.4	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	N/A



RESULTS:

MECHANICAL & PHYSICAL PROPERTIES – (JAPAN TOY SAFETY STANDARD, ST 2012)

Subclause	Requirement	Result
4.15.4	Single-seat swings and similar toys	N/A
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	Projectile toys -General	N/A
4.18.2	Projectile toys with stored energy	N/A
	Instruction for use	N/A
4.18.3	Projectile toys without stored energy	N/A
	Instruction for use	N/A
4.19	Aquatic toys	N/A
	Warning	N/A
4.20	Toys containing a heat source	N/A
4.21	Liquid-filled toys	N/A
	Warning	N/A
4.22	Mouth-actuated toys	N/A
4.23	Acoustic requirement	N/A
	Warning	N/A
4.24	Magnets and magnetic components	-
4.24.1	Magnetic/electrical experimental sets (for children 8 years and over)	N/A
	Warning	N/A
4.24.2	All other toys with magnets and magnetic components (under 8 years)	-
4.24.2 a	Loose-as-received magnet(s) and magnetic component(s)	N/A
4.24.2 b	Wooden toys, toys intended in water and mouth pieces of mouth-actuated toys with magnets or magnetic components	N/A
4.24.2 c	Magnet(s) and magnetic component(s) liberated from toy	N/A
4.25	Inflatable vinyl toys intended to be used on land	N/A
4.26	Dry cells	-
4.26a	AAA types or smaller	N/A
4.26b	Button cells	N/A



RESULTS:

MECHANICAL & PHYSICAL PROPERTIES – (JAPAN TOY SAFETY STANDARD, ST 2012)

Subclause	Requirement	Result
4.26c	Button cell box	N/A
4.26d	Covers	N/A
4.26e	Screwed lids	N/A
4.27	Food imitation toys and toys which possess a food scent	-
4.27a	Food imitation toys	N/A
4.27b	Toys possess strong food scent	N/A
4.27c	Food-scented clay	N/A
4.27d	Scented liquid	N/A
6	Packaging	N/A
7	Marking	-
7.1.1	Economic proprietor, intended age grading	-
	Letter size shall be 7 point (or Class 10) or more	M
7.1.1 (1)	Name, trademark and address of manufacturer, importer or other economic proprietor	M
7.1.1 (2)	Intended age grading	M
7.1.2	Warnings	N/A
7.1.3	Cautions	N/A
7.2	Indication of warnings	-
7.2.1	Location of warnings	N/A
7.2.2	Description of warnings	N/A
7.2.3	Size of letter	N/A
	Shall be legible, indelible and prominent	
	Small hiragana	
7.2.4	Wordings of warnings	-
7.2.4.1	Toys intended for children over 36 months containing small parts, small balls or marbles	N/A
7.2.4.2	Latex balloons	N/A
7.2.4.3	Toys incorporating functional sharp point or edges	N/A
7.2.4.4	Cords	-
7.2.4.4.1	Toys with cords intended for children 18 months and over but under 36 months	N/A
7.2.4.4.2	Toys with cords intended to be strung across a cradle, cot or perambulator	N/A
7.2.4.4.3	Toys intended for children under 36 months with electrical cables longer than 300 mm	N/A
7.2.4.5	Toy kites and other flying toys	N/A



RESULTS:

MECHANICAL & PHYSICAL PROPERTIES – (JAPAN TOY SAFETY STANDARD, ST 2012)

Subclause	Requirement	Result
7.2.4.6	Simulated protective equipment	N/A
7.2.4.7.1	Projectile toys with stored energy (>0.08J)	N/A
7.2.4.7.2	Projectile toys capable of discharging object other than provided toy	N/A
7.2.4.8	Aquatic toys	N/A
7.2.4.9	Liquid-filled toys	N/A
7.2.4.10	Acoustics	N/A
7.2.4.11	Magnetic/electrical experimental sets intended for 8 years and over	N/A

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



RESULTS:

FLAMMABILITY (JAPAN TOY SAFETY STANDARD, ST 2012)

Subclause	Requirement	Result
4.1	Celluloid (cellulose nitrate)	NP
4.1	Dangerous flammable gases, liquids and solids	NP
4.1	Materials with a pile surface which produces a flash effect on the approach of a flame	NA
4.2	Toys to be worn on the head	NA
4.3	Toy disguise costumes and toys intended to be worn by child on play	NA
4.3	Toy disguise costumes and toys intended to be worn by child on play with warning	NA
4.4	Toys intended to be entered by a child	NA
4.4	Toys intended to be entered by a child with warning	NA
4.5	Filled soft toys with a pile or textile surface	NA

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



RESULTS:

COLORING MATTERS REQUIREMENTS (Japanese Toy Safety Standard ST-2012, Part 3, Clauses 1.1, 1.8.1 and 2.1)

Test: Observation of migration of coloring matter in the test solution, unless the synthetic chemical colors used in the manufacture of toys were selected from those listed in Schedule 1 of the Enforcement Regulations of the Food Sanitation Law (Ministry of Health and Welfare Ordinance No. 23, 1948).

- Requirements: Ink and the like used for the graphic instruments (Clause 1.8)
- Graphic instruments used with the toys intended for children 3 to 6 years of age
 - Migration of color shall not be recognized.
 - Graphic instruments used with the toys intended for children 6 years and over
 - In general, migration of color shall not be recognized.
 - When migration of color is observed, the migrated color in the test solution shall be below 10 times than that of the comparison standard solution.

Materials other than textile and ink and the like used for the graphic instruments (Clause 2.1)
 The migration of coloring matter shall not be recognized.

- Textile materials (Clause 2.1)
- Textile sample in toys which intended for children 3 years of age or below
 - In general, migration of color shall not be recognized.
 - When migration of color is observed, the migrated color in the test solution shall be not deeper than standard solution.
 - Textile sample in toys which intended for children over 3 years of age
 - In general, migration of color shall not be recognized.
 - When migration of color is observed, the migrated color in the test solution shall not be deeper than the solution which is 3 times as dense in concentration as the comparison standard solution.

Test Component				Result	Conclusion
Color/Component	Location	Style No.			
A.	Clear PC	Nozzle of gun	1-3	NR	PASS
B.	Translucent blue PP	Nozzle of gun	1	NR	PASS
C.	Blue/ deep blue coated white ABS	Body of gun with pattern and words	1	NR	PASS
D.	Blue ABS	Body and trigger of gun	1	NR	PASS
E.	Translucent soft silicone rubber	Tube inside gun	1-3	NR	PASS
F.	Silvery metal	Screws	1-3	NR	PASS
G.	Translucent red PP	Nozzle of gun	2	NR	PASS
H.	Red/ deep red coated white ABS	Body of gun with pattern and words	2	NR	PASS
I.	Red ABS	Body and trigger of gun	2	NR	PASS
J.	Hot pink PP	Nozzle of gun	3	NR	PASS
K.	Pink/ light pink coated white ABS	Body of gun with pattern and words	3	NR	PASS
L.	Pink ABS	Body and trigger of gun	3	NR	PASS



RESULTS:

- NR = Not recognized
- R = Recognized
- RL = Recognized, where the migrated color in the test solution is lighter than the corresponding comparison standard solution.
- RD = Recognized, where the migration color in the test solution is darker than the corresponding comparison standard solution.

BBP/DBP/DEHP CONTENT (Japan Toy Safety Standard ST-2012, Part 3, Clause 1.9.1)

Color / Component	Location	Style
A. Translucent soft silicone rubber	Tube inside gun	1-3

Test Parameter:	BBP	DBP	DEHP	
Limit (%):	0.1	0.1	0.1	
Sample	Result (%)			Conclusion
A.	LT 0.1	LT 0.1	LT 0.1	PASS

Detection Limit :

- BBP = Butyl benzyl phthalate (0.01%)
- DBP = Dibutyl phthalate (0.01%)
- DEHP = Di(2-ethylhexyl) phthalate (0.01%)

Results reported in percentage

- LT = Less than



RESULTS:

**Chemical Properties – Decalcomania, Folded Paper, Rubber-Made Toy
(Japanese Toy Safety Standard-2012, Part 3, Clause 1.3)**

Parameter:				Heavy Metals	Arsenic	
Maximum allowable limit:				1 ppm	0.1 ppm	
Test Component				Result (ppm)		Conclusion
Color	Location	Style				
A.	Translucent soft silicone rubber	Tube inside gun	1-3	LT 1	LT 0.1	PASS

LT = Less than

ppm = parts per million



RESULTS:

Chemical Properties: Heavy Metals

- Paint - Surface Coatings (Japanese Toy Safety Standard ST-2012, Part 3, Clause 1.5)
- Toys That Employ Ink - Graphic Instruments used with toys (Japanese Toy Safety Standard ST-2012, Part 3, Clause 1.8)

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

Sample	Color / Component	Location	Style
A.	Blue coating	Pattern on body of gun	1
B.	Red coating	Pattern on body of gun	2
C.	Pink coating	Pattern on body of gun	3
D. ^	Deep blue coating	Words on body of gun	1
E. ^	Deep red coating	Words on body of gun	2
F. ^	Deep pink coating	Words on body of gun	3

Element	Arsenic	Barium	Cadmium	Chromium	Mercury	Lead	Antimony	Selenium	
Maximum Limit (mg/kg)	25	1000	75	60	60	90	60	500	
Analytical Correction	60%	30%	30%	30%	50%	30%	60%	60%	
Sample	Result (mg/kg)								Conclusion
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

mg/kg = milligrams per kilogram (ppm = parts per million)

LT = Less than

NT2= Not test due to coating weight less than 10 mg.

* = Average of duplicate analyses

CR = Adjusted analytical result

Remark: "^" The received sample(s) contained scrapable paint material(s) of less than 10 milligrams by weight on one single sample, therefore such paint material(s) was not subject to the heavy metals requirements of the tested clause(s) of Japan Toy Association, Toy Safety Standard - 2012, Part 3 - Chemical properties. This report is to Supersede BV(Dong guan) report No. (8814)344-0042(R1) dated on Jan 6, 2015.



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RESULTS:



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