



TEST REPORT

Client: ThinkFun Inc.
Address: 1725 Jamieson Avenue, Alexandria,
VA 22314

REPORT NO.: C81282059
UL ORDER NO.: 13582199
DATE: November 24, 2020

Attn: Natalie Tapia
Sample Description: Math Dice Chase
Quantity Submitted: 1 piece
Style No.: 1505
P.O. No.: Not provided
Labeled Age Grade: Ages 8+
Appropriate Age Grade: Ages 8+
Tested Age Grade: Ages 8+
Destination: Not provided
Country of Origin: China
Date(s) of samples received: November 3, 2020
Date of Test Period: November 3, 2020 - November 24, 2020

TEST METHOD & RESULTS: Please refer to next page(s)

CONCLUSION: Please refer to page two and three (2 and 3)

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SZ-FAF-001 (2017-10-12)



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CONCLUSION:

ASTM F963-17 Physical & Mechanical Requirements	PASS
16 CFR 1500 Physical & Mechanical Requirements	PASS
EN71-1:2014+A1:2018 Mechanical & Physical Properties	PASS
Canada Toys Regulations SOR/2011-17 Physical And Mechanical Requirements	PASS
ASTM F963-17 Flammability Requirements	PASS
16 CFR 1500.3 (c) (6) (vi) /1500.44 Flammability Requirements	PASS
EN 71-2:2011 + A1:2014 Flammability Test	PASS
Canada Toys Regulations SOR/2011-17 Flammability Requirements (Cellulose Nitrate And Celluloid)	PASS
Flammability Requirements For Textile Fibres: SOR/2016-194	PASS
Total Heavy Metals In Packaging [NERC Heavy Metals in Packaging Wastes]	PASS
Soluble Migrated Elements [ASTM F963-17 Section 4.3.5.1 (2), 4.3.5.2 (2)(b) & 8.3]	PASS
Total Lead Content In Paints And Surface Coatings [ASTM F963-17 Section 4.3.5.1(1)]	PASS
Total Lead Content In Substrates [ASTM F963-17 Section 4.3.5.2 (2)(a)]	PASS
Total Lead Content In Paints And Surface Coatings [Consumer Product Safety Improvement Act Of 2008 Section 101]	PASS
Total Lead Content In Substrates [Consumer Product Safety Improvement Act Of 2008 Section 101]	PASS
Total Lead Content In Paints And Surface Coatings [16 CFR 1303]	PASS
Prohibition Of Children's Toys And Child Care Articles Containing Specified Phthalates [16 CFR 1307.3]	PASS
Total Lead Content In Paint And Surface Coatings [California Proposition 65 Settlements Of Alameda Superior Court, BG07350969, RG08378050 And San Francisco Superior Court 07-462991]	PASS
Total Lead Content In Substrates [California Proposition 65 Settlements Of Alameda Superior Court, BG07350969, RG08378050 And San Francisco Superior Court 07-462991]	PASS
Total Phthalates Content [California Proposition 65 Settlements Of County Of Sacramento Case Number 07AS04683, And The Alameda Superior Court Case Numbers BG07350969, RG08367601, RG07351032 And RG08378050]	PASS
Total Mercury Content In Batteries [United States Public Law 104-142, 110 Stat. 1329 & State Legislation]	NOT APPLICABLE#
Total Lead And Mercury In Surface Coatings [Canada Toys Regulations (SOR/2011-17), Toxicological Hazards, Section 23 And SOR/2016-193 Surface Coating Materials Regulations]	PASS
Specific Substance In Surface Coatings [Canada Toys Regulations (SOR/2011-17) Toxicological Hazards, Section 23]	PASS
Total Lead Content [Canada Consumer Products Containing Lead Regulations (SOR/2018-83)]	PASS
Total Phthalates Content In Toys And Child Care Articles [Phthalates Regulation SOR/2016-188 Phthalates Content]	PASS
Total Mercury Content [SOR/2014-254 Products Containing Mercury Regulations]	PASS
Total Mercury Content In Batteries [SOR/2014-254 Products Containing Mercury Regulations]	NOT APPLICABLE#
Migration Of Certain Elements [EN71-3: 2019 Under 2009/48/EC Toy Safety Directive]	PASS
Total Cadmium Content In Surface Coating [Point 23 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]	PASS
Total Cadmium Content In Substrates [Point 23 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]	PASS
Total Phthalates Content In Toys And Child Care Articles [Point 51, 52 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) And Amending Commission Regulation (EU) 2018/2005]	PASS
Total Heavy Metals In Packaging [94/62/EC]	PASS
Total Heavy Metals Content In Batteries [Directive 2013/56/EU Amending Battery Directive 2006/66/EC]	NOT APPLICABLE#
Determination of Azo Colorants [Regulation (EC) No. 1907/2006 on REACH Annex XVII Item No. 43 And Appendix 8 As Amended By Commission Regulation (EC) No. 552/2009]	PASS

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CONCLUSION:

Determination Of Benzene Content [Point 5 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) And Further Amendment]	PASS
Determination Of Flame Retardants Content [(EU) 2019/1021 On Persistent Organic Pollutants]	PASS
Determination Of Flame Retardant Content [Point 8, 45 & 67 of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]	PASS
Flame Retardant (PBBs & PBDES) As Per Client's Specification with Reference to Chem.VerbotsV Regulation.	PASS
Determination Of Flame Retardant Content As Per Client's Specification [Bedarfsgegenständeverordnung Annex 1 (to § 3) Substances which may not be used in the manufacture or treatment of certain consumer goods]	PASS
Determination Of Flame Retardant Content As Per Client's Specification [Point 4,7 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]	PASS
Determination Of Polycyclic Aromatic Hydrocarbon [Point 50 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]	PASS
Determination Of Pentachlorophenol [Point 22 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]	PASS
Determination Of Pentachlorophenol[German Ordinance on Prohibition of Chemical (ChemVerbotsV) Attachment 15]	PASS

#: There is no component on the submitted test samples under the testing scopes.

Note: The results relate only to the items tested.

For and on behalf of :
UL VS Shanghai Limited Shenzhen Branch



Stephen Chan
Operation Manager

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TEST RESULTS

1. MECHANICAL AND PHYSICAL TEST

1.1 AS PER ASTM STANDARD CONSUMER SAFETY SPECIFICATION FOR TOYS SAFETY F963-17

The following clauses are identified to be applicable:

Age grading for testing : Ages 8+
Samples Quantity : 1 piece(s) x 1 style(s)

Clause	Test Items	Assessment
4.1	Material(visual check on cleanness)	P
4.3.7	Stuffing Materials (Visual Check On Contaminations)	NA
4.5	Sound producing toys	NA
4.6	Small Objects	NA
4.7	Accessible Edges	P#
4.8	Projections	NA
4.9	Accessible Points	P#
4.10	Wires Or Rods	NA
4.11	Nails And Fasteners	NA
4.12	Plastic Film	NA
4.13	Folding Mechanisms And Hinges	NA
4.14	Cords, Straps And Elastics	NA
4.15	Stability And Over-Load Requirements	NA
4.16	Confined Spaces	NA
4.17	Wheels, Tires And Axles	NA
4.18	Holes, Clearance, And Accessibility Of Mechanisms	NA
4.19	Simulated Protective Devices, Such As Helmets, Hats And Goggles	NA
4.20	Pacifiers	NA
4.21	Projectile Toys	NA
4.22	Teethers And Teething Toys	NA
4.23	Rattles	NA
4.24	Squeeze Toys	NA
4.25	Battery Operated Toys	NA
4.26	Toys Intended To Be Attached To A Crib Or Playpen	NA
4.27	Stuffed And Beanbag-Type Toys	NA
4.28	Stroller And Carriage Toys	NA
4.29	Art Materials	NA

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Clause	Test Items	Assessment
4.30	Toy Gun Marking	NA
4.31	Balloons	NA
4.32	Certain Toys With Nearly Spherical Ends	NA
4.33	Marbles	NA
4.34	Balls	NA
4.35	Pompoms	NA
4.36	Hemispheric-Shaped Objects	NA
4.37	Yoyo Elastic Tether Toys	NA
4.38	Magnets	NA
4.39	Jaw Entrapment In Handles And Steering Wheels	NA
4.40	Expanding Materials	NA
4.41	Toy Chests	NA
5	Safety Labeling Requirements	P
6	Instructional Literature	P
7	Producer's Markings	P

Remark: P = Pass NA = Not Applicable

#: Section 4.7 accessible edges and section 4.9 accessible points are only applicable for toys for children under 96 months, and the assessment was for reference only.

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TEST RESULTS

1.2 AS PER 16 CFR 1500.50, THE HAZARDS OF SHARP POINTS, SHARP EDGE AND SMALL PARTS ARE ASSESSED BOTH BEFORE AND AFTER APPLICABLE USE AND ABUSE TESTS:

The following clauses are identified to be applicable:

Age grading for testing :Ages 8+
Samples Quantity :1 piece(s) x 1 style(s)

	<u>TEST ITEMS</u>	<u>SHARP POINT</u>	<u>SHARP EDGE</u>
		(1500.48)	(1500.49)
	As received	P#	P#
1500.121	Labeling requirements; prominence, placement, and conspicuousness		NA
1500.19	Misbranded toys and other articles intended for use by children		NA

REMARK: P = PASS NA = NOT APPLICABLE

#: The Mechanical and Physical Tests Requirements of U.S. Consumer Products Safety Commission for Toys and Articles intended for use by the children Specified in U.S. Code of Federal Regulations Title 16, Part 1500.48 and 1500.49 are only for children under 8 years of age. Only As Received Sharp Point and Sharp Edge were assessed. and the assessment was for reference only.

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TEST RESULTS

1.3 PHYSICAL AND MECHANICAL TESTS OF THE MOST STRINGENT REQUIREMENTS OF THE FOLLOWING STANDARDS:

A)EN71-1:2014+A1:2018

The following clauses are identified to be applicable:

Age grading for testing : Ages 8+
Samples Quantity : 1 piece(s) x 1 style(s)

Clause	Test Items	Assessment
4.1	Material cleanliness	P
4.2	Assembly	NA
4.3	Flexible plastic sheeting	NA
4.4	Toy bags	NA
4.5	Glass	NA
4.6	Expanding materials	NA
4.7	Edges	P
4.8	Points and metallic wires	P
4.9	Protruding parts	NA
4.10.1	Folding and sliding mechanisms	NA
4.10.2	Driving mechanisms	NA
4.10.3	Hinges	NA
4.10.4	Springs	NA
4.11	Mouth-actuated toys and other toys intended to be put in the mouth	NA
4.12	Balloons	NA
4.13	Cords of toys kites and other flying toys	NA
4.14.1	Toys which a child can enter	NA
4.14.2	Masks and helmets	NA
4.15	Toys intended to bear the mass of a child	NA
4.16	Heavy immobile toys	NA
4.17	Projectiles toys	NA
4.18	Aquatic toys and inflatable toys	NA
4.19	Percussion caps specifically designed for use in toys and toy using percussion caps	NA
4.20	Acoustics	NA
4.21	Toys containing a non-electrical heat source	NA
4.22	Small balls	NA
4.23	Magnets	NA
4.24	Yo-yo balls	NA
4.25	Toys attached to food	NA
4.26	Toy disguise costumes	NA
4.27	Flying toys	NA

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Clause	Test Items	Assessment
5.1	General Requirements – Toys intended for children under 36 months	NA
5.2	Soft-filled toys and soft-filled parts of a toy	NA
5.3	Plastic sheeting	NA
5.4	Cords, chains and electrical cables in toys	NA
5.5	Liquid-filled toys	NA
5.6	Speed limitation of electrically driven ride-on toys	NA
5.7	Glass and porcelain	NA
5.8	Shape and size of certain toys	NA
5.9	Toys comprising monofilament fibres	NA
5.10	Small balls	NA
5.11	Play figures	NA
5.12	Hemispheric-shaped toys	NA
5.13	Suction cups	NA
5.14	Straps intended to be worn fully or partially around the neck	NA
5.15	Sledges with cords for pulling	NA
6	Packaging	NA
7	Warnings, markings and instructions for use	P
7.1	General	P
7.2	Warning on toys not intended for children under 36 months	NA

Remark: P = Pass NA = Not Applicable

Warnings and safety instructions shall be written in the languages easily understood by consumers of the country in which the toy is to be sold. Only English version was reviewed.

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1.4 AS PER CANADA TOYS REGULATIONS SOR/2011-17

The following clauses are identified to be applicable:

Age grading for testing : Ages 8+
 Samples Quantity : 1 piece(s) x 1 style(s)

(A)	Test Items	Assessment
3	General -- English and French bilingual statement	NA
4	Packaging	NA
	<u>Mechanical hazard</u>	
7	Small parts	NA
8	Exposed Metal Edges	NA
9	Ends	P
10	Exposed Plastic Parts	P
11	Exposed Wooden Surfaces, Edges And Corners	NA
12	Glass	NA
13	Fasteners	NA
14	Folding Mechanisms, Bracket Or Bracing	NA
15	Spring-Wound Driving Mechanism	NA
16	Projectile Component, Other Than A Rocketry Component.	NA
17	Toys Which A Child Can Enter And Which Can Be Closed By A Lid Or Door	NA
18	Toys Which Are Stationary And Intended To Bear The Weight Of A Child	NA
19	Impulsive noise	NA
20	Thermal hazards	NA
	<u>Dolls and soft toys</u>	
28	Fastening to attach parts, clothing or ornamentation.	NA
29	Stuffing materials	NA
(A)	Clean And Free From Vermin	NA
(B)	Free From Hard And Sharp Foreign Matter	NA
30	Squeaker, reed, valve or other similar device	NA
31	Eyes or nose	NA
35	Plant seeds-Noise	NA
36	Plant seeds-Stuffing material	NA
37	Pull and push toys	NA
38	Toy steam engines	NA
40	Rattle	NA
41	Elastic	NA
42	Yo-yo type balls	NA
43	Magnetic Toys	NA
44	Warning for Magnet Kit	NA

Remark: P=Pass N/A=Not Applicable

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2. FLAMMABILITY TEST

2.1 AS PER ASTM STANDARD ON SAFETY OF TOYS F963-17 ANNEX A5:

Samples Quantity: 1 piece(s) x 1 style(s)
Requirement: Burning rate should not exceed 0.1 inch per second along the major axis.

Results: The sample was tested to be ignited but extinguished.

2.2 AS PER U.S. CODE OF FEDERAL REGULATIONS TITLE 16 PART 1500.44 FOR RIGID AND PLIABLE SOLIDS DEFINED UNDER 16 CFR 1500.3 SECTION (C) (6) (VI):

Samples Quantity: 1 piece(s) x 1 style(s)
Requirement: Burning rate should not exceed 0.1 inch per second along the major axis.

Results: The sample was tested to be ignited but extinguished.

2.3 AS PER EUROPEAN STANDARD ON SAFETY OF TOYS EN 71-2:2011+ A1:2014 SECTION 4.1 GENERAL REQUIREMENT (CELLULOSE NITRATE):

Requirement: Celluloid (cellulose nitrate), except when used in varnish, paint or glue, or in balls of the type used for table tennis or similar games, and materials with the same behaviour in fire as celluloid, shall not be used in the manufacture of toys.

Results: The submitted sample(s) complied with this requirement.

2.4 AS PER CANADA TOYS REGULATIONS SOR/2011-17 SECTION 21 (CELLULOSE NITRATE AND CELLULOID)

Requirement: Celluloid (cellulose nitrate) and materials with the same behavior in fire (except when used in varnish or paint) shall not be used in the manufacture of toys.

Results: The submitted sample(s) complied with this requirement.

2.5 FLAMMABILITY REQUIREMENT FOR TEXTILE FIBRES: SOR/2016-194

Sample: blue fabric (bag)		Requirement
	Rate of Burning(second) Original After 1 [] Dry Clean [] Wash	
Plain Surface	Specimen 1) IBE 2) IBE 3) IBE 4) IBE 5) IBE Average ---	Greater than 3.5 seconds
Code Description:	IBE = Ignited But Extinguished	
TEST RESULT:	PASS	

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3. CHEMICAL TESTS:

Tested Sample ID	Product Description / Sample Group Desc.
001	MATH DICE CHASE
002	White coating (all dices) (From 001)
003	White coating (logo on bag) (From 001)
004	Blue plastic (dice) (From 001)
005	Purple plastic (dice) (From 001)
006	Blue fabric (bag) (From 001)
007	Black cord (bag) (From 001)
008	Grey paper card with multicolor coatings (sell card) (From 001)
009	Grey paper card with grey/light grey coatings (insert card) (From 001)
010	Transparent plastic (blister) (From 001)
011	White paper sheet with black printing (instructions) (From 001)
012	Silvery metal (staple) (From 001)

3.1 Determination Of Pentachlorophenol [Point 22 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment] Test Method : ISO 17070:2015

Analyte	Requirement (Max.)	Reporting Limit	Sample, mg/kg
			006+007
PCP	1000	1	<1.0
Rating			PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than; PCP denotes as pentachlorophenol (87-86-5) -Method for determination of PCP is determined by GC-MSD -The test results only apply to the items tested.			

3.2 Determination Of Pentachlorophenol [German Ordinance on Prohibition of Chemical (ChemVerbotsV) Attachment 15] Test Method : In house method

Analyte	Requirement (Max.)	Reporting Limit	Sample, mg/kg
			006+007
PCP	5	1	<1.0
Rating			PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than; PCP denotes as pentachlorophenol (87-86-5) -Method for determination of PCP is determined by GC-MSD -The test results only apply to the items tested.			

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3.3 Determination Of Flame Retardants Content [(EU) 2019/1021 On Persistent Organic Pollutants]

Test Method : In-house method

Analyte	Requirement (Max.)	Reporting Limit	Sample, mg/kg
			004+005
HBCDD	100	5	< 5.0
Tetra-BDE	10	5	< 5.0
Penta-BDE	10	5	< 5.0
Hexa-BDE	10	5	< 5.0
Hept-BDE	10	5	< 5.0
Deca-BDE	10	5	< 5.0
Rating			PASS

Analyte	Requirement (Max.)	Reporting Limit	Sample, mg/kg
			006+007
Tetra-BDE	10	5	< 5.0
Penta-BDE	10	5	< 5.0
Hexa-BDE	10	5	< 5.0
Hept-BDE	10	5	< 5.0
Deca-BDE	10	5	< 5.0
Rating			PASS

Remark:
 -All concentrations expressed in milligrams per kilogram of Tested Parts
 -“<” means less than
 -Method for determination of analyte is determined by GC-MSD
 - Hexabromocyclododecane (HBCDD); Tetrabromodiphehyl ether (Tetra-BDE); Pentabromodiphenyl ether (Penta-BDE); Hexabromodiphenyl ether (Hexa-BDE); Heptabromodiphenyl ether (Hept-BDE); Decabromodiphenyl ether (Deca-BDE)
 -The test results only apply to the items tested.

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3.4 Determination Of Flame Retardant Content [Point 8, 45 & 67 of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]

Test Method : In-house method

Analyte	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			004+005	006+007
PBBs	Not Detected	5	< 5.0	< 5.0
Deca-BDE	1000	5	< 5.0	< 5.0
Octa-BDE	1000	5	< 5.0	< 5.0
Rating			PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than -Method for determination of analyte is determined by GC-MSD -Polybrominated biphenyl (PBB); Decabromodiphenyl ether (Deca-BDE); Octabrominated diphenylether (Octa-BDE); - Not Detected denotes "less than reporting limit (5 mg/kg)"				

3.5 Flame Retardant (PBBs & PBDES) As Per Client’s Specification with Reference to Chem.VerbotsV Regulation.

Test Method: In-house Method

Analyte	Client’s Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			004+005	006+007
PBBs	Not Detected	5	< 5.0	< 5.0
PBDEs	Not Detected	5	< 5.0	< 5.0
Octa-BDE	Not Detected	5	< 5.0	< 5.0
Rating			PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than -Method for determination of analyte is determined by GC-MSD -Polybrominated biphenyl (PBB); Pentabrominated diphenylether (PBDE); Octabrominated diphenylether (Octa-BDE). - Not Detected denotes "less than reporting limit (5 mg/kg)" -The test results only apply to the items tested.				

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3.6 Determination Of Flame Retardant Content [Point 4 & 7 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]

Test Method : In-house method

Analyte	Requirement (Max.)	Reporting Limit	Sample, mg/kg
			006+007
TRIS	Not Detected	5	< 5.0
TEPA	Not Detected	5	< 5.0
Rating			PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than -Method for determination of analyte is determined by GC-MSD -Tris(2,3-dibromopropyl) phosphate (TRIS); Tris(aziridinyl)phosphin oxide (TEPA) - Not Detected denotes "less than reporting limit (5 mg/kg)"			

3.7 Determination Of Flame Retardant Content As Per Client’s Specification [Bedarfsgegenständeverordnung Annex 1 (to § 3) Substances which may not be used in the manufacture or treatment of certain consumer goods]

Test Method : In-house method

Analyte	Requirement (Max.)	Reporting Limit	Sample, mg/kg
			006+007
TRIS	Not Detected	5	< 5.0
TEPA	Not Detected	5	< 5.0
Rating			PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -Method for determination of analyte is determined by GC-MSD & LC-MS-MS -Tris(2,3-dibromopropyl) phosphate (TRIS); Tris(aziridinyl)phosphin oxide (TEPA) - Not Detected denotes "less than reporting limit (5 mg/kg)"			

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TEST RESULTS

3.8 Total Heavy Metals In Packaging [NERC Heavy Metals in Packaging Wastes]

Test Method: In-house Method

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg			
			008+009	010	011	012
Lead (Pb)	100	10	<10	<10	<10	<10
Cadmium (Cd)	100	5	<5	<5	<5	<5
Chromium VI (Cr VI)	100	10	<10	<10	<10	<10
Mercury (Hg)	100	5	<5	<5	<5	<5
Sum	100	30	<30	<30	<30	<30
Rating			PASS	PASS	PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram -“<” means less than -Method for determination of Lead (Pb), Cadmium(Cd), Chromium VI (Cr VI) and Mercury(Hg) are determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.						

3.9 Total Heavy Metals In Packaging [94/62/EC]

Test Method : In-house Method

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg			
			008+009	010	011	012
Lead (Pb)	100	10	<10	<10	<10	<10
Cadmium (Cd)	100	5	<5	<5	<5	<5
Chromium VI (Cr VI)	100	10	<10	<10	<10	<10
Mercury (Hg)	100	5	<5	<5	<5	<5
Sum	100	30	<30	<30	<30	<30
Rating			PASS	PASS	PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram -“<” means less than -Method for determination of Lead (Pb), Cadmium(Cd), Chromium VI (Cr VI) and Mercury(Hg) are determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.						

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3.10 Specific Substance In Surface Coatings [Canada Toys Regulations (SOR/2011-17) Toxicological Hazards, Section 23]

Test Method : Health Canada Product Safety Reference Manual, Book 5, Part B, Method C-03

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			002	003
Antimony (Sb)	1000	50	<50	<50
Arsenic (As)	1000	50	<50	<50
Barium (Ba)	1000	50	<50	<50
Cadmium (Cd)	1000	50	<50	<50
Selenium (Se)	1000	50	<50	<50
Rating			PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram -“<” means less than -Method for determination of each soluble element present: Antimony(Sb), Arsenic(As), Barium(Ba), Cadmium(Cd) and Selenium(Se) are determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.				

3.11 Total Cadmium Content In Substrates [Point 23 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]

Test Method : EN 1122:2001

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg
			004+005
Cadmium (Cd)	100	10	<10
Rating			PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilograms -“<” means less than -Method for determination of cadmium (Cd) is determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.			

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3.12 Total Cadmium Content In Surface Coating [Point 23 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]

Test Method : In-house method reference with CPSC-CH-E1003-09.1

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			002	003
Cadmium (Cd)	1000	10	<10	<10
Rating			PASS	PASS

Remark:
 -All concentrations expressed in milligrams per kilograms
 -“<” means less than
 -Method for determination of cadmium (Cd) is determined by Inductively Coupled Plasma Spectroscopy.
 -The test results only apply to the items tested.

3.13 Total Lead And Mercury In Surface Coatings [Canada Toys Regulations (SOR/2011-17), Toxicological Hazards, Section 23 And SOR/2016-193 Surface Coating Materials Regulations]

Test Method : Health Canada Product Safety Reference Manual, Book 5, Part B, Method C-02.2 & C-07

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			002	003
Lead (Pb)	90	10	< 10	< 10
Mercury (Hg)	10	10	< 10	< 10
Rating			PASS	PASS

Remark:
 -All concentrations expressed in milligrams per kilogram
 -“<” means less than
 -Method for determination of each element present: Lead (Pb) and Mercury (Hg) are determined by Inductively Coupled Plasma Mass Spectrometry.
 -The test results only apply to the items tested.

3.14 Total Lead Content In Substrates [ASTM F963-17 Section 4.3.5.2 (2)(a)]

Test Method : CPSC-CH-E1001-08.3 (Metal Substrates) / CPSC-CH-E1002-08.3 Section IA & IIA (Non-Metal Substrates)

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg
			004+005
Lead (Pb)	100	10	<10
Rating			PASS

Remark:
 -All concentrations expressed in milligrams per kilogram of Tested Parts
 -“<” means less than
 -Method for determination of Lead (Pb) is determined by Inductively Coupled Plasma Spectroscopy.
 -The test results only apply to the items tested.

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3.15 Total Lead Content In Substrates [Consumer Product Safety Improvement Act Of 2008 Section 101]
Test Method: CPSC-CH-E1001-08.3 (Metal Substrates) / CPSC-CH-E1002-08.3 Section IA & IIA (Non-Metal Substrates)

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg			
			004+005			
Lead (Pb)	100	10	<10			
Rating			PASS			
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than -Method for determination of Lead (Pb) is determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.						

3.16 Total Lead Content In Substrates [California Proposition 65 Settlements Of Alameda Superior Court, BG07350969, RG08378050 And San Francisco Superior Court 07-462991]
Test Method: CPSC-CH-E1001-08.3 (Metal Substrates) / CPSC-CH-E1002-08.3 Section IA & IIA (Non-Metal Substrates)

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg			
			004+005			
Lead (Pb)	100	10	<10			
Rating			PASS			
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than -Method for determination of Lead (Pb) is determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.						

3.17 Total Lead Content [Canada Consumer Products Containing Lead Regulations (SOR/2018-83)]
Test Method : In-house method reference with CPSC-CH-E1001-08.3 (Metal Substrates) / CPSC-CH-E1002-08.3 Section IA & IIA (Non-Metal Substrates) / CPSC-CH-E1003-09.1 (Paints and Surface Coatings)

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg			
			002	003	004+005	006+007
Lead (Pb)	90	10	< 10	< 10	< 10	< 10
Rating			PASS	PASS	PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram -“<” means less than -Method for determination of each element present: Lead (Pb) is determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.						

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TEST REPORT

Client: ThinkFun Inc.
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 VA 22314

REPORT NO.: C81282059
 UL ORDER NO.: 13582199
 DATE: November 24, 2020

TEST RESULTS

3.18 Total Lead Content In Paints And Surface Coatings [ASTM F963-17 Section 4.3.5.1(1)]

Test Method : CPSC-CH-E1003-09.1 (Paints and Surface Coatings)

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			002	003
Lead (Pb)	90	10	<10	<10
Rating			PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than -Method for determination of Lead (Pb) is determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.				

3.19 Total Lead Content In Paints And Surface Coatings [Consumer Product Safety Improvement Act Of 2008 Section 101]

Test Method : CPSC-CH-E1003-09.1 (Paints and Surface Coatings)

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			002	003
Lead (Pb)	90	10	<10	<10
Rating			PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than -Method for determination of Lead (Pb) is determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.				

3.20 Total Lead Content In Paints And Surface Coatings [16 CFR 1303]

Test Method: CPSC-CH-E1003-09.1 (Paints and Surface Coatings)

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			002	003
Lead (Pb)	90	10	<10	<10
Rating			PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilogram of Tested Parts -“<” means less than -Method for determination of Lead (Pb) is determined by Inductively Coupled Plasma Spectroscopy. -The test results only apply to the items tested.				

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REPORT NO.: C81282059
UL ORDER NO.: 13582199
DATE: November 24, 2020

TEST RESULTS

3.21 Total Lead Content In Paint And Surface Coatings [California Proposition 65 Settlements Of Alameda Superior Court, BG07350969, RG08378050 And San Francisco Superior Court 07-462991] Test Method: CPSC-CH-E1003-09.1 (Paint or Surface Coatings)

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			002	003
Lead (Pb)	90	10	<10	<10
Rating			PASS	PASS

Remark:
 -All concentrations expressed in milligrams per kilogram of Tested Parts
 -“<” means less than
 -Method for determination of Lead (Pb) is determined by Inductively Coupled Plasma Spectroscopy.
 -The test results only apply to the items tested.

3.22 Determination Of Benzene Content [Point 5 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) And Further Amendment] Test Method : Headspace followed GC-MSD analysis

Analyte	CAS No.	Requirement (Max)	Reporting Limit	Sample, mg/kg	
				002+003	004+005
Benzene	71-43-2	5	1	<1.0	<1.0
Rating				PASS	PASS

Remark:
 -All concentrations expressed in milligrams per kilogram of tested parts
 -“<” means less than
 -Method for determination of analyte are determined by GC-MSD
 -The test results only apply to the items tested.

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TEST REPORT

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UL ORDER NO.: 13582199
DATE: November 24, 2020

TEST RESULTS

3.23 Total Phthalates Content [California Proposition 65 Settlements Of County Of Sacramento Case Number 07AS04683, And The Alameda Superior Court Case Numbers BG07350969, RG08367601, RG07351032 And RG08378050]

Test Method: CPSC-CH-C1001-09.4

Analyte	CAS No.	Requirement (Max.)	Reporting Limit	Sample, %
				002+003
Dibutyl Phthalate, DBP	84-74-2	0.1	0.005	<0.005
Benzyl Butyl Phthalate, BBP	85-68-7	0.1	0.005	<0.005
Diethylhexyl Phthalate, DEHP	117-81-7	0.1	0.005	<0.005
Diisodecyl Phthalate, DIDP	26761-40-0 /68515-49-1	0.1	0.005	<0.005
Dihexyl Phthalate, DHEXP	84-75-3	0.1	0.005	<0.005
Rating				PASS
<i>Remark:</i> -All concentrations expressed in percentage (%) -“<” means less than -Method for determination of Phthalates are determined by Gas Chromatography Mass Selective Detector (GC-MSD) -The test results only apply to the items tested.				

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 UL ORDER NO.: 13582199
 DATE: November 24, 2020

TEST RESULTS

3.24 Total Phthalates Content In Toys And Child Care Articles [Point 51, 52 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) And Amending Commission Regulation (EU) 2018/2005]
Test Method : CPSC-CH-C1001-09.4

Analyte	CAS No.	Requirement (Max.)	Reporting Limit	Sample, %	
				002+003	004+005
Dibutyl Phthalate, DBP	84-74-2	0.1	0.005	<0.005	<0.005
Benzyl Butyl Phthalate, BBP	85-68-7		0.005	<0.005	<0.005
Diethylhexyl Phthalate, DEHP	117-81-7		0.005	<0.005	<0.005
Diisobutyl Phthalate, DIBP	84-69-5		0.005	<0.005	<0.005
Sum of DBP, BBP, DEHP & DIBP			0.005	<0.005	<0.005
Diisononyl Phthalate, DINP	28553-12-0/ 68515-48-0	0.1	0.005	<0.005	<0.005
Di-n-octyl Phthalate, DNOP	117-84-0		0.005	<0.005	<0.005
Diisodecyl Phthalate, DIDP	26761-40-0/ 68515-49-1		0.005	<0.005	<0.005
Sum of DINP, DNOP & DIDP			0.005	<0.005	<0.005
Rating				PASS	PASS
Remark: -All concentrations expressed in percentage (%) -“<” means less than -Method for determination of Phthalates are determined by Gas Chromatography Mass Selective Detector (GC-MSD) -Toys and child care articles need to determine DEHP, DBP, BBP, DIBP. Component in any part of a toy or child care article that can be placed in the mouth of a child: DINP, DIDP and DNOP -The test results only apply to the items tested.					

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UL ORDER NO.: 13582199
DATE: November 24, 2020

TEST RESULTS

3.25 Prohibition Of Children's Toys And Child Care Articles Containing Specified Phthalates [16 CFR 1307.3]

Test Method : CPSC-CH-C1001-09.4

<u>Analyte</u>	<u>CAS No.</u>	<u>Requirement (Max.)</u>	<u>Reporting Limit</u>	<u>Sample, %</u>
				<u>002+003</u>
Dibutyl Phthalate, DBP	84-74-2	0.1	0.005	<0.005
Benzyl Butyl Phthalate, BBP	85-68-7	0.1	0.005	<0.005
Diethylhexyl Phthalate, DEHP	117-81-7	0.1	0.005	<0.005
Diisononyl Phthalate, DINP	28553-12-0 /68515-48-0	0.1	0.005	<0.005
Diisobutyl Phthalate, DIBP	84-69-5	0.1	0.005	<0.005
Dipentyl Phthalate, DPENP	131-18-0	0.1	0.005	<0.005
Di-n-hexyl Phthalate, DHEXP	84-75-3	0.1	0.005	<0.005
Dicyclohexyl Phthalate, DCHP	84-61-7	0.1	0.005	<0.005
Rating				PASS
Remark: -All concentrations expressed in percentage (%) -“<” means less than -Method for determination of Phthalates are determined by Gas Chromatography Mass Selective Detector (GC-MSD) -The test results only apply to the items tested.				

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DATE: November 24, 2020

TEST RESULTS

3.26 Total Phthalates Content In Toys And Child Care Articles [Phthalates Regulation SOR/2016-188 Phthalates Content]

Test Method : CPSC-CH-C1001-09.4

Analyte	CAS No.	Requirement (Max.)	Reporting Limit	Sample, %
				002+003
Dibutyl Phthalate, DBP	84-74-2	0.1	0.005	<0.005
Benzyl Butyl Phthalate, BBP	85-68-7	0.1	0.005	<0.005
Diethylhexyl Phthalate, DEHP	117-81-7	0.1	0.005	<0.005
Diisononyl Phthalate, DINP	28553-12-0/ 68515-48-0	0.1	0.005	<0.005
Di-n-octyl Phthalate, DNOP	117-84-0	0.1	0.005	<0.005
Diisodecyl Phthalate, DIDP	26761-40-0/ 68515-49-1	0.1	0.005	<0.005
Rating				PASS
Remark: -All concentrations expressed in percentage (%) -“<” means less than -Method for determination of Phthalates are determined by Gas Chromatography Mass Selective Detector (GC-MSD) -Vinyl in toys and child care articles need to determine DEHP, DBP, BBP. Vinyl in any part of a toy or child care article that can be placed in the mouth of a child under four years of age: DINP, DIDP and DNOP -The test results only apply to the items tested.				

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 DATE: November 24, 2020

TEST RESULTS

3.27 Determination Of Polycyclic Aromatic Hydrocarbon [Point 50 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]
 Test Method : AfPS GS 2019:01 PAK

Analyte	CAS No.	Requirement (Max)	Reporting Limit	Sample, mg/kg		
				002+003	004+005	006+007
Benzo[a]pyrene	50-32-8	0.5	0.1	<0.1	<0.1	<0.1
Benzo[e]pyrene	192-97-2	0.5	0.1	<0.1	<0.1	<0.1
Benzo[a]anthracene	56-55-3	0.5	0.1	<0.1	<0.1	<0.1
Chrysene	218-01-9	0.5	0.1	<0.1	<0.1	<0.1
Benzo[b]fluoranthene	205-99-2	0.5	0.1	<0.1	<0.1	<0.1
Benzo[j]fluoranthene	205-82-3	0.5	0.1	<0.1	<0.1	<0.1
Benzo[k]fluoranthene	207-08-9	0.5	0.1	<0.1	<0.1	<0.1
Dibenzo[a,h]anthracene	53-70-3	0.5	0.1	<0.1	<0.1	<0.1
Rating				PASS	PASS	PASS
<p>Remark: -All concentrations expressed in milligrams per kilogram -“<” means less than -Method for determination of analyte are determined by GC-MSD -The test results only apply to the items tested. -Articles shall not be placed on the market for supply to the general public, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 1 mg/kg (0,0001 % by weight of this component) of any of the listed PAHs -Toys, including activity toys, and childcare articles, shall not be placed on the market, if any of their rubber or plastic components that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, contain more than 0,5 mg/kg (0,00005 % by weight of this component) of any of the listed PAHs.</p>						

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UL ORDER NO.: 13582199
DATE: November 24, 2020

TEST RESULTS

3.28 Total Mercury Content [SOR/2014-254 Products Containing Mercury Regulations]

Test Method : In-house method

Elements	Requirement (Max.)	Reporting Limit	Sample, mg/kg	
			004+005	006+007
Mercury (Hg)	1000	10	< 10	< 10
Rating			PASS	PASS
<i>Remark:</i> -All concentrations expressed in milligrams per kilograms -“<” means less than -Method for determination of Mercury (Hg) is determined by Inductively Coupled Plasma Mass Spectrometry. -a product, other than a battery, that has a mercury concentration of 0.1% or less by weight in homogeneous materials; -The test results only apply to the items tested.				

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 UL ORDER NO.: 13582199
 DATE: November 24, 2020

TEST RESULTS

3.29 Determination of Azo Colorants [Regulation (EC) No. 1907/2006 on REACH Annex XVII Item No. 43 And Appendix 8 As Amended By Commission Regulation (EC) No. 552/2009]
 Test Method : EN ISO 14362-1:2017 & EN ISO 14362-3:2017

Analyte	CAS No.	Requirement (Max)	Reporting Limit	Sample, mg/kg	
				002+003	006+007
With Xylene Extraction (Y/N)				Y	Y
BENZIDINE	92-87-5	30	5	<5	<5
4-AMINODIPHENYL	92-67-1	30	5	<5	<5
4-CHLORO-O-TOLUIDINE	95-69-2	30	5	<5	<5
2-NAPHTHYLAMINE	91-59-8	30	5	<5	<5
O-AMINOAZOTOLUENE	97-56-3	30	5	<5	<5
5-NITRO-O-TOLUIDINE	99-55-8	30	5	<5	<5
4-CHLOROANILINE	106-47-8	30	5	<5	<5
4-METHOXY-M-PHENYLENEDIAMINE	615-05-4	30	5	<5	<5
4,4'-DIAMINODIPHENYLMETHANE	101-77-9	30	5	<5	<5
3,3'-DICHLOROBENZIDINE	91-94-1	30	5	<5	<5
3,3'-DIMETHOXYBENZIDINE	119-90-4	30	5	<5	<5
3,3'-DIMETHYLBENZIDINE	119-93-7	30	5	<5	<5
4,4'-METHYLENEDI-O-TOLUIDINE	838-88-0	30	5	<5	<5
P-CRESIDINE	120-71-8	30	5	<5	<5
4,4'-METHYLENE-BIS-(2-CHLOROANILINE)	101-14-4	30	5	<5	<5
4,4'-OXYDIANILINE	101-80-4	30	5	<5	<5
4,4'-THIODIANILINE	139-65-1	30	5	<5	<5
O-TOLUIDINE	95-53-4	30	5	<5	<5
2,4,5-TRIMETHYLANILINE	137-17-7	30	5	<5	<5
4-METHYL-M-PHENYLENEDIAMINE	95-80-7	30	5	<5	<5
O-ANISIDINE	90-04-0	30	5	<5	<5
4-AMINOAZOBENZENE	60-09-3	30	5	<5	<5
Rating				PASS	PASS

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SZ-FAF-001 (2017-10-12)



TEST REPORT

Client: ThinkFun Inc.
 Address: 1725 Jamieson Avenue, Alexandria,
 VA 22314

REPORT NO.: C81282059
 UL ORDER NO.: 13582199
 DATE: November 24, 2020

TEST RESULTS

Analyte	CAS No.	Requirement (Max)	Reporting Limit	Sample, mg/kg	
				002+003	006+007
With Xylene Extraction (Y/N)				N	N
BENZIDINE	92-87-5	30	5	<5	<5
4-AMINODIPHENYL	92-67-1	30	5	<5	<5
4-CHLORO-O-TOLUIDINE	95-69-2	30	5	<5	<5
2-NAPHTHYLAMINE	91-59-8	30	5	<5	<5
O-AMINOAZOTOLUENE	97-56-3	30	5	<5	<5
5-NITRO-O-TOLUIDINE	99-55-8	30	5	<5	<5
4-CHLOROANILINE	106-47-8	30	5	<5	<5
4-METHOXY-M-PHENYLENEDIAMINE	615-05-4	30	5	<5	<5
4,4'-DIAMINODIPHENYLMETHANE	101-77-9	30	5	<5	<5
3,3'-DICHLOOROBENZIDINE	91-94-1	30	5	<5	<5
3,3'-DIMETHOXYBENZIDINE	119-90-4	30	5	<5	<5
3,3'-DIMETHYLBENZIDINE	119-93-7	30	5	<5	<5
4,4'-METHYLENEDI-O-TOLUIDINE	838-88-0	30	5	<5	<5
P-CRESIDINE	120-71-8	30	5	<5	<5
4,4'-METHYLENE-BIS-(2-CHLOROANILINE)	101-14-4	30	5	<5	<5
4,4'-OXYDIANILINE	101-80-4	30	5	<5	<5
4,4'-THIODIANILINE	139-65-1	30	5	<5	<5
O-TOLUIDINE	95-53-4	30	5	<5	<5
2,4,5-TRIMETHYLANILINE	137-17-7	30	5	<5	<5
4-METHYL-M-PHENYLENEDIAMINE	95-80-7	30	5	<5	<5
O-ANISIDINE	90-04-0	30	5	<5	<5
4-AMINOAZOBENZENE	60-09-3	30	5	<5	<5
Rating				PASS	PASS

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SZ-FAF-001 (2017-10-12)



TEST REPORT

Client: ThinkFun Inc.
Address: 1725 Jamieson Avenue, Alexandria,
VA 22314

REPORT NO.: C81282059
UL ORDER NO.: 13582199
DATE: November 24, 2020

TEST RESULTS

Remark:

- All concentrations expressed in milligrams per kilogram
- “<” means less than ; "Y" means "Yes"; "N" means "No"
- Method for determination of Azo-derived amines are determined by GC-MSD and LC-DAD
- The test results only apply to the items tested.
- The following samples were not tested due to insufficient weight of samples (less than 0.2g):
- The following samples were not tested due to white colour:

Interpretation of test results:

(1) In the case of levels per amine component $\leq 30\text{mg/kg}$

According to the analysis as carried out, azo colorants which can release one or more of certain listed amines by cleavage of their azo groups were not detected in the commodity submitted.

(2) In the case of levels per amine components $> 30\text{ mg/kg}$, the following statement should be marked

i. 4-aminodiphenyl, 2-naphthylamine: The use of certain azo colorants cannot be reliably ascertained without additional information, e.g. the chemical structure of the colorants used. The product from which the sample was taken may have been coloured with colorants whose structures contain the amines but not azo bound.

ii. 4-methoxy-m-phenylenediamine: The use of certain azo colorants cannot be reliably ascertained without additional information, e.g. the chemical structure of the colorants used. The product from which the sample was taken may be coloured with an azo colorant whose structure does not contain performed 4-methoxy-m-phenylenediamine but 2-amino-4-nitroanisole; in the course of the analytical procedure, the azo colorant will release 2-amino-4-nitroanisole, which in turn will form 4-methoxy-m-phenylenediamine.

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SZ-FAF-001 (2017-10-12)



TEST REPORT

Client: ThinkFun Inc.
Address: 1725 Jamieson Avenue, Alexandria,
VA 22314

REPORT NO.: C81282059
UL ORDER NO.: 13582199
DATE: November 24, 2020

TEST RESULTS

3.30 Soluble Migrated Elements [ASTM F963-17 Section 4.3.5.1 (2), 4.3.5.2 (2)(b) & 8.3]

Test Method : ASTM F963-17 Section 8.3

Elements	Requirement (Max.)	Sample, mg/kg	
		002**	003
*Sample weight (g)		--	0.0164
Antimony (Sb)	60	--	<6.0
Arsenic (As)	25	--	<2.5
Barium (Ba)	1000	--	<6.0
Cadmium (Cd)	75	--	<6.0
Chromium (Cr)	60	--	<6.0
Lead (Pb)	90	--	<6.0
Mercury (Hg)	60	--	<6.0
Selenium (Se)	500	--	<6.0
Rating		--	PASS

Remark:
 -All concentrations expressed in milligrams per kilogram and unadjusted unless otherwise stated
 -“<” means less than
 -Method for determination of each soluble element present: Antimony(Sb), Arsenic(As), Barium(Ba), Cadmium(Cd), Chromium(Cr), Lead(Pb), Mercury(Hg) and Selenium(Se) are determined by Inductively Coupled Plasma Spectroscopy.
 -*Sample weight between 0.01g - 0.1g should be reported in according to ASTM F963-17
 -** Test specimen less than 10 mg is not required to test soluble migrated elements according to ASTM F963-17 Section 8.3.3.6 (2).
 -The test results only apply to the items tested.
 -Any deviation from the standard method was specified as follow:

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SZ-FAF-001 (2017-10-12)



TEST REPORT

Client: ThinkFun Inc.
 Address: 1725 Jamieson Avenue, Alexandria,
 VA 22314

REPORT NO.: C81282059
 UL ORDER NO.: 13582199
 DATE: November 24, 2020

TEST RESULTS

3.31 Migration Of Certain Elements [EN71-3: 2019 Under 2009/48/EC Toy Safety Directive]

<u>Soluble Elements</u>	<u>CAS No.</u>	<u>Requirements</u>	<u>Sample, mg/kg</u>			
		<u>Category III, mg/kg (Scraped-off material)</u>	<u>002**</u>	<u>003</u>	<u>004</u>	<u>005</u>
Sample weight between (0.01g) 10 mg and (0.1g) 100 mg			--	0.0164	--	--
Aluminum	7429-90-5	70,000	--	60.0	<50.0	<50.0
Antimony	7440-36-0	560	--	<5.0	<5.0	<5.0
Arsenic	7440-38-2	47	--	<2.5	<2.5	<2.5
Barium	7440-39-3	18,750	--	<5.0	<5.0	<5.0
Boron	7440-42-8	15,000	--	<50.0	<50.0	<50.0
Cadmium	7440-43-9	17	--	<5.0	<5.0	<5.0
Chromium ⁽²⁾	7440-47-3	---	--	< 0.05	2.80	< 0.05
(Chromium III)	-	460	--	< 0.05	2.80	< 0.05
(Chromium VI)	-	0.053	--	< 0.05	< 0.05 [#]	< 0.05
Cobalt	7440-48-4	130	--	<5.0	<5.0	<5.0
Copper	7440-50-8	7,700	--	<50.0	<50.0	<50.0
Lead	7439-92-1	23	--	<5.0	<5.0	<5.0
Manganese	7439-96-5	15,000	--	<5.0	<5.0	<5.0
Mercury	7439-97-6	94	--	<5.0	<5.0	<5.0
Nickel	7440-02-0	930	--	<5.0	<5.0	<5.0
Selenium	7782-49-2	460	--	<5.0	<5.0	<5.0
Strontium	7440-24-6	56,000	--	5.0	<5.0	<5.0
Tin	7440-31-5	180,000	--	<4.0	<4.0	<4.0
Organic Tin ⁽³⁾	Various	12	--	<12.0	<12.0	<12.0
Zinc	7440-66-6	46,000	--	<50.0	<50.0	<50.0
Rating			--	PASS	PASS	PASS

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SZ-FAF-001 (2017-10-12)



TEST REPORT

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 VA 22314

REPORT NO.: C81282059
 UL ORDER NO.: 13582199
 DATE: November 24, 2020

TEST RESULTS

<u>Soluble Elements</u>	<u>CAS No.</u>	<u>Requirements</u>	<u>Sample, mg/kg</u>	
		<u>Category III, mg/kg (Scraped-off material)</u>	<u>006</u>	<u>007</u>
Sample weight between (0.01g) 10 mg and (0.1g) 100 mg			--	--
Aluminum	7429-90-5	70,000	<50.0	<50.0
Antimony	7440-36-0	560	<5.0	<5.0
Arsenic	7440-38-2	47	<2.5	<2.5
Barium	7440-39-3	18,750	<5.0	5.5
Boron	7440-42-8	15,000	<50.0	<50.0
Cadmium	7440-43-9	17	<5.0	<5.0
Chromium ⁽²⁾	7440-47-3	---	< 0.05	0.25
(Chromium III)	-	460	< 0.05	0.25
(Chromium VI)	-	0.053	< 0.05	< 0.05 [#]
Cobalt	7440-48-4	130	<5.0	<5.0
Copper	7440-50-8	7,700	<50.0	<50.0
Lead	7439-92-1	23	<5.0	<5.0
Manganese	7439-96-5	15,000	<5.0	<5.0
Mercury	7439-97-6	94	<5.0	<5.0
Nickel	7440-02-0	930	<5.0	<5.0
Selenium	7782-49-2	460	<5.0	<5.0
Strontium	7440-24-6	56,000	<5.0	<5.0
Tin	7440-31-5	180,000	<4.0	<4.0
Organic Tin ⁽³⁾	Various	12	<12.0	<12.0
Zinc	7440-66-6	46,000	<50.0	<50.0
Rating			PASS	PASS
<" means less than ; ">" means greater than ; "mg/kg" means milligrams per kilogram				

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SZ-FAF-001 (2017-10-12)



TEST REPORT

Client: ThinkFun Inc.
Address: 1725 Jamieson Avenue, Alexandria,
VA 22314

REPORT NO.: C81282059
UL ORDER NO.: 13582199
DATE: November 24, 2020

TEST RESULTS

Remarks :

1. Soluble migrated elements are determined by ICP-MS (Induced Couple Plasma Mass Spectrometry)
2. If the chromium content of the tested sample does not exceed 0.05 mg/kg, it is deemed to comply on the respective migration requirements of chromium III and/or chromium VI under 2009/48/EC. Otherwise, the compliance on the migration requirements of the individual chromium III and/or chromium VI are confirmed by LC-ICP-MS technique.
denotes: The chromium VI content is determined by LC-ICP-MS
3. If the soluble tin content of the tested sample projected by the tin content does not exceed 4.0 mg/kg, it is deemed to comply on the respective migration requirement of Organic Tin under 2009/48/EC. Otherwise, the compliance on the migration requirement of Organic Tin is confirmed by GC-MS analysis.
denotes: The Organic Tin content is determined by GC-MS.
4. **Sample weight less than 10 mg is not required to test soluble elements according to EN71-3: 2019
5. Any deviation from the standard method was specified as follow:
6. The test results only apply to the items tested

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SZ-FAF-001 (2017-10-12)



TEST REPORT

Client: ThinkFun Inc.
Address: 1725 Jamieson Avenue, Alexandria, VA 22314

REPORT NO.: C81282059
UL ORDER NO.: 13582199
DATE: November 24, 2020

Product Photo:



***** THE END *****

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SZ-FAF-001 (2017-10-12)

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- Payment Terms.** You will pay, without set off, our fees and related expenses in accordance with the Quotation including the cost of all taxes, wire or transfer fees, duties, and other fiscal charges which become due on the quoted price and will indemnify us from and against liabilities, incurred as a result of failure to pay any such sums when they become due. We may charge interest at 1% per month (12% per year), or the maximum legal rate if less than 1.0% per month, from the due date until paid fully. You agree to pay reasonable collection costs, including attorneys' fees, if necessary, in the event of late or non-payment.
- Your Requirements.** You are responsible for establishing or selecting all Your Requirements that we will use in performing the Services. We may provide you with assistance in developing Your Requirements that meet your needs, however, in all cases you must review and approve Your Requirements to be used in performing the Services.
- Estimated Schedule and Price.** Any time schedule and pricing terms set forth in this Quotation are estimates only and subject to change upon reasonable notice from us depending upon the specific project.
- On-Site Investigations.** If we perform Services on site at your facilities, or at the facilities of other parties as directed by you; you will ensure that our representatives have safe, secure, and free access to the facilities. Our access will not be conditioned upon the execution of any agreement, waiver, or release. If our representatives are prevented from performing or completing any Services for any reason beyond our reasonable control, we will not be responsible for the nonperformance, and you may be charged for any actual expenses we incur and fees for Services performed.
- Deliverables.** We will provide you with a report outlining: (i) your instructions and request for Services accepted by us, (ii) Your Requirements used in providing the Services, (iii) the Services performed, and (iv) the results of those Services. We are under no obligation to refer to or report on any facts or circumstances which are outside your specific instructions received and accepted by us.
- Our Findings.** We do not guarantee that our opinions or findings will be recognized or accepted by third parties.
- Use of Names and Marks.** Except as otherwise authorized by us in writing, you will not use our name, abbreviation, symbols, marks, or the name of any of our subsidiaries, affiliates, or parent on any goods or their containers or packaging, or in connection with any advertising, promotions, or otherwise.
- Cancellation Fees.** If you cancel or change a Quotation: (i) for an inspection after 3:00 PM of the working day before the scheduled inspection date, we will charge you the Quotation price plus any travel costs incurred before the cancellation; (ii) for testing after we receive the sample(s) at the testing facility, we will charge you cancellation fees according to the amount of actual work performed with a minimum cancellation fee of \$100 USD; or (iii) for a scheduled audit date, you will be responsible for all incurred non-refundable travel costs associate with that audit. Any change or cancellation of an audit that occurs within 7 days of the scheduled audit will be charged a \$600 USD fee in addition to any incurred travel costs.
- No Warranty.** NO REPRESENTATION, WARRANTY, OR GUARANTEE, EXPRESS OR IMPLIED, IS INCLUDED IN THESE TERMS AND CONDITIONS, OR IN ANY QUOTATION, REPORT, OR OTHER DOCUMENT PROVIDED UNDER THESE TERMS AND CONDITIONS INCLUDING, BUT NOT LIMITED TO: (i) ANY "IMPLIED WARRANTY OF MERCHANTABILITY" OR "FITNESS FOR A PARTICULAR PURPOSE", (ii) NON-INFRINGEMENT, AND (iii) THAT THE WEB SERVICES (AS DEFINED BELOW) WILL BE UNINTERRUPTED, TIMELY, SECURE, OR ERROR-FREE.
- Your Information.** You represent and warrant that all information and data provided to us by you, or on your behalf, is complete and accurate and may be relied upon to provide Services. In addition, you represent and warrant that all of Your Information is owned or licensed by you, and does not infringe on the intellectual property rights of any third party. If any information or data provided to us by you or on your behalf is either incomplete or inaccurate, we will not be liable in any manner for any deficiencies in the Services.
- Ownership of Work Product.** You will own the test reports or other materials provided to you pursuant to any Quotation. We may retain a copy of the test reports and other materials for our archives and for creating reports for you and third parties, as required by you.
- Web Services.** We may provide you with certain website tools and related services, including the ability to order services online through a website (collectively, the "Web Services"). The Web Services are provided to you as a convenience and are provided on an "as is, as available" basis. By using the Web Services, you acknowledge and agree that no data or content transmitted over our networks, the Internet, or wirelessly, or through or in connection with the Web Services, is guaranteed to be secure or free from unauthorized intrusion, and that data stored by us, our affiliates, or our service providers may be deleted, modified, or damaged. You acknowledge that if you wish to protect your transmission of data or files to us, it is your responsibility to use a secure encrypted connection to communicate with and use the Web Services. Your use of the Web Services is at your sole risk and is subject to any terms of use applicable to such Web Services. Web Services are included in the definition of Services above.
- Confidentiality.** We will not disclose your information obtained in confidence ("Confidential Information") to third parties, except our subsidiaries, affiliates, or subcontractors, without your prior written authorization. Confidential Information will not include information: (a) already known to us, (b) publicly available, (c) subsequently acquired by us from other sources without a breach of these Terms and Conditions, (d) disclosure that is necessary to perform the Services, (e) required to be produced by law or government order, or accreditation authority, or (f) related to a product bearing a UL Mark that should be disclosed to us or our affiliates pursuant to another agreement with you.
- Samples.** If we require sample examination, you will ship samples to us at your expense. Upon completion of testing, the samples will be destroyed, unless other arrangements are made for return of the samples at your expense. You acknowledge that testing and sample preparation may damage or destroy the sample(s), for which we will not be liable.
- LIMITATION OF LIABILITY.** OUR LIABILITY FOR ANY CLAIMS FOR LOSS, DAMAGE, OR EXPENSE OF ANY NATURE AND HOWSOEVER ARISING FOR ANY BREACH OF CONTRACT AND/OR ANY FAILURE TO EXERCISE APPROPRIATE SKILL AND CARE BY US WILL UNDER NO CIRCUMSTANCE EXCEED THE FEES RECEIVED FOR THE SPECIFIC SERVICES WHICH GIVE RISE TO SUCH CLAIMS. UNDER NO CIRCUMSTANCE WILL WE HAVE ANY LIABILITY FOR ANY CLAIMS FOR INDIRECT, CONSEQUENTIAL, INCIDENTAL, SPECIAL, EXEMPLARY, OR PUNITIVE DAMAGES OF ANY NATURE WHATSOEVER, INCLUDING BUT NOT LIMITED TO: LOSS OF PROFITS, GOODWILL, USE, DATA, FUTURE BUSINESS, OR PRODUCTION; CANCELLATION OF CONTRACTS ENTERED INTO BY YOU; OR OTHER INTANGIBLE LOSSES (EVEN IF WE HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES). UNDER NO CIRCUMSTANCE WILL WE BE LIABLE TO YOU FOR ANY CLAIMS FOR LOSS, DAMAGE, OR EXPENSE UNLESS SUCH CLAIM IS BROUGHT UNDER SECTION 25 (DISPUTES) WITHIN TWELVE MONTHS AFTER THE DATE OF THE PERFORMANCE BY US OF THE SERVICES WHICH GIVE RISE TO THE CLAIM OR, IN THE EVENT OF ANY ALLEGED NON-PERFORMANCE, WITHIN TWELVE MONTHS OF THE DATE WHEN SUCH SERVICES SHOULD HAVE BEEN COMPLETED.
- Indemnification.** You will defend, hold harmless, and indemnify us and our officers, directors, trustees, employees, agents, or subcontractors against all claims made by any third party for loss, damage, or expense arising out of these Terms and Conditions, including without limitation, the performance or non-performance of any Services or the Web Services.
- Waiver.** Any failure by a party to insist upon the performance of any section of these Terms and Conditions will not constitute a waiver of any rights under these Terms and Conditions or future performance of that section.
- No Third Party Beneficiaries.** The parties intend that no provisions of these Terms and Conditions will in any way bind or benefit any third party or the public at large and that no third party will have any rights or cause of action under these Terms and Conditions. In particular, in the event Singapore law governs these Terms and Conditions pursuant to Section 24 (Governing Law), a person or entity who is not a party to these Terms and Conditions will have no right under the Contracts (Rights of Third Parties) Act (Chapter 53B) to enforce any term of these Terms and Conditions, regardless of whether such person or entity has been identified by name, as a member of a class, or as answering a particular description.
- No Assignment.** Neither party may assign any of its rights or obligations under these Terms and Conditions to any other person without the other party's written authorization. However, we may, upon written notice, assign our rights and obligations under these Terms and Conditions to any of our affiliates or subsidiaries.
- Subcontracting.** We may use subcontractors for certain testing or other Services. All subcontractors will meet our current qualification requirements and will comply with our requirements for confidentiality, conflicts of interest, and ethical standards.
- Termination and Notice.** These Terms and Conditions will continue in effect until terminated by either party upon thirty days written notice or, in the event of your breach of these Terms and Conditions, immediately upon receipt of written notice to you. You will pay those fees and expenses incurred by us prior to termination. Notice to either party may be made by hand delivery, courier service, mail, facsimile, or e-mail transmission at the receiving party's designated principal place of business. Notice to us must be sent both to: UL Verification Services Pte. Ltd, Attn: President, 1 Maritime Square, Harbour Front Centre, #11-03, Singapore 099253 with a copy to UL LLC, Attn.: General Counsel at 333 Pingsten Road, Northbrook, Illinois 60062. Notice will be effective upon receipt.
- Governing Law:** These Terms and Conditions will be governed and interpreted by the laws of the State of Illinois, United States of America, except if: (i) UL Contracting Party's principal place of business is Asia, Australia, or New Zealand, then Singapore law, and (ii) UL Contracting Party's principal place of business is Europe, then Swiss law, without reference to the applicable jurisdiction's choice of law principles.
- Disputes.** Any dispute or disagreement, other than nonpayment of fees, relating to these Terms and Conditions or the Services, will be settled by confidential, binding arbitration administered by the International Centre for Dispute Resolution of the American Arbitration Association ("AAA") pursuant to the AAA Commercial Arbitration Rules and the Procedures for Large, Complex Commercial Disputes. The arbitration venue will be Chicago, Illinois, except if: (i) UL Contracting Party's principal place of business is in Europe, the venue will be Geneva, Switzerland, and (ii) UL Contracting Party's principal place of business is in Asia, Australia, or New Zealand, the venue will be Singapore, Republic of Singapore. The arbitration will be conducted before a panel of three (3) arbitrators. The arbitration panel will be selected as follows: the parties will request a list of ten (10) arbitrators drawn from the AAA's panel of commercial arbitrators (who are experienced in and familiar with the AAA's Procedures for Large, Complex Commercial Disputes). From this list, both parties will each choose one arbitrator. After they have been notified of their panel selection, the two (2) arbitrators will agree on a third arbitrator from the list of ten (10), who will be the chair of the panel, and the panel will be final. The decision of the majority of the arbitrators will be the panel's decision. The arbitrators will not have the authority to add, change, or disregard any term of these Terms and Conditions to award incidental, consequential, or punitive damages (including, but not limited to, loss of use, unjust enrichment, and/or lost profits), or exceed the remedies provided by the limitation of liability of these Terms and Conditions. The panel's decision will be binding and judgment on the arbitration award may be entered by a court of competent jurisdiction. Arbitration will be the final remedy for any dispute between the parties arising out of these Terms and Conditions, provided, however, that nothing herein will prevent either party from seeking a court order for injunctive relief (in addition to other remedies) to stop or prevent misuse or misappropriation of its marks, confidential or proprietary information, or infringement of its intellectual property, in a court of law. All arbitrations will be conducted in English.
- Severability.** If any section of these Terms and Conditions is held invalid, void, or unenforceable for any reason that section will be severed, and all other sections of these Terms and Conditions will remain valid to the extent permissible under law.
- Modifications.** These Terms and Conditions are the entire and complete agreement between the parties and supersede any other communications, representations, or agreements with respect to its subject matter. Under no circumstances will any preprinted, additional, or different terms and conditions on your requests for quotation, purchase orders, invoices, sales or marketing materials, emails, any acceptance communications, or other business documents apply to any Services or Quotation or bind us in any manner. Modifications that have not been made by us or that have not been accepted by us in a written or emailed confirmation from us are not accepted by us, and commencement of performance will not signify acceptance by us of any such modifications. Any such modifications are excluded from our agreement, and such modifications will not be a binding agreement on us.
- Order of Precedence.** Except for conflicts with Section 3 (Payment Terms), Section 5 (Estimated Schedule and Price) and Section 10 (Cancellation Fees), these Terms and Conditions will take precedence over any conflicting terms in any Quotation.
- Electronic Signature.** These Terms and Conditions may be executed and delivered by facsimile, PDF, or by means of other electronic signature. Our electronic, digital, or hard copies of these Terms and Conditions, your acceptance, and Quotations as signed, or otherwise accepted, by you will be the true, complete, valid, authentic, and enforceable copies of these documents. You agree that you will not contest the admissibility or enforceability of our copies in a court or any proceeding arising out of such documents.
- Force Majeure.** Neither party will be liable for any failure or delay in the performance of its obligations due to fire, flood, earthquake, elements of nature, or acts of God, acts of war, terrorism, riots, civil disorder, rebellions, or other similar cause beyond the reasonable control of the party affected, provided such default or delay: (i) could not have been prevented by reasonable precautions; (ii) cannot reasonably be circumvented; (iii) and the party hindered or delayed immediately notifies the other party describing the circumstance causing delay.