



# TEST REPORT

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

REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

Attn: Natalie Tapia

Sample Description: Block Chain Robots

Quantity Submitted: 3 pieces  
Style No.: 76425  
P.O. No.: Not provided  
Labeled Age Grade: 8+  
Appropriate Age Grade: Ages 8+  
Tested Age Grade: Ages 8+  
Destination: Not provided  
Country of Origin: China  
Date(s) of samples received: November 4, 2020  
Date of Test Period: November 4, 2020 – November 20, 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  | NOT APPLICABLE# |
| 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] | NOT APPLICABLE# |
| 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]  | NOT APPLICABLE# |
| 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 Polycyclic Aromatic Hydrocarbon In Category I [AfPS GS 2019:01 PAK]  | PASS            |
| Determination Of Pentachlorophenol [Point 22 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]   | NOT APPLICABLE# |
| Determination Of Pentachlorophenol[German Ordinance on Prohibition of Chemical (ChemVerbotsV) Attachment 15]  | NOT APPLICABLE# |
| Determination of Aniline Content As Per Client's Specification [Regulation (EC) No. 1907/2006 (REACH) with Further Amendment]   | PASS            |
| Total Lead Content In Surface Coating [EU 2015/628 Amending Point 63 Of The Annex XVII Regulation (EC) No. 1907/2006 (REACH)]   | PASS            |
| Total Lead Content In Substrate [EU 2015/628 Amending Point 63 of The Annex XVII Regulation (EC) No. 1907/2006 (REACH)]   | PASS            |
| Determination of Carcinogenic And Allergenic Dyes [DIN54231:2005]   | PASS            |
| Determination Of Formamide Content [EU 2015/2115 Amending 2009/48/EC Toy Safety Directive]  | NOT APPLICABLE# |
| Determination Of N,N-Dimethylformamide Content As Per Client's Specification  | NOT APPLICABLE# |
| ROHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU  | NOT APPLICABLE# |
| -Screening by X-ray fluorescence spectroscopy and confirmed by wet chemical method of Lead, Cadmium, Mercury, Chromium and Brominated flame retardants (PBB & PBDE)   |                 |
| Total Phthalates Content [ROHS Directive 2015/863/EU Amending Directive 2011/65/EU Annex II]  | NOT APPLICABLE# |
| Determination of Organotin Compounds [Point 20 of The Annex XVII of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]   | PASS            |
| Total NP & NPEO Content [Point 46 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]  | NOT APPLICABLE# |
| Determination Of Short Chain Chlorinated Paraffins [(EU) 2019/1021 On Persistent Organic Pollutants]  | PASS            |
| Vinyl Chloride Monomer Content [Bedarfsgegenständeverordnung Annex 5 (to § 6 No. 3) Commodities that may only contain certain substances up to a specified maximum amount]  | NOT APPLICABLE# |
| Determination Of Dimethyl fumarate (DMFu) Content [Point 61 Of The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]  | NOT APPLICABLE# |
| Determination Of Chlorophenol As Per Client's Specification [The Annex XVII Of The Regulation (EC) No. 1907/2006 (REACH) With Further Amendment]  | NOT APPLICABLE# |
| Colour Fastness To Perspiration [EN ISO 105-E04:2013]   | NOT APPLICABLE# |
| Colour Fastness To Rubbing [EN ISO 105-X12:2016]  | NOT APPLICABLE# |

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

Note: The results relate only to the items tested.

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DATE: November 20, 2020

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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## TEST RESULTS

| 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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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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Address: 1725 Jamieson Avenue, Alexandria,  
VA 22314

REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

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



# TEST REPORT

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

REPORT NO.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

### 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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# TEST REPORT

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DATE: November 20, 2020

## TEST RESULTS

### 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.

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# TEST REPORT

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## TEST RESULTS

### 3. CHEMICAL TESTS:

| Tested Sample ID | Product Description / Sample Group Desc.                                    |
|------------------|---|
| 001              | Block Chain Robots  |
| 002              | Multicolor coatings (pattern of block of 764259) (From 001)                 |
| 003              | Black coating (logo, lettering of block of 764259)(inaccessible) (From 001) |
| 004              | Transparent plastic excluding coatings (block of 764259) (From 001)         |
| 005              | Transparent dry glue (joint of block of 764259)(inaccessible) (From 001)    |
| 006              | White paper card with multicolor coatings (sell card) (From 001)            |
| 007              | Transparent plastic (blister) (From 001)                                    |
| 008              | Transparent plastic tape (joint on blister) (From 001)                      |

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# TEST REPORT

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REPORT NO.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

### 3.1 Determination of Carcinogenic And Allergenic Dyes [DIN54231:2005] Test Method: DIN 54231:2005

| Analyte   | CAS No.    | Requirement (Max) | Reporting Limit | Sample, mg/kg |
|---|------------|-------------------|-----------------|---------------|
|   |            |                   |                 | 002           |
| C.I. Disperse Blue 3  | 2475-46-9  | 75                | 5               | <5            |
| C.I. Disperse Blue 26   | 3860-63-7  | 75                | 5               | <5            |
| C.I. Disperse Blue 102  | 12222-97-8 | 75                | 5               | <5            |
| C.I. Disperse Blue 124  | 61951-51-7 | 75                | 5               | <5            |
| C.I. Disperse Orange 1  | 2581-69-3  | 75                | 5               | <5            |
| C.I. Disperse Orange (37 / 76)  | 13301-61-6 | 75                | 5               | <5            |
| C.I. Disperse Red.0 11  | 2872-48-2  | 75                | 5               | <5            |
| C.I. Disperse Yellow 1  | 119-15-3   | 75                | 5               | <5            |
| C.I. Disperse Yellow 39   | 12236-29-2 | 75                | 5               | <5            |
| C.I. Disperse Blue 1  | 2475-45-8  | 75                | 5               | <5            |
| C.I. Disperse Yellow 23   | 6250-23-3  | 75                | 5               | <5            |
| C.I. Disperse Orange 149  | 85136-74-9 | 75                | 5               | <5            |
| C.I. Acid Red 26  | 3761-53-3  | 75                | 5               | <5            |
| C.I. Basic Violet 14  | 632-99-5   | 75                | 5               | <5            |
| C.I. Direct Blue 6  | 2602-46-2  | 75                | 5               | <5            |
| C.I. Disperse Blue 7  | 3179-90-6  | 75                | 5               | <5            |
| C.I. Disperse Blue 35   | 12222-75-2 | 75                | 5               | <5            |
| C.I. Disperse Blue 106  | 12223-01-7 | 75                | 5               | <5            |
| C.I. Disperse Brown 1   | 23355-64-8 | 75                | 5               | <5            |
| C.I. Disperse Orange 3  | 730-40-5   | 75                | 5               | <5            |
| C.I. Disperse Red 1   | 2872-52-8  | 75                | 5               | <5            |
| C.I. Disperse Red 17  | 3179-89-3  | 75                | 5               | <5            |
| C.I. Disperse Yellow 9  | 6373-73-5  | 75                | 5               | <5            |
| C.I. Disperse Yellow 49   | 54824-37-2 | 75                | 5               | <5            |
| C.I. Disperse Yellow 3  | 2832-40-8  | 75                | 5               | <5            |
| C.I. Disperse Orange 11   | 82-28-0    | 75                | 5               | <5            |
| C.I. Basic Red 9  | 569-61-9   | 75                | 5               | <5            |
| C.I. Direct Black 38  | 1937-37-7  | 75                | 5               | <5            |
| C.I. Direct Red 28  | 573-58-0   | 75                | 5               | <5            |
| <b>Rating</b>   |            |                   |                 | PASS          |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram<br>-“<” means less than<br>-“Not Detected” means less than reporting limit<br>-Method for determination of analyte are determined by LC-MSD<br>-The test results only apply to the items tested. |            |                   |                 |               |

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# TEST REPORT

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Address: 1725 Jamieson Avenue, Alexandria, VA 22314

REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

### 3.2 Determination Of Short Chain Chlorinated Paraffins [(EU) 2019/1021 On Persistent Organic Pollutants] Test Method : ISO 18219:2015

| <u>Analyte</u>   | <u>Requirement (Max.)</u> | <u>Reporting Limit</u> | <u>Sample, mg/kg</u> |  |  |
|--|---------------------------|------------------------|----------------------|--|--|
|  |                           |                        | <u>005</u>           |  |  |
| SCCP   | 1500                      | 100                    | <100                 |  |  |
| <u>Rating</u>  |                           |                        | PASS                 |  |  |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram of Tested Parts<br>-“<” means less than; SCCP denotes as short chain chlorinated paraffins<br>-Method for determination of SCCP is determined by GC-MSD and LC-MS-MS<br>-The test results only apply to the items tested. |                           |                        |                      |  |  |

### 3.3 Determination Of Flame Retardants Content [(EU) 2019/1021 On Persistent Organic Pollutants] Test Method : In-house method

| <u>Analyte</u>   | <u>Requirement (Max.)</u> | <u>Reporting Limit</u> | <u>Sample, mg/kg</u> |            |            |
|--|---------------------------|------------------------|----------------------|------------|------------|
|  |                           |                        | <u>003</u>           | <u>004</u> | <u>005</u> |
| HBCDD  | 100                       | 5                      | < 5.0                | < 5.0      | < 5.0      |
| Tetra-BDE  | 10                        | 5                      | < 5.0                | < 5.0      | < 5.0      |
| Penta-BDE  | 10                        | 5                      | < 5.0                | < 5.0      | < 5.0      |
| Hexa-BDE   | 10                        | 5                      | < 5.0                | < 5.0      | < 5.0      |
| Hept-BDE   | 10                        | 5                      | < 5.0                | < 5.0      | < 5.0      |
| Deca-BDE   | 10                        | 5                      | < 5.0                | < 5.0      | < 5.0      |
| <u>Rating</u>  |                           |                        | PASS                 | PASS       | PASS       |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram of Tested Parts<br>-“<” means less than<br>-Method for determination of analyte is determined by GC-MSD<br>- Hexabromocyclododecane (HBCDD); Tetrabromodiphenyl ether (Tetra-BDE); Pentabromodiphenyl ether (Penta-BDE); Hexabromodiphenyl ether (Hexa-BDE); Heptabromodiphenyl ether (Hept-BDE); Decabromodiphenyl ether (Deca-BDE)<br>-The test results only apply to the items tested. |                           |                        |                      |            |            |

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# TEST REPORT

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## TEST RESULTS

### 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 |       |       |
|--|--------------------|-----------------|---------------|-------|-------|
|  |                    |                 | 003           | 004   | 005   |
| PBBs   | Not Detected       | 5               | < 5.0         | < 5.0 | < 5.0 |
| Deca-BDE   | 1000               | 5               | < 5.0         | < 5.0 | < 5.0 |
| Octa-BDE   | 1000               | 5               | < 5.0         | < 5.0 | < 5.0 |
| <b>Rating</b>  |                    |                 | PASS          | PASS  | PASS  |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram of Tested Parts<br>-“<” means less than<br>-Method for determination of analyte is determined by GC-MSD<br>-Polybrominated biphenyl (PBB); Decabromodiphenyl ether (Deca-BDE); Octabrominated diphenylether (Octa-BDE);<br>- 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 |       |       |
|---|-----------------------------|-----------------|---------------|-------|-------|
|   |                             |                 | 003           | 004   | 005   |
| PBBs  | Not Detected                | 5               | < 5.0         | < 5.0 | < 5.0 |
| PBDEs   | Not Detected                | 5               | < 5.0         | < 5.0 | < 5.0 |
| Octa-BDE  | Not Detected                | 5               | < 5.0         | < 5.0 | < 5.0 |
| <b>Rating</b>   |                             |                 | PASS          | PASS  | PASS  |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram of Tested Parts<br>-“<” means less than<br>-Method for determination of analyte is determined by GC-MSD<br>-Polybrominated biphenyl (PBB); Pentabrominated diphenylether (PBDE); Octabrominated diphenylether (Octa-BDE).<br>- Not Detected denotes "less than reporting limit (5 mg/kg)"<br>-The test results only apply to the items tested. |                             |                 |               |       |       |

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# TEST REPORT

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REPORT NO.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

### 3.6 Total Heavy Metals In Packaging [NERC Heavy Metals in Packaging Wastes]

Test Method: In-house Method

| Elements   | Requirement (Max.) | Reporting Limit | Sample, mg/kg |         |
|--|--------------------|-----------------|---------------|---------|
|  |                    |                 | 006           | 007+008 |
| Lead (Pb)  | 100                | 10              | <10           | <10     |
| Cadmium (Cd)   | 100                | 5               | <5            | <5      |
| Chromium VI (Cr VI)  | 100                | 10              | <10           | <10     |
| Mercury (Hg)   | 100                | 5               | <5            | <5      |
| Sum  | 100                | 30              | <30           | <30     |
| <b>Rating</b>  |                    |                 | PASS          | PASS    |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram<br>-“<” means less than<br>-Method for determination of Lead (Pb), Cadmium(Cd), Chromium VI (Cr VI) and Mercury(Hg) are determined by Inductively Coupled Plasma Spectroscopy.<br>-The test results only apply to the items tested. |                    |                 |               |         |

### 3.7 Total Heavy Metals In Packaging [94/62/EC]

Test Method : In-house Method

| Elements   | Requirement (Max.) | Reporting Limit | Sample, mg/kg |         |
|--|--------------------|-----------------|---------------|---------|
|  |                    |                 | 006           | 007+008 |
| Lead (Pb)  | 100                | 10              | <10           | <10     |
| Cadmium (Cd)   | 100                | 5               | <5            | <5      |
| Chromium VI (Cr VI)  | 100                | 10              | <10           | <10     |
| Mercury (Hg)   | 100                | 5               | <5            | <5      |
| Sum  | 100                | 30              | <30           | <30     |
| <b>Rating</b>  |                    |                 | PASS          | PASS    |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram<br>-“<” means less than<br>-Method for determination of Lead (Pb), Cadmium(Cd), Chromium VI (Cr VI) and Mercury(Hg) are determined by Inductively Coupled Plasma Spectroscopy.<br>-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.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

### 3.8 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           |  |
| Antimony (Sb)  | 1000               | 50              | <50           |  |
| Arsenic (As)   | 1000               | 50              | <50           |  |
| Barium (Ba)  | 1000               | 50              | <50           |  |
| Cadmium (Cd)   | 1000               | 50              | <50           |  |
| Selenium (Se)  | 1000               | 50              | <50           |  |
| <b>Rating</b>  |                    |                 | PASS          |  |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram<br>-“<” means less than<br>-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.<br>-The test results only apply to the items tested. |                    |                 |               |  |

### 3.9 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           | <10  |
| <b>Rating</b>   |                    |                 | PASS          | PASS |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilograms<br>-“<” means less than<br>-Method for determination of cadmium (Cd) is determined by Inductively Coupled Plasma Spectroscopy.<br>-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.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

**3.10 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  |
| <b>Rating</b> |                    |                 | 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.

**3.11 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           |  |
| Lead (Pb)     | 90                 | 10              | < 10          |  |
| Mercury (Hg)  | 10                 | 10              | < 10          |  |
| <b>Rating</b> |                    |                 | 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.

**3.12 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           |  |
| Lead (Pb)     | 100                | 10              | <10           |  |
| <b>Rating</b> |                    |                 | 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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# TEST REPORT

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Address: 1725 Jamieson Avenue, Alexandria, VA 22314

REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

**3.13 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)**

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

**3.14 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)**

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

**3.15 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)**

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

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# TEST REPORT

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

REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

### 3.16 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)

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

### 3.17 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)

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

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

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

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

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# TEST REPORT

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REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

3.19 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           |
| Lead (Pb)     | 90                 | 10              | <10           |
| <b>Rating</b> |                    |                 | 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.

3.20 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 | <1.0 | <1.0 |
| <b>Rating</b> |         |                   |                 | PASS          | PASS | 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

Client: ThinkFun Inc.  
Address: 1725 Jamieson Avenue, Alexandria,  
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REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

3.21 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       |
| 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    |
| <b>Rating</b>   |                         |                    |                 | PASS      |
| <i>Remark:</i><br>-All concentrations expressed in percentage (%)<br>-“<” means less than<br>-Method for determination of Phthalates are determined by Gas Chromatography Mass Selective Detector (GC-MSD)<br>-The test results only apply to the items tested. |                         |                    |                 |           |

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REPORT NO.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

**3.22 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    |
| Dibutyl Phthalate, DBP                  | 84-74-2                   | 0.1                | 0.005           | <0.005    | <0.005 | <0.005 |
| Benzyl Butyl Phthalate, BBP             | 85-68-7                   |                    | 0.005           | <0.005    | <0.005 | <0.005 |
| Diethylhexyl Phthalate, DEHP            | 117-81-7                  |                    | 0.005           | <0.005    | <0.005 | <0.005 |
| Diisobutyl Phthalate, DIBP              | 84-69-5                   |                    | 0.005           | <0.005    | <0.005 | <0.005 |
| <b>Sum of DBP, BBP, DEHP &amp; DIBP</b> |                           |                    | 0.005           | <0.005    | <0.005 | <0.005 |
| Diisononyl Phthalate, DINP              | 28553-12-0/<br>68515-48-0 | 0.1                | 0.005           | <0.005    | <0.005 | <0.005 |
| Di-n-octyl Phthalate, DNOP              | 117-84-0                  |                    | 0.005           | <0.005    | <0.005 | <0.005 |
| Diisodecyl Phthalate, DIDP              | 26761-40-0/<br>68515-49-1 |                    | 0.005           | <0.005    | <0.005 | <0.005 |
| <b>Sum of DINP, DNOP &amp; DIDP</b>     |                           |                    | 0.005           | <0.005    | <0.005 | <0.005 |
| <b>Rating</b>                           |                           |                    |                 | PASS      | PASS   | PASS   |

| Analyte                                 | CAS No.                   | Requirement (Max.) | Reporting Limit | Sample, % |
|---|---------------------------|--------------------|-----------------|-----------|
|   |                           |                    |                 | 005       |
| Dibutyl Phthalate, DBP                  | 84-74-2                   | 0.1                | 0.005           | <0.005    |
| Benzyl Butyl Phthalate, BBP             | 85-68-7                   |                    | 0.005           | <0.005    |
| Diethylhexyl Phthalate, DEHP            | 117-81-7                  |                    | 0.005           | <0.005    |
| Diisobutyl Phthalate, DIBP              | 84-69-5                   |                    | 0.005           | <0.005    |
| <b>Sum of DBP, BBP, DEHP &amp; DIBP</b> |                           |                    | 0.005           | <0.005    |
| Diisononyl Phthalate, DINP              | 28553-12-0/<br>68515-48-0 | 0.1                | 0.005           | <0.005    |
| Di-n-octyl Phthalate, DNOP              | 117-84-0                  |                    | 0.005           | <0.005    |
| Diisodecyl Phthalate, DIDP              | 26761-40-0/<br>68515-49-1 |                    | 0.005           | <0.005    |
| <b>Sum of DINP, DNOP &amp; DIDP</b>     |                           |                    | 0.005           | <0.005    |
| <b>Rating</b>                           |                           |                    |                 | 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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SZ-FAF-001 (2017-10-12)



# TEST REPORT

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

REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

### 3.23 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</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<br>/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           |
| <b>Rating</b>   |                           |                           |                        | PASS             |
| <i>Remark:</i><br>-All concentrations expressed in percentage (%)<br>-“<” means less than<br>-Method for determination of Phthalates are determined by Gas Chromatography Mass Selective Detector (GC-MSD)<br>-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.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

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

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</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/<br>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/<br>68515-49-1 | 0.1                       | 0.005                  | <0.005           |
| <b>Rating</b>  |                           |                           |                        | PASS             |
| <i>Remark:</i><br>-All concentrations expressed in percentage (%)<br>-“<” means less than<br>-Method for determination of Phthalates are determined by Gas Chromatography Mass Selective Detector (GC-MSD)<br>-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<br>-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.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

3.25 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           | 004  |
| Benzo[a]pyrene  | 50-32-8  | 0.5               | 0.1             | <0.1          | <0.1 |
| Benzo[e]pyrene  | 192-97-2 | 0.5               | 0.1             | <0.1          | <0.1 |
| Benzo[a]anthracene  | 56-55-3  | 0.5               | 0.1             | <0.1          | <0.1 |
| Chrysene  | 218-01-9 | 0.5               | 0.1             | <0.1          | <0.1 |
| Benzo[b]fluoranthene  | 205-99-2 | 0.5               | 0.1             | <0.1          | <0.1 |
| Benzo[j]fluoranthene  | 205-82-3 | 0.5               | 0.1             | <0.1          | <0.1 |
| Benzo[k]fluoranthene  | 207-08-9 | 0.5               | 0.1             | <0.1          | <0.1 |
| Dibenzo[a,h]anthracene  | 53-70-3  | 0.5               | 0.1             | <0.1          | <0.1 |
| <b>Rating</b>   |          |                   |                 | PASS          | PASS |
| <p><b>Remark:</b></p> <p>-All concentrations expressed in milligrams per kilogram<br/>         -“&lt;” means less than<br/>         -Method for determination of analyte are determined by GC-MSD<br/>         -The test results only apply to the items tested.<br/>         -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<br/>         -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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# TEST REPORT

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REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

### 3.26 Determination of Organotin Compounds [Point 20 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 |
|--|--------------------|-----------------|---------------|
|  |                    |                 | 002           |
| Tributyltin (TBT)  | 1000               | 250             | <250          |
| Triphenyltin (TPT)   | 1000               | 250             | <250          |
| Dibutyltin (DBT)   | 1000               | 250             | <250          |
| Dioctyltin (DOT)   | 1000               | 250             | <250          |
| <b>Rating</b>  |                    |                 | PASS          |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram of Tested Parts<br>-“<” means less than<br>-Method for determination of Organotin are determined by GC-MSD<br>-Screening Test is proceed to determine the total tin content. Confirmation test should be proceed if tin content exceed 250 mg/kg<br>-The test results only apply to the items tested. |                    |                 |               |

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

Test Method : In-house method

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

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# TEST REPORT

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VA 22314

REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

### 3.28 Total Lead Content In Surface Coating [EU 2015/628 Amending Point 63 Of The Annex XVII Regulation (EC) No. 1907/2006 (REACH)]

Test Method : In-house method

| Elements  | Requirement (Max.) | Reporting Limit | Sample, mg/kg |      |
|---|--------------------|-----------------|---------------|------|
|   |                    |                 | 002           | 003  |
| Lead  | 500                | 10              | <10           | <10  |
| <b>Rating</b>   |                    |                 | PASS          | PASS |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram of Tested Parts<br>-“<” means less than<br>-Method for determination of lead is determined by ICP-OES<br>-The test results only apply to the items tested.<br>-Total Lead content exceed 500mg/kg need to perform the leaching test to verify the lead migration exceed 0,05 µg/cm2 per hour |                    |                 |               |      |

### 3.29 Total Lead Content In Substrate [EU 2015/628 Amending Point 63 of The Annex XVII Regulation (EC) No. 1907/2006 (REACH)]

Test Method : In-house method

| Elements  | Requirement (Max.) | Reporting Limit | Sample, mg/kg |      |
|---|--------------------|-----------------|---------------|------|
|   |                    |                 | 004           | 005  |
| Lead  | 500                | 10              | <10           | <10  |
| <b>Rating</b>   |                    |                 | PASS          | PASS |
| <i>Remark:</i><br>-All concentrations expressed in milligrams per kilogram of Tested Parts<br>-“<” means less than<br>-Method for determination of lead is determined by ICP-OES<br>-The test results only apply to the items tested.<br>-Total Lead content exceed 500mg/kg need to perform the leaching test to verify the lead migration exceed 0,05 µg/cm2 per hour |                    |                 |               |      |

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# TEST REPORT

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

REPORT NO.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

3.30 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           |
| With Xylene Extraction (Y/N)         |          |                   |                 | Y             |
| BENZIDINE                            | 92-87-5  | 30                | 5               | <5            |
| 4-AMINODIPHENYL                      | 92-67-1  | 30                | 5               | <5            |
| 4-CHLORO-O-TOLUIDINE                 | 95-69-2  | 30                | 5               | <5            |
| 2-NAPHTHYLAMINE                      | 91-59-8  | 30                | 5               | <5            |
| O-AMINOAZOTOLUENE                    | 97-56-3  | 30                | 5               | <5            |
| 5-NITRO-O-TOLUIDINE                  | 99-55-8  | 30                | 5               | <5            |
| 4-CHLOROANILINE                      | 106-47-8 | 30                | 5               | <5            |
| 4-METHOXY-M-PHENYLENEDIAMINE         | 615-05-4 | 30                | 5               | <5            |
| 4,4'-DIAMINODIPHENYLMETHANE          | 101-77-9 | 30                | 5               | <5            |
| 3,3'-DICHLOROBENZIDINE               | 91-94-1  | 30                | 5               | <5            |
| 3,3'-DIMETHOXYBENZIDINE              | 119-90-4 | 30                | 5               | <5            |
| 3,3'-DIMETHYLBENZIDINE               | 119-93-7 | 30                | 5               | <5            |
| 4,4'-METHYLENEDI-O-TOLUIDINE         | 838-88-0 | 30                | 5               | <5            |
| P-CRESIDINE                          | 120-71-8 | 30                | 5               | <5            |
| 4,4'-METHYLENE-BIS-(2-CHLOROANILINE) | 101-14-4 | 30                | 5               | <5            |
| 4,4'-OXYDIANILINE                    | 101-80-4 | 30                | 5               | <5            |
| 4,4'-THIODIANILINE                   | 139-65-1 | 30                | 5               | <5            |
| O-TOLUIDINE                          | 95-53-4  | 30                | 5               | <5            |
| 2,4,5-TRIMETHYLANILINE               | 137-17-7 | 30                | 5               | <5            |
| 4-METHYL-M-PHENYLENEDIAMINE          | 95-80-7  | 30                | 5               | <5            |
| O-ANISIDINE                          | 90-04-0  | 30                | 5               | <5            |
| 4-AMINOAZOBENZENE                    | 60-09-3  | 30                | 5               | <5            |
| <b>Rating</b>                        |          |                   |                 | <b>PASS</b>   |

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# TEST REPORT

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 Address: 1725 Jamieson Avenue, Alexandria,  
 VA 22314

REPORT NO.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

| Analyte                              | CAS No.  | Requirement (Max) | Reporting Limit | Sample, mg/kg |
|--------------------------------------|----------|-------------------|-----------------|---------------|
|                                      |          |                   |                 | 002           |
| With Xylene Extraction (Y/N)         |          |                   |                 | N             |
| BENZIDINE                            | 92-87-5  | 30                | 5               | <5            |
| 4-AMINODIPHENYL                      | 92-67-1  | 30                | 5               | <5            |
| 4-CHLORO-O-TOLUIDINE                 | 95-69-2  | 30                | 5               | <5            |
| 2-NAPHTHYLAMINE                      | 91-59-8  | 30                | 5               | <5            |
| O-AMINOAZOTOLUENE                    | 97-56-3  | 30                | 5               | <5            |
| 5-NITRO-O-TOLUIDINE                  | 99-55-8  | 30                | 5               | <5            |
| 4-CHLOROANILINE                      | 106-47-8 | 30                | 5               | <5            |
| 4-METHOXY-M-PHENYLENEDIAMINE         | 615-05-4 | 30                | 5               | <5            |
| 4,4'-DIAMINODIPHENYLMETHANE          | 101-77-9 | 30                | 5               | <5            |
| 3,3'-DICHLOROBENZIDINE               | 91-94-1  | 30                | 5               | <5            |
| 3,3'-DIMETHOXYBENZIDINE              | 119-90-4 | 30                | 5               | <5            |
| 3,3'-DIMETHYLBENZIDINE               | 119-93-7 | 30                | 5               | <5            |
| 4,4'-METHYLENEDI-O-TOLUIDINE         | 838-88-0 | 30                | 5               | <5            |
| P-CRESIDINE                          | 120-71-8 | 30                | 5               | <5            |
| 4,4'-METHYLENE-BIS-(2-CHLOROANILINE) | 101-14-4 | 30                | 5               | <5            |
| 4,4'-OXYDIANILINE                    | 101-80-4 | 30                | 5               | <5            |
| 4,4'-THIODIANILINE                   | 139-65-1 | 30                | 5               | <5            |
| O-TOLUIDINE                          | 95-53-4  | 30                | 5               | <5            |
| 2,4,5-TRIMETHYLANILINE               | 137-17-7 | 30                | 5               | <5            |
| 4-METHYL-M-PHENYLENEDIAMINE          | 95-80-7  | 30                | 5               | <5            |
| O-ANISIDINE                          | 90-04-0  | 30                | 5               | <5            |
| 4-AMINOAZOBENZENE                    | 60-09-3  | 30                | 5               | <5            |
| <b>Rating</b>                        |          |                   |                 | 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.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 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  $\leq 30$ 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  $> 30$  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.

### 3.31 Determination of Aniline Content As Per Client's Specification [Regulation (EC) No. 1907/2006 (REACH) with Further Amendment]

Test Method : EN ISO 14362-1:2017 & EN ISO 14362-3:2017

| Analyte                      | CAS No. | Requirement (Max) | Reporting Limit | Sample, mg/kg |
|------------------------------|---------|-------------------|-----------------|---------------|
|                              |         |                   |                 | 002           |
| With Xylene Extraction (Y/N) |         |                   |                 | Y             |
| Aniline                      | 62-53-3 | 30                | 5               | <5            |
| <b>Rating</b>                |         |                   |                 | PASS          |

| Analyte                      | CAS No. | Requirement (Max) | Reporting Limit | Sample, mg/kg |
|------------------------------|---------|-------------------|-----------------|---------------|
|                              |         |                   |                 | 002           |
| With Xylene Extraction (Y/N) |         |                   |                 | N             |
| Aniline                      | 62-53-3 | 30                | 5               | <5            |
| <b>Rating</b>                |         |                   |                 | PASS          |

**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.

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



# TEST REPORT

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

REPORT NO.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

### 3.32 Determination of Polycyclic Aromatic Hydrocarbon In Category I [AfPS GS 2019:01 PAK]

Test Method : AfPS GS 2019:01 PAK

| Analyte  | CAS No.  | Requirement (Max) | Reporting Limit | Sample, mg/kg |      |
|--|----------|-------------------|-----------------|---------------|------|
|  |          |                   |                 | 002           | 004  |
| Naphthalene  | 91-20-3  | 1                 | 0.1             | 0.39          | <0.1 |
| Phenanthrene   | 85-01-8  | 1                 | 0.1             | <0.1          | <0.1 |
| Anthracene   | 120-12-7 |                   | 0.1             | <0.1          | <0.1 |
| Fluoranthene   | 206-44-0 |                   | 0.1             | <0.1          | <0.1 |
| Pyrene   | 129-00-0 |                   | 0.1             | <0.1          | <0.1 |
| Benzo(a)anthracene   | 56-55-3  | 0.2               | 0.1             | <0.1          | <0.1 |
| Chrysene   | 218-01-9 | 0.2               | 0.1             | <0.1          | <0.1 |
| Benzo(b) fluoranthene  | 205-99-2 | 0.2               | 0.1             | <0.1          | <0.1 |
| Benzo(k)fluoranthene   | 207-08-9 | 0.2               | 0.1             | <0.1          | <0.1 |
| Benzo(a)pyrene   | 50-32-8  | 0.2               | 0.1             | <0.1          | <0.1 |
| Dibenzo(ah)anthracene  | 53-70-3  | 0.2               | 0.1             | <0.1          | <0.1 |
| Benzo(ghi)perylene   | 191-24-2 | 0.2               | 0.1             | <0.1          | <0.1 |
| Indeno(123-cd)pyrene   | 193-39-5 | 0.2               | 0.1             | <0.1          | <0.1 |
| Benzo(e)pyrene   | 192-97-2 | 0.2               | 0.1             | <0.1          | <0.1 |
| Benzo(j)fluoranthene   | 205-82-3 | 0.2               | 0.1             | <0.1          | <0.1 |
| SUM  |          | 1                 | 0.1             | 0.39          | <0.1 |
| <b>Rating</b>  |          |                   |                 | PASS          | PASS |
| <p><b>Remark:</b></p> <p>-All concentrations expressed in milligrams per kilogram</p> <p>-“&lt;” means less than</p> <p>-Method for determination of analyte are determined by GC-MSD</p> <p>-The test results only apply to the items tested.</p> <p>-Category 1: Materials intended to be placed in the mouth, or materials in toys according to Directive 2009/48/EC or materials in articles for the use by children up to 3 years of age coming into long-term contact with skin (more than 30 seconds) during the intended use;</p> <p>-Category II: Materials not covered by category 1, coming into long-term contact (more than 30 seconds) or short-term repetitive contact with skin during the intended or foreseeable use;</p> <p>-Category III: Materials not covered by category 1 nor by category 2, coming into short-term contact (up to 30 seconds) with skin during the intended or foreseeable use.</p> |          |                   |                 |               |      |

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





# TEST REPORT

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

REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 2020

## TEST RESULTS

### 3.33 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

| <u>Elements</u>    | <u>Requirement (Max.)</u> | <u>Sample, mg/kg</u> |
|--------------------|---------------------------|----------------------|
|                    |                           | <u>002</u>           |
| *Sample weight (g) |                           | --                   |
| 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                 |
| <b>Rating</b>      |                           | <b>PASS</b>          |

*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.: C81292006  
 UL ORDER NO.: 13582207  
 DATE: November 20, 2020

## TEST RESULTS

### 3.34 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>004</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                 | <5.0        |
| Boron   | 7440-42-8      | 15,000  | <50.0                | <50.0       |
| Cadmium   | 7440-43-9      | 17  | <5.0                 | <5.0        |
| Chromium <sup>(2)</sup>   | 7440-47-3      | ---   | 0.95                 | < 0.05      |
| (Chromium III)  | -              | 460   | 0.95                 | < 0.05      |
| (Chromium VI)   | -              | 0.053   | < 0.05 <sup>#</sup>  | < 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 <sup>(3)</sup>  | Various        | 12  | <12.0                | <12.0       |
| Zinc  | 7440-66-6      | 46,000  | <50.0                | <50.0       |
| <b>Rating</b>   |                |   | <b>PASS</b>          | <b>PASS</b> |
| <" 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,  
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REPORT NO.: C81292006  
UL ORDER NO.: 13582207  
DATE: November 20, 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.: C81292006  
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### Product Photos:



\*\*\*\*\* THE END \*\*\*\*\*

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- Retailer Programs.** If you request us to test compliance with retailer, carrier or other third party program ("Retailer") by requesting Services under the Retailer's program, you consent to our disclosure of all associated information, materials, and deliverables to such Retailer and acknowledge that, notwithstanding any terms to the contrary in these Terms and Conditions, the ownership of the deliverables for the Services will be in accordance with the Retailer's program.
- 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.
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- 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.