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检测
TESTING
CNAS L1114

TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

Attn: Kirsten Bloxom

Sample Description: Fold It
Quantity Submitted: 7 pieces
Style No.: 3550
PO No.: Not provided
Labeled Age Grading: 7+
Test Age Grading: 7+
Destination: USA, Europe, Canada
Country of Origin: China
Date(s) of samples received: June 2, 2017

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

CONCLUSION: Please refer to page two(2)

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CONCLUSION:

ASTM F963-16 Physical & Mechanical Requirements	PASS
16 CFR 1500 Physical & Mechanical Requirements	PASS
Canada Toys Regulations SOR/2011-17 And Regulations Amending Toys Regulations SOR/2016-195 &SOR/2016-302 Physical And Mechanical Requirements	PASS
EN 71-1:2014 Mechanical & Physical Properties	PASS
ASTM F963-16 Flammability Requirements	PASS
16 CFR 1500.3 (c)(6) (vi) / 16 CFR 1500.44 Flammability Requirements	PASS
Canada Toys Regulations SOR/2011-17 And Regulations Amending Toys Regulations SOR/2016-195 &SOR/2016-302 Flammability Requirements (Cellulose Nitrate And Celluloid)	PASS
Flammability Requirements For Textile Fibres: SOR/2016-194	PASS
EN 71-2:2011+A1:2014 Flammability	PASS
ASTM F963-16 Clause 4.3.5.1 (2) Elements Migration in surface coating	PASS
ASTM F963-16 Clause 4.3.5.2 (2) (b) Elements Migration in substrate	NOT APPLICABLE [#]
Canada Toys Regulations SOR/2011-17 and Regulations Amending Toys Regulations SOR/2016-195 &SOR/2016-302 Heavy Metal Content Requirements	PASS
ASTM F963-16 Clause 4.3.5.1 (1) Total Lead in Surface Coating	PASS
16 CFR 1303 Total Lead Content Requirements	PASS
Consumer Product Safety Improvement Act of 2008 Total Lead Content Requirement [Paint or Surface Coating]	PASS
ASTM F963-16 Clause 4.3.5.2 (2) (a) Total Lead in Substrate	PASS
Consumer Product Safety Improvement Act of 2008 Total Lead Content Requirement [Substrate Materials]	PASS
Total Lead Content Test With Reference to California Proposition 65	PASS
Canada Consumer Products Containing Lead (Contact mouth) regulation	NOT APPLICABLE [#]
ASTM F963-16 Clause 4.3.5.2 (2) (c) Soluble Cadmium in metallic small part	NOT APPLICABLE [#]
Total Cadmium Content and European Reach Regulation Annex XVII	PASS
Consumer Product Safety Improvement Act of 2008 Total Phthalate Requirement	PASS
Total Phthalate and European Reach Regulation Annex XVII	PASS
Phthalates Content With Reference To California Proposition 65 Requirement	PASS
Canada Phthalates regulations SOR 2016-188	PASS
NERC (Formerly Organization: CSG) Model Legislation – Toxics in Packaging Clearinghouse (TPCH), as revised December 1998 & October 2004	PASS
94/62/EC Heavy Metals Requirements on Packaging and Packaging Waste	PASS
Azo Dyes Test and European Reach Regulation Annex XVII	PASS

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

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

David Mo

Lulu Yang

David Mo
Assistant Manager- Toys Department

Lulu Yang
Senior Technical Officer
Chemical Department

Important Notes :

The results only relate to the samples tested.

The below tests are except from the ILAC-MRA/CNAS accreditation scope:

1. Total Lead Content Test With Reference to California Proposition 65
2. NERC (Formerly Organization: CSG) Model Legislation – Toxics in Packaging Clearinghouse (TPCH), as revised December 1998 & October 2004
3. 94/62/EC Heavy Metals Requirements on Packaging and Packaging Waste
4. Phthalates Content With Reference To California Proposition 65 Requirement
5. Canada Toys Regulations SOR/2011-17 And Regulations Amending Toys Regulations SOR/2016-195 &SOR/2016-302 Physical And Mechanical Requirements
6. Canada Toys Regulations SOR/2011-17 And Regulations Amending Toys Regulations SOR/2016-195 &SOR/2016-302 Flammability Requirements (Cellulose Nitrate And Celluloid)

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TEST RESULTS

1. MECHANICAL AND PHYSICAL TEST

1.1 AS PER ASTM STANDARD CONSUMER SAFETY SPECIFICATION FOR TOYS SAFETY F963-16

The following clauses are identified to be applicable:

Age grading for testing : Ages 7+
Samples Quantity : 2 piece(s) x 1 style

Clause	Test Items	Assessment
4.1	Material(visual check on cleanness)	P
4.7	Accessible Edges	P
4.9	Accessible Points	P
4.12	Plastic Film	P
5	Safety Labeling Requirements	P
6	Instructional Literature	P
7	Producer's Markings	P

Remark: P=Pass

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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 7+

Samples Quantity: 2 piece(s) x 1 style

	<u>TEST ITEMS</u>	<u>SHARP POINT</u> (1500.48)	<u>SHARP EDGE</u> (1500.49)
	As received	P	P
1500.53	Impact Test	P	P
1500.53	Torque Test	P	P
1500.53	Tension Test	P	P

Remark: P = Pass

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1.3 AS PER CANADA TOYS REGULATIONS SOR/2011-17 AND REGULATIONS AMENDING TOYS REGULATION SOR/2016-195 & SOR/2016-302

The following clauses are identified to be applicable:

Age grading for testing : Ages 7+
Samples Quantity : 2 piece(s) x 1 style
1 piece--Fold It-- General--English and French bilingual statement & Packaging-[Second Submission Sample]

<u>(A)</u>	<u>Test Items</u>	<u>Assessment</u>
3	General -- English and French bilingual statement	P
4	Packaging	P
	<u>Mechanical hazard</u>	
9	Ends	P

Remark: P = Pass

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1.4 AS PER EUROPEAN STANDARDS ON SAFETY OF TOYS EN 71-1:2014

Applicant Specified Age Grading for testing: Ages 7+

Sample size: 2 piece(s) x 1 style

<u>Clause</u>	<u>Test Items</u>	<u>Assessment</u>
4.1	Material cleanliness	P
4.7	Edges	P
4.8	Points and metallic wires	P
6	Packaging	P

Remarks: P=Pass

Address of manufacturer or his authorized representatives or importer should be located in EU community.

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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2. FLAMMABILITY TEST

2.1 AS PER ASTM STANDARD ON SAFETY OF TOYS F963-16 ANNEX A5:

Samples Quantity: 2 piece(s) x 1 style
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: 2 piece(s) x 1 style

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 CANADA TOYS REGULATIONS SOR/2011-17 AND REGULATIONS AMENDING TOYS REGULATIONS SOR/2016-195 & SOR/2016-302 SECTION 21 (CELLULOSE NITRATE AND CELLULOID)

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

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

2.4 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.

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

Key to sample(s):

Sample 1 = Multicolor printed fabric (recipe cloths)

Sample: 1		Requirement
	Rate of Burning(second)	
Plain Surface	Original	Greater than 3.5 seconds
	Specimen 1) IBE	
	2) IBE	
	3) IBE	
	4) IBE	
	5) IBE	
Average	---	
Code Description:	IBE = Ignited But Extinguished	
TEST RESULT:	PASS	

Date(s) of test(s) conducted: June 6, 2017 to June 12, 2017
June 19, 2017 to June 19, 2017[**Second Submission Sample**]

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3. CHEMICAL TESTS:

Key to sample(s):

- Sample 1 = Transparent plastic (sealing bag)
- Sample 2 = Multicolor coatings (pattern on cards & tokens)
- Sample 3 = Multicolor coatings (game rules)
- Sample 4 = Multicolor printed fabric (recipe cloths)
- Sample 5 = White paper sheet excluding coatings (game rules)
- Sample 6 = White paper card excluding coatings (cards)
- Sample 7 = Grey paper card excluding coatings (tokens)
- Sample 8 = Transparent plastic film (shrink film of box& cards)
- Sample 9 = White surfaced grey paper card with transparent plastic film and inaccessible multicolor coatings (box)
- Sample 10 = White/brown paper card (tray inside box)
- Sample 11 = Transparent plastic (poly bag of recipe cloths)
- Sample 12 = Grey paper card with multicolor coatings (side of tokens)

3.1 SOLUBLE ELEMENT MIGRATION IN SURFACE COATING

Requirement: As per ASTM F963-16 Clause 4.3.5.1 (2) requirement, materials under test shall not exceed below limit.

Test method: Reference to ASTM F963-16 Clause 8.3, used acid extraction and analyzed by Inductively Coupled Argon Plasma Spectrometry.

Results:

Elements	Antimony	Arsenic	Barium	Cadmium	Chromium	Lead	Mercury	Selenium
Limits	< 60	< 25	< 1000	< 75	< 60	< 90	< 60	< 500
Sample 2	<6.0	<2.5	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0
Sample 3	<6.0	<2.5	<6.0	<6.0	<6.0	<6.0	<6.0	<6.0

Remark:

1. All concentrations expressed in milligrams per kilogram
2. "<" means "less than"

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3.2 HEAVY METAL CONTENT TEST: CANADA TOYS REGULATION SOR/2011-17 AND REGULATIONS AMENDING TOYS REGULATIONS SOR/2016-195 & SOR/2016-302

Requirement : Surface coating applied to Toys shall comply with heavy metal requirement as below table.

Results:

Elements	Total Lead	Total Mercury	Soluble Antimony	Soluble Arsenic	Soluble Barium	Soluble Cadmium	Soluble Selenium
Limits	<90	None	< 1000	< 1000	< 1000	< 1000	< 1000
Sample 2	**N/D	**N/D	<50.0	<50.0	<50.0	<50.0	<50.0
Sample 3	**N/D	**N/D	<50.0	<50.0	<50.0	<50.0	<50.0

All concentrations expressed in milligrams per kilogram

"<" means "less than"

"N/D" means "None Detected"

**Detection Limit is 10.0 milligrams per kilogram.

3.3 TOTAL LEAD CONTENT TEST: COATING

Requirement : As per ASTM F963-16 Clause 4.3.5.1 (1) requirement, lead content in the materials under test shall not exceed of 90ppm.

Test method: CPSC-CH-E1003-09.1 Standard operating procedure for determining Lead (Pb) in paint

Results :

	<u>Sample 2</u>	<u>Sample 3</u>
Total Lead	<10.0	<10.0

All concentrations expressed in milligrams per kilogram

"<" means "less than"

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3.4 TOTAL LEAD CONTENT TEST: COATING

Criteria : The submitted samples must meet the Total Lead Limit of 90ppm as stated in 16 CFR 1303

Test method: CPSC-CH-E1003-09.1 Standard operating procedure for determining Lead (Pb) in paint

Results :

	<u>Sample 2</u>	<u>Sample 3</u>
Total Lead	<10.0	<10.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

3.5 TOTAL LEAD CONTENT TEST: COATING

Requirement : The submitted samples must meet the Total Lead Limit of 90ppm as per Consumer Product Safety Improvement Act of 2008

Test method: CPSC-CH-E1003-09.1 Standard operating procedure for determining Lead (Pb) in paint

Results:

	<u>Sample 2</u>	<u>Sample 3</u>
Total Lead	<10.0	<10.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

*****Page 12 of 22*****

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SZ-FAF-001 (2013-04-10)



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CNAS L1114

TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

3.6 TOTAL LEAD CONTENT TEST: SUBSTRATE

Requirement: As per ASTM F963-16 Clause 4.3.5.2 (2) (a) requirement, lead content in the materials under test shall not exceed of 100ppm.

Test method: CPSC-CH-E1001-8.3 Standard operating procedure for determining total Lead (Pb) in metal;
CPSC-CH-E1002-8.3 Standard operating procedure for determining total Lead (Pb) in non-metal

Results :

Total Lead Sample 4
 <10.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

3.7 TOTAL LEAD CONTENT TEST: SUBSTRATE

Requirement: The submitted samples must meet the Total Lead Limit of 100ppm as per Consumer Product Safety Improvement Act of 2008

Test method: CPSC-CH-E1001-8.3 Standard operating procedure for determining total Lead (Pb) in metal children's product (including children's metal jewelry);
CPSC-CH-E1002-8.3 Standard operating procedure for determining total Lead (Pb) in non-metal children's products.

Results:

Total Lead Sample 4
 <10.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

3.8 TOTAL LEAD CONTENT TEST: COATING

Requirement : The total lead content shall not be more than 600ppm with reference to California Proposition 65.

Test method: CPSC-CH-E1003-09.1 Standard operating procedure for determining Lead (Pb) in paint

Results:

	<u>Sample 2</u>	<u>Sample 3</u>
Total Lead	<10.0	<10.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

TOTAL LEAD CONTENT TEST: SUBSTRATE

Requirement: The total lead content shall not be more than 600ppm with reference to California Proposition 65.

Test method: CPSC-CH-E1001-8.3 Standard operating procedure for determining total Lead (Pb) in metal children's product (including children's metal jewelry);
CPSC-CH-E1002-8.3 Standard operating procedure for determining total Lead (Pb) in non-metal children's products.

Results:

	<u>Sample 4</u>	<u>Sample 5/6/7</u>
Total Lead	<10.0	<10.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

3.9 TOTAL CADMIUM CONTENT AND EUROPEAN REACH REGULATION ANNEX XVII: WET-ASHING DIGESTION AND DETECTED WITH AAS/ICP& EN1122:2001 (METHOD B) MICROWAVE DIGESTION AND DETECTED WITH AAS/ICP

Results:

Element	Total Cadmium
Limit	< 100
Sample 2	<5.0
Sample 3	<5.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

3.10 TOTAL PHTHALATE TEST

Requirement : DEHP, DBP or BBP content shall not be more than 0.1% by weight in toys and childcare article.
DINP, DIDP or DNOP content shall not be more than 0.1% by weight in toys and childcare article which can be placed in the mouth by children.

Test Method : CPSC-CH-C1001-09.3, Standard operating procedure for determination of phthalates.

Results :

Sample ID	Plasticiser Values (w/w)					
	DBP	BBP	DEHP	DNOP	DINP	DIDP
Sample 2	ND	ND	ND	ND	ND	ND
Sample 3	ND	ND	ND	ND	ND	ND

Remarks: 1) Detection Limit for each phthalate = 0.005%
2) ND= not detected

Key : DBP = Di-butyl phthalate DEHP = Di (2-Ethylhexyl) phthalate
BBP = Benzyl butyl phthalate DINP = Di-"isonomy" phthalate
DIDP = Di-"isodecyl" phthalate DNOP = Di -n-octal phthalate

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

3.11 TOTAL PHTHALATE TEST AND EUROPEAN REACH REGULATION ANNEX XVII

Test Method : EN 14372: 2004

Requirement : DEHP, DBP & BBP content shall not be more than 0.1% by weight in toys and children article.

DINP, DIDP & DNOP content shall not be more than 0.1% by weight in toys and children article that can be placed in the mouth by children.

Results :

Sample ID	Plasticiser Values (w/w)					
	DBP	BBP	DEHP	DNOP	DINP	DIDP
Sample 2	ND	ND	ND	ND	ND	ND
Sample 3	ND	ND	ND	ND	ND	ND

Remarks: 1) Detection Limit for each phthalate = 0.005%
2) ND= not detected

Key : DBP = Di-butyl phthalate DEHP = Di (2-Ethylhexyl) phthalate
BBP = Benzyl butyl phthalate DINP = Di-“isonomy” phthalate
DIDP = Di-“isodecyl” phthalate DNOP = Di -n-octal phthalate

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

3.12 TOTAL PHTHALATE TEST WITH REFERENCE TO CALIFORNIA PROPOSITION 65

Test Method : CPSC-CH-C1001-09.3, Standard operating procedure for determination of phthalates.
Requirement : Each of DEHP, DBP, BBP, DIDP, DnHP & DINP content shall not be more than 0.1% by weight.
Results :

Sample ID	Plasticiser Values (w/w)					
	DBP	BBP	DEHP	DnHP	DINP	DIDP
Sample 2	ND	ND	ND	ND	ND	ND
Sample 3	ND	ND	ND	ND	ND	ND

Remarks: 1) Detection Limit for each phthalate = 0.005%
2) ND= not detected

Key : DBP = Di-butyl phthalate DEHP = Di (2-Ethylhexyl) Phthalate
BBP = Benzyl butyl Phthalate DNHP = Di-n-hexyl phthalate
DIDP = Di-“isodecyl” phthalate DINP = Di-iso-nonyl phthalate

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

3.13 TOTAL PHTHALATE TEST: CANADA PHTHALATES REGULATION SOR 2016-188

Method : Reference to Canada Product safety reference manual, Book 5, Part B, Method C-34, Determination of phthalates in polyvinyl chloride and following by Gas Chromatography-Mass Spectrometry (GC-MS) analysis.
Results :

Sample ID	Plasticiser Values (w/w)					
	DBP	BBP	DEHP	DNOP	DINP	DIDP
Sample 2	ND	ND	ND	ND	ND	ND
Sample 3	ND	ND	ND	ND	ND	ND

Remarks: 1) Detection Limit for each phthalate = 0.005%
2) ND= not detected

Key : DBP = Dibutyl Phthalate DEHP = Di (2-Ethylhexyl) Phthalate
BBP = Benzyl butyl Phthalate DINP = Di-“isononyl” phthalate
DIDP = Di-“isodecyl” phthalate DNOP = Di -n-octyl phthalate

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

3.14 NERC (FORMERLY ORGANIZATION: CSG) MODEL LEGISLATION – TOXICS IN PACKAGING CLEARINGHOUSE (TPCH), AS REVISED DECEMBER 1998 & OCTOBER 2004 AND MICROWAVE DIGESTION AND DETECTED WITH AAS/ICP AND WET-ASHING DIGESTION AND DETECTED WITH AAS/ICP

Results:

Elements	Total Cadmium	Hexavalent Chromium	Total Lead	Total Mercury	Pb + Cd + Hg + Cr(VI)
Limits					< 100
Sample 1	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 8	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 9	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 10	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 11	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 12	<5.0	<10.0	<10.0	<5.0	<30.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

3.15 HEAVY METALS REQUIREMENTS ON PACKAGING AND PACKAGING WASTE: 94/62/EC & MICROWAVE DIGESTION AND DETECTED WITH AAS/ICP AND WET-ASHING DIGESTION AND DETECTED WITH AAS/ICP

Results:

Elements	Total Cadmium	Hexavalent Chromium	Total Lead	Total Mercury	Pb + Cd + Hg + Cr(VI)
Limits					< 100
Sample 1	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 8	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 9	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 10	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 11	<5.0	<10.0	<10.0	<5.0	<30.0
Sample 12	<5.0	<10.0	<10.0	<5.0	<30.0

All concentrations expressed in milligrams per kilogram
"<" means "less than"

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

3.16 AZO DYES TEST AND EUROPEAN REACH REGULATION ANNEX XVII

TEST(S) CONDUCTED :

TEST METHOD ACCORDING TO THE OFFICIAL TEST PROCEDURES EN 14362-1:2012 FOR TEXTILE, EN ISO 17234-1:2010 FOR LEATHER MATERIALS. THE PRESENCE OF 4-AMINOAZOBENZENE IS DETERMINED BY EN 14362-3:2012 FOR TEXTILE, EN ISO 17234-2:2011 FOR LEATHER MATERIALS. REMOVAL OF FAT BY N-HEXANE (IN CASE OF LEATHER), TREATMENT WITH CITRIC BUFFER, REDUCTIVE CLEAVAGE WITH SODIUM DITHIONITE, EXTRACTION WITH ETHER, DETECTION BY GC/MS AND/OR HPLC/DAD. (DETECTION LIMIT: 5mg/kg)

LIST OF AROMATIC AMINES

(DETECTION LIMIT : 5mg/kg)

- | | | | |
|----|-----------------------------|----|---|
| 01 | BENZIDINE | 13 | 3,3'-DIMETHYL-4,4'-DIAMINODIPHENYLMETHANE |
| 02 | 4-AMINODIPHENYL | 14 | P-CRESIDINE |
| 03 | 4-CHLORO-O-TOLUIDINE | 15 | 4,4'-METHYLENE-BIS-(2-CHLOROANILINE) |
| 04 | 2-NAPHTHYLAMINE | 16 | 4,4'-OXYDIANILINE |
| 05 | O-AMINOAZOTOLUENE | 17 | 4,4'-THIODIANILINE |
| 06 | 2-AMINO-4-NITROTOLUENE | 18 | O-TOLUIDINE |
| 07 | P-CHLOROANILINE | 19 | 2,4,5-TRIMETHYLANILINE |
| 08 | 2,4'-DIAMINOANISOLE | 20 | 2,4-TOLUYLENEDIAMINE |
| 09 | 4,4'-DIAMINODIPHENYLMETHANE | 21 | O-ANISIDINE |
| 10 | 3,3'-DICHLOROBENZIDINE | 22 | 4-AMINOAZOBENZENE |
| 11 | 3,3'-DIMETHOXYBENZIDINE | | |
| 12 | 3,3'-DIMETHYLBENZIDINE | | |

SAMPLE ID	TEST METHOD	AMINE DETECTED	RESULT
Sample 4	EN 14362-1:2012	NOT DETECTED	PASS

NOTE : PASS = LESS THAN OR EQUAL TO 30 mg/kg
 FAIL = MORE THAN 30 mg/kg
 LIMIT = 30 mg/kg (NOT APPLICABLE FOR COMBINE TEST)

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

TEST RESULTS

INTERPRETATION OF TEST RESULTS:

1. IN THE CASE OF LEVELS PER AMINE COMPONENT ≤ 25 mg/kg: NOT DETECTED. ACCORDING TO THE ANALYSIS AS CARRIED OUT, AZO COLOURANTS BANNED UNDER THE ORDINANCE ON COMMODITIES WERE NOT DETECTED IN THE ARTICLES SUBMITTED.
2. IN THE CASE OF LEVELS PER AMINE COMPONENT > 30 mg/kg. THE ANALYSIS RESULT SUGGESTS THAT THE ARTICLE SUBMITTED HAS BEEN MANUFACTURED OR TREATED BY USING AZO COLOURANTS BANNED UNDER THE ORDINANCE ON COMMODITIES.
3. IN CASE OF A RESULT BETWEEN 25 AND 30 mg/kg. WE REMARK THAT DUE TO CUSTOMER SPECIFICATION, THESE MEASUREMENT VALUES REPRESENT A BORDER LINE CASE.

Date(s) of test(s) conducted: June 6, 2017 to June 8, 2017

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TEST REPORT

Client: ThinkFun Inc.
Address: 1321 Cameron St, Alexandria Virginia USA 22314

REPORT NO: C81211734
DATE: July 7, 2017

Product Photo:



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SZ-FAF-001 (2013-04-10)

APPENDIX 1 - TERMS AND CONDITIONS OF SERVICE / 附件一：服务所依据的条款和条件

UL VS Shanghai Limited-Shenzhen Branch ("UL VS") undertakes to provide services to its Customer subject to the terms and conditions contained herein. 优力胜邦质量检测（上海）有限公司深圳分公司（“乙方”）承诺根据以下所列的条款向客户（“甲方”）提供服务。

The term of limitation of liability contained herein has been conspicuously marked to draw the attention of the Customer, the full and complete explanation of the wording and legal significance of this term have been made to the Customer by UL VS. The Customer agrees that this term shall be construed as a provision of the agreement between UL VS and itself, based on the full and complete understanding of the wording and legal significance of this term. 乙方对本附件第四条已经做出了明显的标识以提示甲方注意，并且对该条的文字表述和法律意义，向甲方做出了充分和完整的解释。甲方已经仔细阅读了本附件第四条，对其文字表述和法律意义已经充分和完整地理解，在此基础上甲方表示同意该条款当然成为甲乙双方之间的一项约定。

COMPUTATION OF CHARGES AND PAYMENT

第一条 费用计算和付款

- 1.1 (a) Consultation time shall be charged on a daily basis. (b) Where the personnel of UL VS are assigned by its Customer to any in-house projects, the Customer shall be billed on an hourly basis on the compensation rates of its personnel. 1.2 Disbursements incurred on the Customer's behalf such as expenditure for communications, transportation, travel, the purchase of any materials, tools, equipment, components or parts which are directly related to the service shall be billed at costs and shall include a reasonable handling charge at the discretion of UL VS. 1.3 Where in the opinion of UL VS the services are time consuming entailing the use of special equipment and disbursements, the Customer shall be charged on an "equipment-hour" basis on the spot. 1.4 Payments shall be paid in RMB at its address or at such other address and in such manner as UL VS may from time to time specify. 1.5 The Customer undertakes during the continuance of this Agreement - (a) to punctually pay all billings rendered to the customer from time to time; (b) unless otherwise agreed in writing, payment is to be made within 7 days from the date of Invoice or the date of the Debit Note; (c) where the Customer fails to pay within time, UL VS shall charge interest on overdue invoices at the rate of 2% per month or 24% per annum until payment, such interest to run from day to day and to accrue after as well as before any judgment and is to be compounded at monthly intervals; (d) UL VS shall have a lien on any goods of the Customer until payment but the exercise of such lien shall not prevent interest continuing. 1.6 If the Customer shall fail to pay UL VS for any reason under Clause 1.5 or if the Customer shall commit a breach of any of its obligation under this Agreement or if a receiver of the Customer is appointed or if any resolution or petition to wind up the Customer's business shall be passed or presented (except for the purpose of reconstruction), UL VS may without prejudice to its other rights either suspend or cancel the Agreement and in such an event UL VS may also suspend or cancel any other existing contracts without being liable to damages.

CONFIDENTIAL TREATMENT OF INFORMATION

第二条 信息的保密处理

- 2.1 Unless otherwise specifically agreed between the parties, the services rendered by UL VS to the Customer shall be on a non-exclusive best-efforts basis. 2.2 Information disclosed by UL VS to the Customer, whether contained in models, drawings, reproductions of drawings, written reports, letters, memoranda or notes or in any other form shall be kept strictly confidential by UL VS for the purposes of this project. 2.3 UL VS undertakes that the identity of its Customers and the nature of services rendered shall be kept confidential unless the Customer agrees in writing to their release. 乙方承诺对其甲方的身份和所提供服务的性质保密，除非甲方书面同意揭露。若在乙方方面没有过错行为或失误的情况下，甲方的身份被公众普遍知悉，乙方不承担责任。

PATENT RIGHTS

第三条 专利权

- 3.1 Any invention made in the performance of work for the Customer by UL VS within the field of work undertaken for the Customer, belongs to the Customer. 3.2 UL VS's of the aforesaid inventions shall be free of any royalty fees provided that the uses of such inventions are confined to the performance of the work for the Customer.

LIMITATION OF LIABILITY

第四条 责任限制

- 4.1 If any liability on the part of UL VS shall arise (whether under the express or implied terms hereof or under the relevant Chinese laws and regulations) in contract, tort or infringement, the Customer's right to recover damages for any loss of whatever nature caused by the fault or negligence of UL VS or by any breach of its obligations or howsoever caused shall be limited to the payment by UL VS of the amount of the contract price under this Agreement and the said limitation of liability shall apply regardless of the form of action, whether in contract, tort, infringement or otherwise. 乙方在履行工作的过程中使用上述发明，乙方应当交付专利使用费。

INDEMNITY

第五条 补偿

- 5.1 In the event of actual or threatened suit against UL VS in relation to the services undertaken on behalf of the Customer or in relation to any of the Products or Patent of the Customer or of any allegation of infringement of any letters patent, registered design, trade mark or other intellectual property rights, the Customer shall be responsible for all legal costs, charges and expenses arising therefrom or from or in connection with the defence of such suit. 乙方在履行工作的过程中，乙方应当在认为适当时保留一份与其业务相关的文件。

SOLICITATION OF EMPLOYEES

第六条 雇员引诱

- 6.1 It is mutually agreed that neither party shall solicit the employees of the other for employment or hire unless prior written consent to do so is obtained. 双方同意除非得到事先书面同意，任何一方均不得引诱雇佣或聘用另一方的雇员。

EFFECT OF PROPOSAL

第七条 建议书的效力

- 7.1 The accompanying proposal is valid for a period of ninety (90) days from the date of the proposal unless extended in writing by UL VS. Upon the acceptance of such proposal, this appendix shall form part of the Agreement with the Customer and notwithstanding any prior discussions or prior oral or written agreements to the contrary, the terms and conditions herein shall be applicable and take precedence over any conflicting terms contained in any documents submitted by the Customer.

DATA AND DOCUMENT RETENTION

第八条 数据和文件保留

- 8.1 (a) After the services are rendered, UL VS may retain a copy of all documents relating to the services ("Supporting Documents") for as long as UL VS, in its sole discretion, deems fit. (b) Unless otherwise specified or required by the applicable law, all Supporting Documents over 3 years of age will be automatically destroyed by UL VS without notice to the Customers. (c) The Customer shall indemnify UL VS for any costs or expenses in responding to or opposing any subpoena, the production of any documents in Court seeking the disclosure of the said documents or any information contained therein.

GOVERNING LAW

第九条 适用法律

- 9.1 This Agreement and the rights and obligations of the parties shall in all respects be governed, construed, interpreted and operated in accordance with the relevant Chinese laws and regulations. 本协议和双方的权利义务在各方面都应当由中国的法律法规管辖、解释、和解和执行。

OBLIGATIONS OF THE CUSTOMER

第十条 甲方的义务

- 10.1 If the Customer intends to change the work hereunder or assign any other work to UL VS, such a change or new assignment shall be subject to a separate negotiation and agreement between both of the parties. 10.2 If the work undertaken by UL VS hereunder requires any assistance of the Customer, the Customer shall be obliged to provide all necessary and reasonable assistance which UL VS may deem fit.

SAMPLES

第十一条 样品

- 11.1 UL VS expects Customers to abide by all applicable regulations when shipping samples to UL VS. Improper shipping may result in additional charges for costs incurred by UL VS: (a) to identify samples to UL VS, (b) damage done to UL VS personnel or property as a result of improper packaging, labeling or omission of identifying documents. UL VS has the right to refuse receipt of any shipment that, in its discretion, is unsafe or has been shipped improperly. 11.2 乙方期望甲方能够遵循所有适用的规定把样品寄送给乙方。不正确的寄递方式可能导致成本增加。乙方将收取附加费用：(a) 鉴定样品成分，(b) 由于不正确的包装、标识或者识别文件的遗漏导致乙方人员或财产损失。乙方拥有拒绝接收其判断为不安全或以不正确方式寄送的样品的权利。

E-MAIL DISCLAIMER

第十二条 电子邮件免责声明

- 12.1 UL VS shall follow the request of the Customer in the event that final report / results hereunder shall be sent by e-mail rather than by paper hard copy. UL VS considers e-mail a valuable and efficient tool, however, UL VS hereby gives cautions to the Customer that the report / results in electronic version may inadvertently be modified once it is in the Customer's word processing system. 12.2 乙方要求将本协议项下最终报告/结果以电子邮件形式寄发时，乙方应遵循甲方的此等要求。乙方视电子邮件为有用且有效的工具，然而，乙方在此警告甲方，一旦电子邮件进入甲方的客户处理系统，其有可能被非故意地修改。此外，现有的电子邮件传递技术有可能使得第三方信息/报告/结果发生拦截。乙方不对超过乙方控制范围的风险负有责任。如果一份报告/结果在甲方的请求下需以电子邮件的方式寄发，那么此等请求同时被视做接受第三方可能拦截这份报告/结果的风险。甲方同意乙方以不加密的方式寄发报告/结果。通过互联网或其它公共网络传递报告/结果/甲方要求的不受乙方控制的协议中规定的任何保密或其它条款，并且乙方不得以任何方式对此等传递而产生的任何损失负责。此外，乙方不对任何在报告/结果被传递后对其的任何修改使甲方招致的任何损失负责。

MISCELLANEOUS PROVISIONS

第十三条 其他规定

- 13.1 Any provision of this Agreement prohibited by or regarded as unlawful or unenforceable under any applicable law actually applied by any court of competent jurisdiction shall, to the extent required by such law, be severed by this Agreement and rendered ineffective so far as is possible without modifying the remaining provisions of the agreement. 13.2 A certificate signed by any officer of UL VS as to the amount due from the Customer hereunder at the date of such certificate shall, in the absence of manifest error, be conclusive evidence of the amount due. 13.3 Nothing in this Agreement shall be considered to form a partnership between the parties. 13.4 Save as herein otherwise provided any notice required to be given hereunder shall be sufficiently given if given in writing or by telegram or telex to the last known postal address or telex number of the addressee and every notice shall be deemed to have been received and given at the time and in the course of transmission it should have been delivered at the address or telex number to which it was sent. 13.5 The report or certificate does not relieve sellers/suppliers from their contractual responsibility with regards to the quality/quantity of this delivery nor does it prejudice Customer's right to claim towards sellers/suppliers for compensation for any apparent and/or hidden defects not detected during UL VS's random inspection or testing or audit.