

TEST REPORT

Client: Ink cups Corp.
310 Andover St.
Danvers, MA 01923

Attention: Joe Shairs

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Sample Description as Declared :

Sample Description : X-FLEXX UV INK Cyan, Magenta, Yellow, Black, White, Varnish
Supplier / Manufacturer Name Not Provided
Style # : Not Provided
Age Grade: Not Provided
No. of Sample: 6
End Use: Not Provided
Country of Origin : U.S.
Sample Received Date: January 30, 2019
Final Confirmation Received Date: February 11, 2019
Report Completion Date: February 13, 2019

OVERALL CONCLUSION:

<u>Standard</u>	<u>Result</u>
1. ASTM F963-17 - Total Element Content Screening of Paints and Surface Coatings (Other than Modeling Clay)	1. Pass
2. Determination of Phthalates – Composite	2. Pass
3. Phthalates Ban – Washington State Code Title 70.240 Children’s Safe Products	3. Pass
4. Canada Consumer Product Safety Act; Surface Coating Materials Regulations - SOR/2016-193 Total Mercury	4. Pass
5. CPSIA Title 1, Section 101 – Total Lead in Surface Coatings	5. Pass
6. ASTM F2923-14 – Total Element Screening	6. Pass
7. Illinois Lead Poison Prevention Act (410 ILCS 45/6): Total Lead	7. Pass
8. Connecticut Public Act 10-113 (Substituted House Bill 5314): Total Cadmium Content in Children’s Jewelry	8. Pass
9. Maryland Chapter 578 (House Bill 145): Total Cadmium in Children’s Jewelry	9. Pass
10. Minnesota Chapter 347-S.F. No. 2510: Total Cadmium Screening in Children’s Jewelry	10. Pass
11. Mexican Environment Health NOM-252-SSA1-2011: Total Elements Screening from Toys and School Supplies	11. Pass
12. SOR/2011-17 – Total Heavy Metal Screening of Surface Coatings	12. Pass
13. California Proposition 65 – 6 Phthalates	13. Pass

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**For and on behalf of
Intertek Products Group North America:**

**Kathleen DeVito
Customer Service**

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TEST RESULTS:

1. ASTM F963-17 - Total Element Content Screening of Paints and Surface Coatings (Other than Modeling Clay)

Scope: All accessible surface coatings of toys materials listed in 16 CFR 1500.88 and 16 CFR 1500.91 are exempt.

Test Method: ASTM F963-17, Section 8.3.1.1 (3)

Test Results:

Restricted Substances	Results (ppm)						Limit (ppm)
	1	2	3	4	5	6	
Total Antimony	16.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Arsenic	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	25
Total Barium	32.8	<10.0	<10.0	<10.0	<10.0	<10.0	1000
Total Cadmium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	75
Total Chromium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Lead	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	90
Total Mercury	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Selenium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	500

Component Number	Component Description
1	Black ink
2	Yellow ink
3	Magenta ink
4	Cyan ink
5	White ink
6	Varnish ink

Conclusion: PASS

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2. Determination of Phthalates – Composite

Test Method: CPSC-CH-C1001-09.4 Standard Operating Procedure for the Determination of Phthalates (COMPOSITE)

Requirements:

16 CFR Part 1307 Prohibition of Children’s Toys and Child Care Articles Containing Specified Phthalates, check CPSC and CPSIA requirements.

1. ***CPSC -The United States Consumer Product Safety Commission** rule prohibits **children’s toys and child care articles** to contain phthalate concentrations of more than 0.1 percent (1000 ppm) in plasticized components.
2. ***CPSIA – The Consumer Product Safety Improvement Act Section 108(a)** prohibits the manufacture for sale, offer for sale, distribution in commerce, or importation into the United States of any **children’s toy or child care article** that contains concentrations of more than 0.1 percent (1000 ppm) phthalates in plasticized components.

Test Results:

***For composite samples, a safety factor of 80% is applied. Any sample possibly having greater than 80 percent of the limit for phthalates in any composited sample should be retested using non-composited samples.**

2 component limit = 400 ppm

3 component limit = 266 ppm

Regulated Phthalates	Result (ppm)		*Limit (ppm)
	1	2	
Diisobutyl Phthalate (DIBP)	<50	<50	266
Di-n-pentyl Phthalate (DPENP)	<50	<50	266
Dicyclohexyl Phthalate (DCHP)	<50	<50	266
Di-n-hexyl phthalate(DHEXP/DnHP)	<50	<50	266
Diisononyl Phthalate (DINP)	<50	<50	266
Dibutyl Phthalate (DBP)	<50	<50	266
Butyl Benzyl Phthalate (BBP)	<50	<50	266
Diethyl Hexyl Phthalate (DEHP)	<50	<50	266

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Component	Component Description
1(a)	Black ink
1(b)	Yellow ink
1(c)	Magenta ink
2(a)	Cyan ink
2(b)	White ink
2(c)	Varnish ink

Conclusion:
CPSIA / CPSC requirements: PASS

3. Phthalates Ban – Washington State Code Title 70.240 Children’s Safe Products

PHTHALATE CONTENT TEST

Requirement: Shall not contain DEHP, DBP, BBP, DINP, DnOP or DIDP individually or in combination, in an amount greater than 1000 ppm by weight.

Procedure: Solvent extraction followed by GC-MS analysis. (Composite)

For composite testing, a “safety factor” of 80% is applied, as suggested by the CPSC. Applying the “safety factor” reduces the phthalate limit from 1000 ppm to 800 ppm.

Test Results:

Results (ppm)		1(a)	1(b)	1(c)	2(a)	2(b)	2(c)
Restricted Chemicals							
DEHP	Results	<50			<50		
BBP	Results	<50			<50		
DBP	Results	<50			<50		
DINP	Results	<50			<50		
DIDP	Results	<50			<50		
DnOP	Results	<50			<50		
Total (800 ppm)		<300			<300		

Component Number	Component Description
1a	Black ink
1b	Yellow ink
1c	Magenta ink
2a	Cyan ink
2b	White ink
2c	Varnish ink

Conclusion: When tested as specified, the submitted sample **passes** the applicable requirements of Phthalate content as per Washington State Codes Title 70.240 Children Safe Products Act.

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**4. Canada Consumer Product Safety Act; Surface Coating Materials Regulations - SOR/2016-193
Total Mercury**

Test Method:

CPSC-CH-E1003-09.1 Standard Operating Procedure for Determining Lead (Pb) in Paint and Other Similar Surface Coatings - Modified

Requirements:

A surface coating material must not contain more than 10 mg/kg total mercury when a dried sample is tested in accordance with a method that conforms to good laboratory practices.

Test Results:

Component	Component Description	Results (mg/kg)	Limit (mg/kg)
1	Black ink	<5.0	10
2	Yellow ink	<5.0	
3	Magenta ink	<5.0	
4	Cyan ink	<5.0	
5	White ink	<5.0	
6	Varnish ink	<5.0	10

Conclusion: Health Canada Product Safety Requirements: PASS

5. CPSIA Title 1, Section 101 – Total Lead in Surface Coatings

Test Method:

CPSC-CH-E1003-09.1

Component Number	Sample Description	Results (ppm)	Total Limit (ppm)
1	Black ink	<10	90
2	Yellow ink	<10	90
3	Magenta ink	<10	90
4	Cyan ink	<10	90
5	White ink	<10	90
6	Varnish	<10	90

The above results were cross-referenced from ASTM F963 – Total Heavy Metals

Conclusion: PASS

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6. ASTM F2923-14 - Soluble Heavy Metals in Paints and other Surface Coating Materials in Children’s Jewelry

Procedure: ASTM F963-17, Section 8.3.2

Product Description:

Test Results:

Restricted Substances	Results (ppm)						Limit (ppm)
	1	2	3	4	5	6	
Total Antimony	16.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Arsenic	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	25
Total Barium	32.8	<10.0	<10.0	<10.0	<10.0	<10.0	1000
Total Cadmium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	75
Total Chromium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Mercury	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Selenium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	500

= Test portion is between 10 mg to 100 mg and the quantities of the appropriate elements are calculated as if 100 mg of the test portion has been used.

Component Number	Component Description
1	Black ink
2	Yellow ink
3	Magenta ink
4	Cyan ink
5	White ink
6	Varnish

The above results were cross-referenced from ASTM F963 – Total Heavy Metals

Conclusion: When tested as specified, the submitted sample **does comply** with the **soluble limits for heavy metals** according to **Section 8 of ASTM F2923-14**.

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7. Total Lead – Illinois Lead Poison Prevention Act (410 ILCS 45/6) amended by SB 1943

Test Method: CPSC-CH-E1003-09.1 (Coating)

Requirement: A warning label is required if the total lead content of surface coatings exceeds 40 ppm but below 90 ppm; or substrate exceeds 40 ppm but lower than 100 ppm as required by Section 6(b) of the Illinois Lead Poison Prevention Act.

Test Results:

Component Number	Result (ppm)	Limit (ppm)
1	<10	40
2	<10	40
3	<10	40
4	<10	40
5	<10	40
6	<10	40

Component Number	Component Description
1	Black ink
2	Yellow ink
3	Magenta ink
4	Cyan ink
5	White ink
6	Varnish

The above results were cross-referenced from ASTM F963 – Total Heavy Metals

Conclusion: When tested as specified, the submitted sample(s) **does meet** the requirements for total lead content per the Illinois Lead Poison Prevention Act (ILLPA)

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8. Total Cadmium in Children’s Jewelry- Connecticut HB5314

Scope: Children’s jewelry including charms, bracelets, pendants, necklaces, earrings or rings, and any component thereof, that is designed or intended to be worn or used by children twelve years of age or younger

Requirement: Children’s jewelry may not contain cadmium at more than 0.0075% by weight (75 ppm).

Results:

Component	Result (ppm)	Limit (ppm)
1	<10	75
2	<10	75
3	<10	75
4	<10	75
5	<10	75
6	<10	75

Component	Component Description
1	Black ink
2	Yellow ink
3	Magenta ink
4	Cyan ink
5	White ink
6	Varnish

The above results were cross-referenced from ASTM F963 – Total Heavy Metals

Conclusion: When tested as specified above, the submitted sample(s) **does meet** the **Cadmium limits for Children’s jewelry per the Connecticut Bill HB5314.**

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9. Maryland HB 145-Total Cadmium in Children’s Jewelry

Test method: ASTM F963-17

Requirement: Children’s jewelry may not contain cadmium at more than 75 ppm.

Results:

Component	Component Description	Result (ppm)	Limit (ppm)
1	Black ink	<10	75
2	Yellow ink	<10	75
3	Magenta ink	<10	75
4	Cyan ink	<10	75
5	White ink	<10	75
6	Varnish	<10	75

The above results were cross-referenced from ASTM F963 – Total Heavy Metals

Conclusion: PASS

10. Minnesota Chaper 347-S.F. No. 2510: Total Cadmium Screening in Children’s Jewelry

Test method: ASTM F963-17

Requirement: Children’s jewelry may not contain cadmium at more than 75 ppm.

Results:

Component	Component Description	Result (ppm)	Limit (ppm)
1	Black ink	<10	75
2	Yellow ink	<10	75
3	Magenta ink	<10	75
4	Cyan ink	<10	75
5	White ink	<10	75
6	Varnish	<10	75

The above results were cross-referenced from ASTM F963 – Total Heavy Metals

Conclusion: PASS

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11. Mexican Environment Health NOM-252-SSA1-2011: Total Elements Screening from Toys and School Supplies

Test method: ASTM F963-17

Test Results:

Restricted Substances	Results (ppm)						Limit (ppm)
	1	2	3	4	5	6	
Total Antimony	16.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Arsenic	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	25
Total Barium	32.8	<10.0	<10.0	<10.0	<10.0	<10.0	1000
Total Cadmium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	75
Total Chromium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Lead	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	90
Total Mercury	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	60
Total Selenium	<10.0	<10.0	<10.0	<10.0	<10.0	<10.0	500

Component Number	Component Description
1	Black ink
2	Yellow ink
3	Magenta ink
4	Cyan ink
5	White ink
6	Varnish ink

The above results were cross-referenced from ASTM F963 – Total Heavy Metals

Conclusion: PASS

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12. Canadian Toys Regulations (SOR/2011-17)
- Section 23: Specific substances in surface coatings

Test Method:

CPSC-CH-E1003-09.1 Standard Operating Procedure for Determining Lead (Pb) in Paint and Other Similar Surface Coatings - Modified

Requirements:

The surface coating material that is applied to a toy must not contain any of the following substances:

- (a) more than 90 ppm of total lead;
- (b) a compound of antimony, arsenic, cadmium, selenium, or barium introduced as such if more than 0.1% (1000 ppm) of the compound dissolves in 5% hydrochloric acid after being stirred for 10 minutes at 20°C (68°F); or
- (c) a compound of mercury introduced as such.

Component Description:

Component	Description
1	Black ink
2	Yellow ink
3	Magenta ink
4	Cyan ink
5	White ink
6	Varnish ink

Test Results:

Restricted Substances	Results (ppm)						Limit (ppm)
	1	2	3	4	5	6	
Lead	<10	<10	<10	<10	<10	<10	90
Antimony	16.0	<10	<10	<10	<10	<10	1000
Arsenic	<10	<10	<10	<10	<10	<10	1000
Barium	32.8	<10	<10	<10	<10	<10	1000
Cadmium	<10	<10	<10	<10	<10	<10	1000
Selenium	<10	<10	<10	<10	<10	<10	1000
Mercury	<10	<10	<10	<10	<10	<10	Not Detected

The above results were cross-referenced from ASTM F963 – Total Heavy Metals

Conclusion:

Health Canada Product Safety Requirements: PASS

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13. Determination of Phthalates

Test Method:

CPSC-CH-C1001-09.4 Standard Operating Procedure for the Determination of Phthalates.

Requirements:

16 CFR Part 1307 Prohibition of Children’s Toys and Child Care Articles Containing Specified Phthalates, check CPSC and CPSIA requirements.

3. ***California Health and Safety Code; Sections 25249.5 et seq. (Proposition 65) reference: SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986: CHEMICALS KNOWN TO THE STATE TO CAUSE CANCER OR REPRODUCTIVE TOXICITY LIST (Rev. 29DEC2017) identifies the following phthalates and testing is recommended:**

- Di(2-ethylhexyl)phthalate (DEHP)
- Di-n-hexyl phthalate (DnHP)
- Di-n-butyl phthalate (DBP)
- Di-isodecyl phthalate (DIDP)
- Diisononyl phthalate (DINP)
- Butyl benzyl phthalate (BBP)

Sample Description / Proposition 65 Case Number/ Phthalates of interest

Apparel, Gloves, Headwear / CIV 03513 / DBP, BBP, DEHP, DIDP, DINP

Test Results:

Regulated Phthalates	Result (ppm)						Limit (ppm)
	1	2	3	4	5	6	
Dibutyl Phthalate (DBP)	<50	<50	<50	<50	<50	<50	1000
Butyl Benzyl Phthalate (BBP)	<50	<50	<50	<50	<50	<50	1000
Diethyl Hexyl Phthalate (DEHP)	<50	<50	<50	<50	<50	<50	1000
Diisononyl Phthalate (DINP)	<50	<50	<50	<50	<50	<50	1000
Di-iso-decyl Phthalate (DIDP)	<50	<50	<50	<50	<50	<50	1000
Di-n-Hexyl Phthalate (DnHP)	<50	<50	<50	<50	<50	<50	1000

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Component Number	Component Description
1	Black ink
2	Yellow ink
3	Magenta ink
4	Cyan ink
5	White ink
6	Varnish ink

The above results were cross-referenced from CPSIA Washington Phthalates

Conclusion: PASS

The test results stated in this report relate only to the item(s) tested. This test report may not be reproduced except in full, without written approval of Intertek.

*If you need assistance in interpreting these results or if you have any questions,
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