QIMA

AT-1500

TEST REPORT

Test Report #	23H-004888	Date of Report Issue:	July 6, 2023
Date of Sample Received:	June 21, 2023	Pages:	Page 1 of 29

CLIENT INFORMATION:

Company:	Boston Industrial Solutions, Inc.
Recipient:	Ephraim Wahiga
Recipient Email:	info@bostonindustrialsolutions.com

SAMPLE INFORMATION:

Description:	Natron® SE Series inks		
Assortment:	-	Purchase Order Number:	-
SKU/style No.:	-	Toy Co./Agency:	-
Factory/Supplier/Vendor:	Boston Industrial Solutions, Inc.	Country of Origin:	United States
Country of Distribution:	-	Labeled Age Grade:	-
Quantity Submitted:	1 lot	Recommended Age Grade:	-
Testing Period:	06/27/2023 – 06/30/2023	Tested Age Grade:	-

OVERALL RESULT: **PASS**

Refer to page 2 for test result summary and appropriate notes.

QIMA Testing (HK) Limited

Loska Yeung Lok Ka
Assistant Manager, Chemical Laboratory

TEST RESULTS SUMMARY:

At the request of the client, the following tests were conducted:

CONCLUSION	TEST(S) CONDUCTED
PASS	CPSIA Section 106 & ASTM F963-17 Toy Safety, Clause 4.3.5 Total Elements Screening in Paint and Similar Surface Coatings
PASS	ASTM F2923-20 Consumer Product Safety for Children's Jewelry, Clause 8 Total Elements Screening in Paint and Surface Coatings
PASS	CPSIA Section 101 & 16 CFR 1303, Total Lead in Paints and Surface Coatings
PASS	The Illinois Lead Poisoning Prevention Act (LPPA) (410 ILCS 45/6), Total Lead in Paints and Surface Coatings of Children's Jewelry and Childcare Articles
PASS	Connecticut Public Act 10-113 (Substituted House Bill 5314), Total Cadmium Content in Children's Jewelry
PASS	Maryland Chapter 578 (House Bill 145), Total Cadmium in Children's Jewelry
PASS	Minnesota Chapter 347-S.F. No. 2510, Total Cadmium Screening in Children's Jewelry
PASS	California Proposition 65, Phthalates (DBP, BBP, DEHP, DINP, DIDP, DnHP)
PASS	16 CFR 1307 Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates (DBP, BBP, DEHP, DINP, DHEXP / DnHP, DCHP, DIBP, DPENP)
PASS	Washington Revised Code Section 70.240.020, Phthalates in Children's Product
PASS	Canadian Toys Regulations SOR/2011-17 as Amended, Item 23 – Total Heavy Metal Screening in Stickers, Films and Surface Coating Materials
PASS	Canadian Surface Coating Materials Regulations SOR/2016-193, Total Lead in Surface Coating Materials
PASS	Canadian Surface Coating Materials Regulations SOR/2016-193, Total Mercury in Paints and Surface Coatings
PASS	Mexican Environmental Health NOM-252-SSA1-2011, Total Elements Screening from Toys and School Supplies

DETAILED RESULTS:

DETAILED RESULTS:

CPSIA Section 106 & ASTM F963-17 Toy Safety, Clause 4.3.5 Total Elements Screening in Paint and Similar Surface Coatings

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Soluble Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Antimony (Sb)	ND	ND	ND	ND	ND	**60**
Total Arsenic (As)	ND	ND	ND	ND	ND	**25**
Total Barium (Ba)	ND	ND	ND	64	40	**1000**
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Total Chromium (Cr)	ND	ND	ND	ND	ND	**60**
Total Lead (Pb)	ND	ND	ND	ND	ND	**90**
Total Mercury (Hg)	ND	ND	ND	ND	ND	**60**
Total Selenium (Se)	ND	ND	ND	ND	ND	**500**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit: Sb, As, Ba, Cd, Cr, Pb, Hg = 20ppm; Se = 50ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
The total heavy metals screening results do not exceed the soluble heavy metal limits, therefore, further soluble analyses were not conducted.

DETAILED RESULTS:

CPSIA Section 106 & ASTM F963-17 Toy Safety, Clause 4.3.5 Total Elements Screening in Paint and Similar Surface Coatings

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Soluble Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Antimony (Sb)	ND	ND	ND	ND	ND	**60**
Total Arsenic (As)	ND	ND	ND	ND	ND	**25**
Total Barium (Ba)	ND	ND	23	ND	ND	**1000**
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Total Chromium (Cr)	ND	ND	ND	ND	ND	**60**
Total Lead (Pb)	ND	ND	ND	ND	ND	**90**
Total Mercury (Hg)	ND	ND	ND	ND	ND	**60**
Total Selenium (Se)	ND	ND	ND	ND	ND	**500**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit: Sb, As, Ba, Cd, Cr, Pb, Hg = 20ppm; Se = 50ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
The total heavy metals screening results do not exceed the soluble heavy metal limits, therefore, further soluble analyses were not conducted.

DETAILED RESULTS:

ASTM F2923-20 Consumer Product Safety for Children's Jewelry, Clause 8 Total Elements Screening in Paint and Surface Coatings

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Soluble Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Antimony (Sb)	ND	ND	ND	ND	ND	**60**
Total Arsenic (As)	ND	ND	ND	ND	ND	**25**
Total Barium (Ba)	ND	ND	ND	64	40	**1000**
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Total Chromium (Cr)	ND	ND	ND	ND	ND	**60**
Total Mercury (Hg)	ND	ND	ND	ND	ND	**60**
Total Selenium (Se)	ND	ND	ND	ND	ND	**500**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit: Sb, As, Ba, Cd, Cr, Hg = 20 ppm; Se = 50 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
The total heavy metals screening results do not exceed the soluble heavy metal limits, therefore, further soluble analyses were not conducted.

DETAILED RESULTS:

ASTM F2923-20 Consumer Product Safety for Children's Jewelry, Clause 8 Total Elements Screening in Paint and Surface Coatings

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Soluble Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Antimony (Sb)	ND	ND	ND	ND	ND	**60**
Total Arsenic (As)	ND	ND	ND	ND	ND	**25**
Total Barium (Ba)	ND	ND	23	ND	ND	**1000**
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Total Chromium (Cr)	ND	ND	ND	ND	ND	**60**
Total Mercury (Hg)	ND	ND	ND	ND	ND	**60**
Total Selenium (Se)	ND	ND	ND	ND	ND	**500**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit: Sb, As, Ba, Cd, Cr, Hg = 20 ppm; Se = 50 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
The total heavy metals screening results do not exceed the soluble heavy metal limits, therefore, further soluble analyses were not conducted.

DETAILED RESULTS:

CPSIA Section 101 & 16 CFR 1303, Total Lead in Paints and Surface Coatings

Test Method: CPSC-CH-E-1003-09.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Lead (Pb)	ND	ND	ND	ND	ND	**90**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Lead (Pb)	ND	ND	ND	ND	ND	**90**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 20 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

The Illinois Lead Poisoning Prevention Act (LPPA) (410 ILCS 45/6), Total Lead in Paints and Surface Coatings of Children's Jewelry and Childcare Articles

Test Method: CPSC-CH-E-1003-09.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Lead (Pb)	ND	ND	ND	ND	ND	**40**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Lead (Pb)	ND	ND	ND	ND	ND	**40**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 20 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Connecticut Public Act 10-113 (Substituted House Bill 5314), Total Cadmium Content in Children's Jewelry

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 20 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Maryland Chapter 578 (House Bill 145), Total Cadmium in Children's Jewelry

Test Method: ASTM F963-11 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 20 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Minnesota Chapter 347-S.F. No. 2510, Total Cadmium Screening in Children's Jewelry

Test Method: ASTM F963-11 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Soluble Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Soluble Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 20 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
The total cadmium screening results did not exceed the soluble cadmium limit, therefore, further soluble analyses were not conducted.

DETAILED RESULTS:

California Proposition 65, Phthalates (DBP, BBP, DEHP, DINP, DIDP, DnHP)

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		1+2+3	4+5+6	7+8+9	10+11+12	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	ND	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	**0.1**
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	ND	ND	**0.1**
Di-n-hexyl phthalate (DnHP)	84-75-3	ND	ND	ND	ND	**0.1**
	Conclusion	PASS	PASS	PASS	PASS	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
The specification is quoted from client's requirement.

DETAILED RESULTS:

California Proposition 65, Phthalates (DBP, BBP, DEHP, DINP, DIDP, DnHP)

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		13+14+15	16+17+18	19+20+21	22+23+24	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	ND	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	**0.1**
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	ND	ND	**0.1**
Di-n-hexyl phthalate (DnHP)	84-75-3	ND	ND	ND	ND	**0.1**
	Conclusion	PASS	PASS	PASS	PASS	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
The specification is quoted from client's requirement.

DETAILED RESULTS:

California Proposition 65, Phthalates (DBP, BBP, DEHP, DINP, DIDP, DnHP)

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		25+26+27	28+29	---	---	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	---	---	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	---	---	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	---	---	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	---	---	**0.1**
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	---	---	**0.1**
Di-n-hexyl phthalate (DnHP)	84-75-3	ND	ND	---	---	**0.1**
	Conclusion	PASS	PASS	---	---	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
The specification is quoted from client's requirement.

DETAILED RESULTS:

16 CFR 1307 Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates (DBP, BBP, DEHP, DINP, DHEXP / DnHP, DCHP, DIBP, DPENP)

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		1+2+3	4+5+6	7+8+9	10+11+12	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	ND	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	**0.1**
Di-n-hexyl phthalate (DHEXP / DnHP)	84-75-3	ND	ND	ND	ND	**0.1**
Dicyclohexyl phthalate (DCHP)	84-61-7	ND	ND	ND	ND	**0.1**
Diisobutyl phthalate (DIBP)	84-69-5	ND	ND	ND	ND	**0.1**
Di-n-pentyl phthalate (DPENP)	131-18-0	ND	ND	ND	ND	**0.1**
	Conclusion	PASS	PASS	PASS	PASS	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

16 CFR 1307 Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates (DBP, BBP, DEHP, DINP, DHEXP / DnHP, DCHP, DIBP, DPENP)

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		13+14+15	16+17+18	19+20+21	22+23+24	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	ND	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	**0.1**
Di-n-hexyl phthalate (DHEXP / DnHP)	84-75-3	ND	ND	ND	ND	**0.1**
Dicyclohexyl phthalate (DCHP)	84-61-7	ND	ND	ND	ND	**0.1**
Diisobutyl phthalate (DIBP)	84-69-5	ND	ND	ND	ND	**0.1**
Di-n-pentyl phthalate (DPENP)	131-18-0	ND	ND	ND	ND	**0.1**
	Conclusion	PASS	PASS	PASS	PASS	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

16 CFR 1307 Prohibition of Children's Toys and Child Care Articles Containing Specified Phthalates (DBP, BBP, DEHP, DINP, DHEXP / DnHP, DCHP, DIBP, DPENP)

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		25+26+27	28+29	---	---	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	---	---	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	---	---	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	---	---	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	---	---	**0.1**
Di-n-hexyl phthalate (DHEXP / DnHP)	84-75-3	ND	ND	---	---	**0.1**
Dicyclohexyl phthalate (DCHP)	84-61-7	ND	ND	---	---	**0.1**
Diisobutyl phthalate (DIBP)	84-69-5	ND	ND	---	---	**0.1**
Di-n-pentyl phthalate (DPENP)	131-18-0	ND	ND	---	---	**0.1**
	Conclusion	PASS	PASS	---	---	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Washington Revised Code Section 70.240.020, Phthalates in Children's Product

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		1+2+3	4+5+6	7+8+9	10+11+12	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	ND	**0.1**
Di-n-octyl phthalate (DnOP)	117-84-0	ND	ND	ND	ND	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	**0.1**
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	ND	ND	**0.1**
	Sum	ND	ND	ND	ND	**0.1**
	Conclusion	PASS	PASS	PASS	PASS	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Washington Revised Code Section 70.240.020, Phthalates in Children's Product

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		13+14+15	16+17+18	19+20+21	22+23+24	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	ND	ND	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	ND	ND	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	ND	ND	**0.1**
Di-n-octyl phthalate (DnOP)	117-84-0	ND	ND	ND	ND	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	ND	ND	**0.1**
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	ND	ND	**0.1**
	Sum	ND	ND	ND	ND	**0.1**
	Conclusion	PASS	PASS	PASS	PASS	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Washington Revised Code Section 70.240.020, Phthalates in Children's Product

Test Method: CPSC-CH-C1001-09.4
Test Instrument: Gas Chromatography with Mass Spectrometry

Specimen No.		25+26+27	28+29	---	---	**Limit (% w/w)**
Test Item	CAS No.	Result (% w/w)	Result (% w/w)	Result (% w/w)	Result (% w/w)	
Dibutyl phthalate (DBP)	84-74-2	ND	ND	---	---	**0.1**
Benzyl butyl phthalate (BBP)	85-68-7	ND	ND	---	---	**0.1**
Di-(2-ethylhexyl) phthalate (DEHP)	117-81-7	ND	ND	---	---	**0.1**
Di-n-octyl phthalate (DnOP)	117-84-0	ND	ND	---	---	**0.1**
Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	ND	ND	---	---	**0.1**
Diisodecyl phthalate (DIDP)	26761-40-0 68515-49-1	ND	ND	---	---	**0.1**
	Sum	ND	ND	---	---	**0.1**
	Conclusion	PASS	PASS	---	---	

Note:
% w/w = Percent by weight
LT = Less than
ND = Not detected (Reporting Limit = 0.015 % w/w)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Canadian Toys Regulations SOR/2011-17 as Amended, Item 23 – Total Heavy Metal Screening in Stickers, Films and Surface Coating Materials

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Leachable Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Antimony (Sb)	ND	ND	ND	ND	ND	**1000**
Total Arsenic (As)	ND	ND	ND	ND	ND	**1000**
Total Barium (Ba)	ND	ND	ND	64	40	**1000**
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**1000**
Total Lead (Pb)	ND	ND	ND	ND	ND	**90***
Total Mercury (Hg)	ND	ND	ND	ND	ND	**10***
Total Selenium (Se)	ND	ND	ND	ND	ND	**1000**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit: Pb, Hg = 10 ppm; Sb, As, Ba, Cd, Se = 50 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
*Total limit

The results of total elements screening did not exceed the limits of leachable elements, therefore further analysis of leachable elements was not conducted.

DETAILED RESULTS:

Canadian Toys Regulations SOR/2011-17 as Amended, Item 23 – Total Heavy Metal Screening in Stickers, Films and Surface Coating Materials

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Leachable**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	**Limit (ppm)**
Total Antimony (Sb)	ND	ND	ND	ND	ND	**1000**
Total Arsenic (As)	ND	ND	ND	ND	ND	**1000**
Total Barium (Ba)	ND	ND	23	ND	ND	**1000**
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**1000**
Total Lead (Pb)	ND	ND	ND	ND	ND	**90***
Total Mercury (Hg)	ND	ND	ND	ND	ND	**10***
Total Selenium (Se)	ND	ND	ND	ND	ND	**1000**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit: Pb, Hg = 10 ppm; Sb, As, Ba, Cd, Se = 50 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

Remark:
*Total limit

The results of total elements screening did not exceed the limits of leachable elements, therefore further analysis of leachable elements was not conducted.

DETAILED RESULTS:

Canadian Surface Coating Materials Regulations SOR/2016-193, Total Lead in Surface Coating Materials

Test Method: CPSC-CH-E-1003-09.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Lead (Pb)	ND	ND	ND	ND	ND	**90**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Lead (Pb)	ND	ND	ND	ND	ND	**90**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 20 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Canadian Surface Coating Materials Regulations SOR/2016-193, Total Mercury in Paints and Surface Coatings

Test Method: ASTM F963-16 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Mercury (Hg)	ND	ND	ND	ND	ND	**10**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Total Limit (ppm)**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	
Total Mercury (Hg)	ND	ND	ND	ND	ND	**10**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 10 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration.

DETAILED RESULTS:

Mexican Environmental Health NOM-252-SSA1-2011, Total Elements Screening from Toys and School Supplies

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Toy Material except Modelling Clay

Specimen No.	1+2+3	4+5+6	7+8+9	10+11+12	13+14+15	**Soluble**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	**Limit (ppm)**
Total Antimony (Sb)	ND	ND	ND	ND	ND	**60**
Total Arsenic (As)	ND	ND	ND	ND	ND	**25**
Total Barium (Ba)	ND	ND	ND	64	40	**1000**
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Total Chromium (Cr)	ND	ND	ND	ND	ND	**60**
Total Lead (Pb)	ND	ND	ND	ND	ND	**90**
Total Mercury (Hg)	ND	ND	ND	ND	ND	**60**
Total Selenium (Se)	ND	ND	ND	ND	ND	**500**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit: Sb, As, Ba, Cd, Cr, Pb, Hg = 20 ppm; Se = 50 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration

Remark:
The total heavy metals screening results do not exceed the soluble heavy metal limits, therefore, further soluble analyses were not conducted.

DETAILED RESULTS:

Mexican Environmental Health NOM-252-SSA1-2011, Total Elements Screening from Toys and School Supplies

Test Method: ASTM F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

Toy Material except Modelling Clay

Specimen No.	16+17+18	19+20+21	22+23+24	25+26+27	28+29	**Soluble**
Test Item	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	Result (ppm)	**Limit (ppm)**
Total Antimony (Sb)	ND	ND	ND	ND	ND	**60**
Total Arsenic (As)	ND	ND	ND	ND	ND	**25**
Total Barium (Ba)	ND	ND	23	ND	ND	**1000**
Total Cadmium (Cd)	ND	ND	ND	ND	ND	**75**
Total Chromium (Cr)	ND	ND	ND	ND	ND	**60**
Total Lead (Pb)	ND	ND	ND	ND	ND	**90**
Total Mercury (Hg)	ND	ND	ND	ND	ND	**60**
Total Selenium (Se)	ND	ND	ND	ND	ND	**500**
Conclusion	PASS	PASS	PASS	PASS	PASS	

Note:
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit: Sb, As, Ba, Cd, Cr, Pb, Hg = 20 ppm; Se = 50 ppm)
Composite results are based on specimen of least mass resulting in highest potential concentration

Remark:
The total heavy metals screening results do not exceed the soluble heavy metal limits, therefore, further soluble analyses were not conducted.

SPECIMEN DESCRIPTION:

Specimen No.	Specimen Description	Location
1	Black ink	Ink SE 300
2	White ink	Ink SE 310
3	Lemon yellow ink	Ink SE 314
4	Yellow ink	Ink SE 315
5	Matt yellow ink	Ink SE 315 HD
6	Golden yellow ink	Ink SE 317
7	Dull orange ink	Ink SE 322
8	Orange ink	Ink SE 324
9	Light blue ink	Ink SE 330
10	Blue ink	Ink SE 333
11	Sky blue ink	Ink SE 336
12	Dark blue ink	Ink SE 337
13	Dark purple ink	Ink SE 339
14	Violet ink	Ink SE 341
15	Light green ink	Ink SE 344
16	Green ink	Ink SE 345
17	Dull green ink	Ink SE 346
18	Dark green ink	Ink SE 348
19	Orange red ink	Ink SE 350
20	Dull pink ink	Ink SE 351
21	Red ink	Ink SE 352
22	Pink ink	Ink SE 354
23	Magenta ink	Ink SE 355
24	Bright red ink	Ink SE 358
25	Brown ink	Ink SE 363
26	Clear ink	Ink SE 370

SPECIMEN DESCRIPTION:

Specimen No.	Specimen Description	Location
27	Golden ink	Ink SE 371
28	Silvery ink	Ink SE 377
29	Grey ink	Ink SE 390

SAMPLE PHOTO:

-End Report-