QIMA

AT-1500

# TEST REPORT

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|---|---|---|---|
| Test Report # | 23H-004954 | Date of Report Issue: | July 6, 2023 |
| Date of Sample Received: | June 26, 2023 | Pages: | Page 1 of 23 |

**CLIENT INFORMATION:**

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


**SAMPLE INFORMATION:**

| | | | |
|---|---|---|---|
| Description: | Natron® NxT 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 – 07/05/2023 | 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 Soluble Elements in Paints and Similar Surface Coatings |
| PASS | ASTM F2923-20 Consumer Product Safety for Children's Jewelry, Clause 8 Soluble Elements in Paints and Similar 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 – Leachable Elements in Paints and Surface Coatings |
| PASS | Canadian Toys Regulations SOR/2011-17 as Amended, Item 23 – Total Lead and Mercury in Paints and Surface Coatings |
| PASS | Canadian Surface Coating Materials Regulations SOR/2016-193, Total Lead in Stickers, Films and 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, Soluble Elements from Toys and School Supplies |

**DETAILED RESULTS:**

**CPSIA Section 106 & ASTM F963-17 Toy Safety, Clause 4.3.5 Soluble Elements in Paints and Similar Surface Coatings**

Test Method: ASTM F963-17 Clause 8.3.2
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry and/or Inductively Coupled Plasma-Mass Spectrometry

| Specimen No. | 1 | 2 | 3 | 4 | 5 | **Soluble** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | **Limit (ppm)** |
| Soluble Antimony (Sb) | ND | ND | ND | ND | ND | **60** |
| Soluble Arsenic (As) | ND | ND | ND | ND | ND | **25** |
| Soluble Barium (Ba) | ND | 29 | 19 | 5 | ND | **1000** |
| Soluble Cadmium (Cd) | ND | ND | ND | ND | ND | **75** |
| Soluble Chromium (Cr) | ND | ND | ND | ND | ND | **60** |
| Soluble Lead (Pb) | ND | ND | ND | ND | ND | **90** |
| Soluble Mercury (Hg) | ND | ND | ND | ND | ND | **60** |
| Soluble 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 = 5 ppm)

*Remark:*
The total heavy metals screening results of Specimen No. 1, 2, 3, 4, 5, 6, 7 exceeded the soluble heavy metal limits, therefore a separate soluble analysis was conducted.

**DETAILED RESULTS:**

**CPSIA Section 106 & ASTM F963-17 Toy Safety, Clause 4.3.5 Soluble Elements in Paints and Similar Surface Coatings**

Test Method: ASTM F963-17 Clause 8.3.2
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry and/or Inductively Coupled Plasma-Mass Spectrometry

| Specimen No. | 6 | 7 | --- | --- | --- | **Soluble Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Soluble Antimony (Sb) | ND | ND | --- | --- | --- | **60** |
| Soluble Arsenic (As) | ND | ND | --- | --- | --- | **25** |
| Soluble Barium (Ba) | 250 | ND | --- | --- | --- | **1000** |
| Soluble Cadmium (Cd) | ND | ND | --- | --- | --- | **75** |
| Soluble Chromium (Cr) | ND | ND | --- | --- | --- | **60** |
| Soluble Lead (Pb) | ND | ND | --- | --- | --- | **90** |
| Soluble Mercury (Hg) | ND | ND | --- | --- | --- | **60** |
| Soluble Selenium (Se) | ND | ND | --- | --- | --- | **500** |
| **Conclusion** | PASS | PASS | --- | --- | --- | |

*Note:*
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 5 ppm)

*Remark:*
Test portion of Specimen No. 4 found on single sample was 88.6 mg.
Test portion of Specimen No. 6 found on single sample was 89.7 mg.

**DETAILED RESULTS:**

**ASTM F2923-20 Consumer Product Safety for Children's Jewelry, Clause 8 Soluble Elements in Paints and Similar Surface Coatings**

Test Method: ASTM F963-17 Clause 8.3.2
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry and/or Inductively Coupled Plasma-Mass Spectrometry

| Specimen No. | 1 | 2 | 3 | 4 | 5 | **Soluble Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Soluble Antimony (Sb) | ND | ND | ND | ND | ND | **60** |
| Soluble Arsenic (As) | ND | ND | ND | ND | ND | **25** |
| Soluble Barium (Ba) | ND | 29 | 19 | 5 | ND | **1000** |
| Soluble Cadmium (Cd) | ND | ND | ND | ND | ND | **75** |
| Soluble Chromium (Cr) | ND | ND | ND | ND | ND | **60** |
| Soluble Lead (Pb) | ND | ND | ND | ND | ND | **90** |
| Soluble Mercury (Hg) | ND | ND | ND | ND | ND | **60** |
| Soluble 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 = 5 ppm)

*Remark:*
The total heavy metals screening results of Specimen No. 1, 2, 3, 4, 5, 6, 7 exceeded the soluble heavy metal limits, therefore a separate soluble analysis was conducted.

**DETAILED RESULTS:**

**ASTM F2923-20 Consumer Product Safety for Children's Jewelry, Clause 8 Soluble Elements in Paints and Similar Surface Coatings**

Test Method: ASTM F963-17 Clause 8.3.2
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry and/or Inductively Coupled Plasma-Mass Spectrometry

| Specimen No. | 6 | 7 | --- | --- | --- | **Soluble Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Soluble Antimony (Sb) | ND | ND | --- | --- | --- | **60** |
| Soluble Arsenic (As) | ND | ND | --- | --- | --- | **25** |
| Soluble Barium (Ba) | 250 | ND | --- | --- | --- | **1000** |
| Soluble Cadmium (Cd) | ND | ND | --- | --- | --- | **75** |
| Soluble Chromium (Cr) | ND | ND | --- | --- | --- | **60** |
| Soluble Lead (Pb) | ND | ND | --- | --- | --- | **90** |
| Soluble Mercury (Hg) | ND | ND | --- | --- | --- | **60** |
| Soluble Selenium (Se) | ND | ND | --- | --- | --- | **500** |
| **Conclusion** | PASS | PASS | --- | --- | --- | |

*Note:*
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 5 ppm)

*Remark:*
Test portion of Specimen No. 4 found on single sample was 88.6 mg.
Test portion of Specimen No. 6 found on single sample was 89.7 mg.

**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 | --- | --- | **Total Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Total Lead (Pb) | ND | ND | ND | --- | --- | **90** |
| **Conclusion** | 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 | --- | --- | **Total Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Total Lead (Pb) | ND | ND | ND | --- | --- | **40** |
| **Conclusion** | 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 F963-11 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

| Specimen No. | 1+2+3 | 4+5 | 6+7 | --- | --- | **Total Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Total Cadmium (Cd) | ND | ND | ND | --- | --- | **75** |
| **Conclusion** | 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 | --- | --- | **Total** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | **Limit (ppm)** |
| Total Cadmium (Cd) | ND | ND | ND | --- | --- | **75** |
| **Conclusion** | 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 | --- | --- | **Soluble Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Total Cadmium (Cd) | ND | ND | ND | --- | --- | **75** |
| **Conclusion** | 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 | --- | **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 | --- | **0.1** |
| Benzyl butyl phthalate (BBP) | 85-68-7 | ND | ND | ND | --- | **0.1** |
| Di-(2-ethylhexyl) phthalate (DEHP) | 117-81-7 | ND | ND | ND | --- | **0.1** |
| Diisononyl phthalate (DINP) | 28553-12-0<br>68515-48-0 | ND | ND | ND | --- | **0.1** |
| Diisodecyl phthalate (DIDP) | 26761-40-0<br>68515-49-1 | ND | ND | ND | --- | **0.1** |
| Di-n-hexyl phthalate (DnHP) | 84-75-3 | ND | ND | ND | --- | **0.1** |
| | **Conclusion** | 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:**

**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 | --- | **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 | --- | **0.1** |
| Benzyl butyl phthalate (BBP) | 85-68-7 | ND | ND | ND | --- | **0.1** |
| Di-(2-ethylhexyl) phthalate (DEHP) | 117-81-7 | ND | ND | ND | --- | **0.1** |
| Diisononyl phthalate (DINP) | 28553-12-0<br>68515-48-0 | ND | ND | ND | --- | **0.1** |
| Di-n-hexyl phthalate (DHEXP / DnHP) | 84-75-3 | ND | ND | ND | --- | **0.1** |
| Dicyclohexyl phthalate (DCHP) | 84-61-7 | ND | ND | ND | --- | **0.1** |
| Diisobutyl phthalate (DIBP) | 84-69-5 | ND | ND | ND | --- | **0.1** |
| Di-n-pentyl phthalate (DPENP) | 131-18-0 | ND | ND | ND | --- | **0.1** |
| | **Conclusion** | 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. | | 1+2+3 | 4+5 | 6+7 | --- | **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 | --- | **0.1** |
| Benzyl butyl phthalate (BBP) | 85-68-7 | ND | ND | ND | --- | **0.1** |
| Di-(2-ethylhexyl) phthalate (DEHP) | 117-81-7 | ND | ND | ND | --- | **0.1** |
| Di-n-octyl phthalate (DnOP) | 117-84-0 | ND | ND | ND | --- | **0.1** |
| Diisononyl phthalate (DINP) | 28553-12-0<br>68515-48-0 | ND | ND | ND | --- | **0.1** |
| Diisodecyl phthalate (DIDP) | 26761-40-0<br>68515-49-1 | ND | ND | ND | --- | **0.1** |
| | Sum | ND | ND | ND | --- | **0.1** |
| | **Conclusion** | 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:**

**Canadian Toys Regulations SOR/2011-17 as Amended, Item 23 – Leachable Elements in Paints and Surface Coatings**

Test Method: Health Canada Method C-03 (Effective 2018-08-01)
Analytical Method: Inductively Coupled Plasma- Optical Emission Spectrometry

| Specimen No. | 1 | 2 | 3 | 4 | 5 | **Leachable Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Leachable Antimony (Sb) | ND | ND | ND | ND | ND | **1000** |
| Leachable Arsenic (As) | ND | ND | ND | ND | ND | **1000** |
| Leachable Barium (Ba) | ND | ND | ND | ND | ND | **1000** |
| Leachable Cadmium (Cd) | ND | ND | ND | ND | ND | **1000** |
| Leachable 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 = 50 ppm)

*Remark:*
The results of total elements screening of Specimen No.1, 2, 3, 4, 5, 6, 7 exceeded the limits of leachable elements, therefore a separate analysis of leachable elements was conducted.

**DETAILED RESULTS:**

**Canadian Toys Regulations SOR/2011-17 as Amended, Item 23 – Leachable Elements in Paints and Surface Coatings**

Test Method: Health Canada Method C-03 (Effective 2018-08-01)
Analytical Method: Inductively Coupled Plasma- Optical Emission Spectrometry

| Specimen No. | 6 | 7 | --- | --- | --- | **Leachable Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Leachable Antimony (Sb) | ND | ND | --- | --- | --- | **1000** |
| Leachable Arsenic (As) | ND | ND | --- | --- | --- | **1000** |
| Leachable Barium (Ba) | 250 | ND | --- | --- | --- | **1000** |
| Leachable Cadmium (Cd) | ND | ND | --- | --- | --- | **1000** |
| Leachable Selenium (Se) | ND | ND | --- | --- | --- | **1000** |
| **Conclusion** | PASS | PASS | --- | --- | --- | |

*Note:*
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 50 ppm)

**DETAILED RESULTS:**

**Canadian Toys Regulations SOR/2011-17 as Amended, Item 23 –**
**Total Lead and Mercury in Paints 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 | --- | --- | **Total Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Total Lead (Pb) | ND | ND | ND | --- | --- | **90** |
| Total Mercury (Hg) | ND | ND | ND | --- | --- | **10** |
| **Conclusion** | 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:**

**Canadian Surface Coating Materials Regulations SOR/2016-193, Total Lead in Stickers, Films and 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 | --- | --- | **Total Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Total Lead (Pb) | ND | ND | ND | --- | --- | **90** |
| **Conclusion** | 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 F963-17 Clause 8.3.1
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry

| Specimen No. | 1+2+3 | 4+5 | 6+7 | --- | --- | **Total Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Total Mercury (Hg) | ND | ND | ND | --- | --- | **10** |
| **Conclusion** | 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, Soluble Elements from Toys and School Supplies**

Test Method: ASTM F963-17 Clause 8.3.2
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry and/or Inductively Coupled Plasma-Mass Spectrometry

| Specimen No. | 1 | 2 | 3 | 4 | 5 | **Soluble Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Soluble Antimony (Sb) | ND | ND | ND | ND | ND | **60** |
| Soluble Arsenic (As) | ND | ND | ND | ND | ND | **25** |
| Soluble Barium (Ba) | ND | 29 | 19 | 5 | ND | **1000** |
| Soluble Cadmium (Cd) | ND | ND | ND | ND | ND | **75** |
| Soluble Chromium (Cr) | ND | ND | ND | ND | ND | **60** |
| Soluble Lead (Pb) | ND | ND | ND | ND | ND | **90** |
| Soluble Mercury (Hg) | ND | ND | ND | ND | ND | **60** |
| Soluble 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 = 5 ppm)

*Remark:*
The total heavy metals screening results of Specimen No. 1, 2, 3, 4, 5, 6, 7 exceeded the soluble heavy metal limits, therefore a separate soluble analysis was conducted.

**DETAILED RESULTS:**

**Mexican Environmental Health NOM-252-SSA1-2011, Soluble Elements from Toys and School Supplies**

Test Method: ASTM F963-17 Clause 8.3.2
Analytical Method: Inductively Coupled Plasma-Optical Emission Spectrometry and/or Inductively Coupled Plasma-Mass Spectrometry

| Specimen No. | 6 | 7 | --- | --- | --- | **Soluble Limit (ppm)** |
|---|---|---|---|---|---|---|
| Test Item | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | Result (ppm) | |
| Soluble Antimony (Sb) | ND | ND | --- | --- | --- | **60** |
| Soluble Arsenic (As) | ND | ND | --- | --- | --- | **25** |
| Soluble Barium (Ba) | 250 | ND | --- | --- | --- | **1000** |
| Soluble Cadmium (Cd) | ND | ND | --- | --- | --- | **75** |
| Soluble Chromium (Cr) | ND | ND | --- | --- | --- | **60** |
| Soluble Lead (Pb) | ND | ND | --- | --- | --- | **90** |
| Soluble Mercury (Hg) | ND | ND | --- | --- | --- | **60** |
| Soluble Selenium (Se) | ND | ND | --- | --- | --- | **500** |
| **Conclusion** | PASS | PASS | --- | --- | --- | |

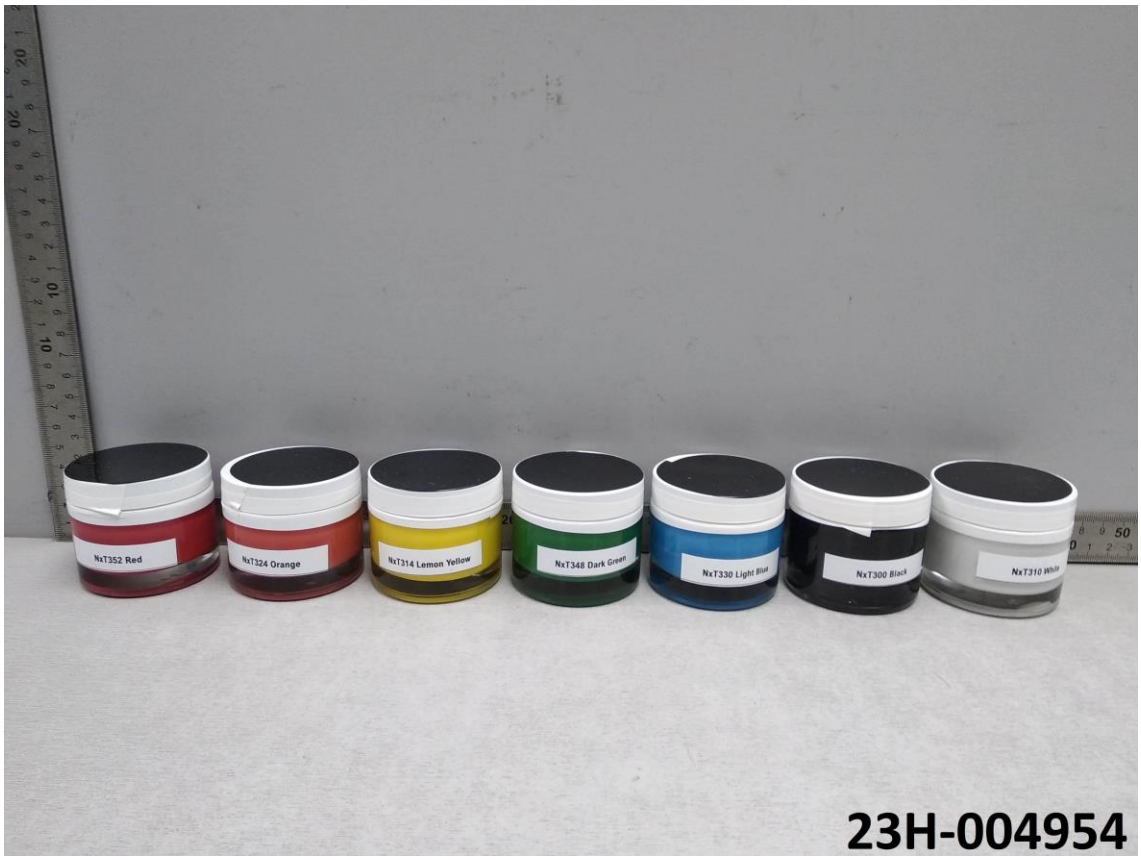
*Note:*
ppm (Parts per million) = mg/kg (Milligrams per kilogram)
LT = Less than
ND = Not detected (Reporting Limit = 5 ppm)

*Remark:*
Test portion of Specimen No. 4 found on single sample was 88.6 mg.
Test portion of Specimen No. 6 found on single sample was 89.7 mg.

**SPECIMEN DESCRIPTION:**

| Specimen No. | Specimen Description | Location |
|---|---|---|
| 1 | Black ink | Ink NxT 300 |
| 2 | White ink | Ink NxT 310 |
| 3 | Yellow ink | Ink NxT 314 |
| 4 | Orange ink | Ink NxT 324 |
| 5 | Blue ink | Ink NxT 330 |
| 6 | Green ink | Ink NxT 348 |
| 7 | Red ink | Ink NxT 352 |

**SAMPLE PHOTO:**




-End Report-