# Test Report No.: 70.452.22.13061.05

## Date: 2023-01-18

Greater China

| | |
|---|---|
| **Applicant:** | HAPE INTERNATIONAL (NINGBO) LTD.<br>HAPPY ARTS&CRAFTS(NINGBO)CO.,LTD |
| **Address:** | 9-27 NANHAI ROAD, DAGANG INDUSTRIAL CITY, BEILUN,NINGBO,CHINA PC:315800 |
| **Product Name:** | Dot Markers, Set of 8 |
| **Model No:** | 844271 |
| **Receipt Date of Sample:** | 2022-09-08 |
| **Date of Testing:** | From 2022-09-08 to 2022-09-29 |
| **Sample Submitted:** | The sample(s) was (were) submitted by applicant and identified. |
| **Test Result:** | Refer to the data listed in following pages |

| Test Item | Conclusion |
|---|---|
| 1. **EN 71-1:2014+A1:2018 Mechanical and Physical Properties** | **Pass** |
| 2. **EN 71-2:2020 Flammability** | **Pass** |
| 3. **EN 71-3:2019+A1:2021- Migration of certain elements** | **Pass** |
| 4. **Total Lead Content Requirement in Annex XVII, Item 63 of the REACH Regulation(EC) No 1907/2006 with its Amendments** | **Pass** |
| 5. **Phthalates Content in Annex XVII Items 51 and 52 of the REACH Regulation (EC) No 1907/2006 with its Amendments** | **Pass** |
| 6. **ISO 11540:2021 Writing and marking instruments - Specification for caps to reduce the risk of asphyxiation** | **Pass** |

Remarks: 1. MDL = Method Detection Limit
2. ND = Not Detected (<MDL)
3. ≤ Less than
4. 1 mg/kg = 1 ppm = 0.0001%
5. NA=Not Applicable
6. The test results are transferred from report 70.452.22.13061.01

**TÜV SÜD Certification and Testing (China) Co., Ltd. Shanghai Branch**

**Testing Center**

**Prepared by:**

**Jenny Yao**
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**Authorized by:**

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Note:

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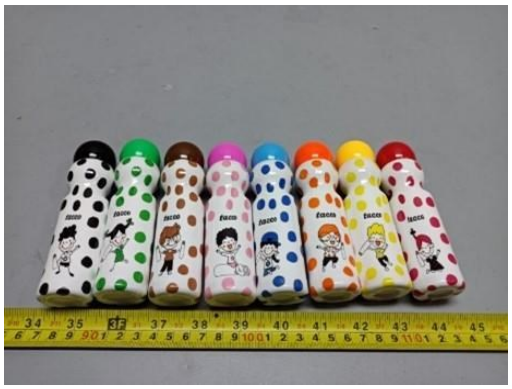
(4) Disclaimer Measurement Uncertainty:
Unless otherwise agreed upon, Pass or Fail verdicts are given based on the measured values without any considerations of measurement uncertainties.
Please note, every test method has a measurement uncertainty which has been evaluated by the laboratory according to ISO/IEC 17025 requirements. By taking measurement uncertainties into account it might happen that measured values can neither be assessed as Pass nor as Fail.

**Description of Tested Subject:**

| Sample | Description | Photo |
|---|---|---|
| 001 | Dot Markers, Set of 8 |  |

| T. No | Sample | Description |
|---|---|---|
| T1 | 001 | Dot Markers, Set of 8 |
| T2 | 002 | White plastic (shell) |
| T3 | 003 | White foam (nib) |
| T4 | 004 | Transparent plastic (nib) |
| T5 | 005 | Black plastic (cap) |
| T6 | 006 | Green plastic (cap) |
| T7 | 007 | Brown plastic (cap) |
| T8 | 008 | Pink plastic (cap) |
| T9 | 009 | Blue plastic (cap) |
| T10 | 010 | Orange plastic (cap) |
| T11 | 011 | Yellow plastic (cap) |
| T12 | 012 | Red plastic (cap) |
| T13 | 013 | White soft plastic with black printing (film) |
| T14 | 014 | White soft plastic with green printing (film) |
| T15 | 015 | White soft plastic with brown printing (film) |
| T16 | 016 | White soft plastic with pink printing (film) |
| T17 | 017 | White soft plastic with blue printing (film) |
| T18 | 018 | White soft plastic with orange printing (film) |
| T19 | 019 | White soft plastic with yellow printing (film) |
| T20 | 020 | White soft plastic with red printing (film) |
| T21 | 021 | Black liquid ink |
| T22 | 022 | Green liquid ink |
| T23 | 023 | Brown liquid ink |
| T24 | 024 | Pink liquid ink |
| T25 | 025 | Blue liquid ink |
| T26 | 026 | Orange liquid ink |
| T27 | 027 | Yellow liquid ink |
| T28 | 028 | Red liquid ink |

**Test Result(s):**

**1. EN 71-1:2014+A1:2018 Mechanical and Physical Properties**

| Sample | 001 |
|---|---|
| Labelled age range | 3+ |
| Requested age range | 3+ |
| Age range in testing | Over 3 years |

| Clause | Requirement | Evaluation |
|---|---|---|
| 4 | General Requirements | -- |
| 4.1 | Material cleanliness | P |
| 4.7 | Edges | P |
| 4.8 | Points and metallic wires | P |
| 7 | Warnings, markings and instructions for use | -- |
| 7.1 | General | P |
| 7.2 | Toys not intended for children under 36 months | P |

**Abbreviation:**
P = Pass, F = Fail, NA = Not Applicable, NR = Not Requested.

**Note:**
Only applicable clauses were shown.

Labelling requirement (Washing/Cleaning instruction, CE marking, Importer/Manufacturer name and address, Product identification) according to the Directive 2009/48/EC-Safety of toys.

| | On Package | On Product |
|---|---|---|
| **CE Marking** | Present | Absent |
| **Importer's/Manufacturer's Name and Address (EU)** | Absent | Absent |
| **Product Identification** | Present | Absent |
| The following marking shall be fulfilled.<br>- The CE marking is subject to the general principles set out in Article 30 of Regulation (EC) No 765/2008. The CE marking shall be affixed visibly, legibly and indelibly to the toy, to an affixed label to the packaging, or to the counter display.<br>- The manufacturer's name and address, importer's name and address in the EU shall be indicated on the toy or, where that is not possible, on its packaging or in a document accompanying the toy.<br>- The toys shall bear a type, batch, serial or model number or other element allowing their identification, or where the size or nature of the toy does not allow it, that the required information is provided on the packaging or in a document accompanying the toy. | | |

| | On Package | On Product |
|---|---|---|
| **Washing/Cleaning instruction** | Not Applicable | Not Applicable |
| A toy intended for use by children under 36 months must be designed and manufactured in such a way that it can be cleaned. A textile toy must, to this end, be washable, except if it contains a mechanism that may be damaged if soak washed. The manufacturer should, if applicable, provide instructions on how the toy has to be cleaned. | | |

## 2. EN 71-2:2020 Flammability

| Sample | 001 |
|---|---|

| Clause | Requirement | Evaluation |
|---|---|---|
| 4.1 | General Requirement | P |

**Abbreviation:**
P = Pass, F = Fail, NA = Not Applicable, NR = Not Requested.

**Note:**
Only applicable clauses were shown.

## 3. EN 71-3:2019+A1:2021- Migration of certain elements

Test with reference to EN 71-3:2019+A1:2021, determination by ICP-MS.

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 002 | 003 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | <0.04 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | 5.70 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 005 | 006 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | <0.04 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | <2.50 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 007 | 008 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | <0.04 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | <2.50 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 009 | 010 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | 1.06 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | <2.50 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 011 | 012 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | <0.04 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | <2.50 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 013 | 014 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | <0.04 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | <2.50 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 015 | 016 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | <0.04 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | <2.50 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 017 | 018 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | <0.04 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | <2.50 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in scraped-off toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 019 | 020 |
| Soluble Aluminum | 5.00 | 28130 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Arsenic | 5.00 | 47 | <5.00 | <5.00 |
| Soluble Barium | 5.00 | 18750 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Cadmium | 5.00 | 17 | <5.00 | <5.00 |
| Soluble Chromium III | 0.04 | 460 | <0.04 | <0.04 |
| Soluble Chromium VI | 0.04 | 0.053 | <0.04 | <0.04 |
| Soluble Cobalt | 5.00 | 130 | <5.00 | <5.00 |
| Soluble Copper | 5.00 | 7700 | <5.00 | <5.00 |
| Soluble Lead | 5.00 | 23 | <5.00 | <5.00 |
| Soluble Manganese | 5.00 | 15000 | <5.00 | <5.00 |
| Soluble Mercury | 5.00 | 94 | <5.00 | <5.00 |
| Soluble Nickel | 5.00 | 930 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 460 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 56000 | <5.00 | <5.00 |
| Soluble Tin | 2.50 | 180000 | <2.50 | <2.50 |
| Organic Tin | 7.50 | 12 | <7.50 | <7.50 |
| Soluble Zinc | 5.00 | 46000 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in liquid or sticky toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 021 | 022 |
| Soluble Aluminum | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 11.3 | <5.00 | <5.00 |
| Soluble Arsenic | 0.25 | 0.9 | <0.25 | <0.25 |
| Soluble Barium | 5.00 | 375 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 300 | <5.00 | <5.00 |
| Soluble Cadmium | 0.25 | 0.3 | <0.25 | <0.25 |
| Soluble Chromium III | 0.005 | 9.4 | 8.75 | 0.032 |
| Soluble Chromium VI | 0.005 | 0.005 | <0.005 | <0.005 |
| Soluble Cobalt | 0.25 | 2.6 | <0.25 | <0.25 |
| Soluble Copper | 5.00 | 156 | 6.05 | <5.00 |
| Soluble Lead | 0.25 | 0.5 | <0.25 | <0.25 |
| Soluble Manganese | 5.00 | 300 | <5.00 | <5.00 |
| Soluble Mercury | 0.25 | 1.9 | <0.25 | <0.25 |
| Soluble Nickel | 5.00 | 18.8 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 9.4 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 1125 | <5.00 | <5.00 |
| Soluble Tin | 0.05 | 3750 | <0.05 | <0.05 |
| Organic Tin | 0.13 | 0.2 | <0.13 | <0.13 |
| Soluble Zinc | 5.00 | 938 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in liquid or sticky toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 023 | 024 |
| Soluble Aluminum | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 11.3 | <5.00 | <5.00 |
| Soluble Arsenic | 0.25 | 0.9 | <0.25 | <0.25 |
| Soluble Barium | 5.00 | 375 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 300 | <5.00 | <5.00 |
| Soluble Cadmium | 0.25 | 0.3 | <0.25 | <0.25 |
| Soluble Chromium III | 0.005 | 9.4 | 1.00 | 0.025 |
| Soluble Chromium VI | 0.005 | 0.005 | <0.005 | <0.005 |
| Soluble Cobalt | 0.25 | 2.6 | <0.25 | <0.25 |
| Soluble Copper | 5.00 | 156 | <5.00 | <5.00 |
| Soluble Lead | 0.25 | 0.5 | <0.25 | <0.25 |
| Soluble Manganese | 5.00 | 300 | <5.00 | <5.00 |
| Soluble Mercury | 0.25 | 1.9 | <0.25 | <0.25 |
| Soluble Nickel | 5.00 | 18.8 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 9.4 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 1125 | <5.00 | <5.00 |
| Soluble Tin | 0.05 | 3750 | <0.05 | <0.05 |
| Organic Tin | 0.13 | 0.2 | <0.13 | <0.13 |
| Soluble Zinc | 5.00 | 938 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in liquid or sticky toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 025 | 026 |
| Soluble Aluminum | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 11.3 | <5.00 | <5.00 |
| Soluble Arsenic | 0.25 | 0.9 | <0.25 | <0.25 |
| Soluble Barium | 5.00 | 375 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 300 | <5.00 | <5.00 |
| Soluble Cadmium | 0.25 | 0.3 | <0.25 | <0.25 |
| Soluble Chromium III | 0.005 | 9.4 | <0.005 | 0.032 |
| Soluble Chromium VI | 0.005 | 0.005 | <0.005 | <0.005 |
| Soluble Cobalt | 0.25 | 2.6 | <0.25 | <0.25 |
| Soluble Copper | 5.00 | 156 | <5.00 | <5.00 |
| Soluble Lead | 0.25 | 0.5 | <0.25 | <0.25 |
| Soluble Manganese | 5.00 | 300 | <5.00 | <5.00 |
| Soluble Mercury | 0.25 | 1.9 | <0.25 | <0.25 |
| Soluble Nickel | 5.00 | 18.8 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 9.4 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 1125 | <5.00 | <5.00 |
| Soluble Tin | 0.05 | 3750 | <0.05 | <0.05 |
| Organic Tin | 0.13 | 0.2 | <0.13 | <0.13 |
| Soluble Zinc | 5.00 | 938 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

| Parameter | MDL [mg/kg] | Limit in liquid or sticky toy materials [mg/kg] | Result(s) [mg/kg] | |
|---|---|---|---|---|
| | | | 027 | 028 |
| Soluble Aluminum | 5.00 | 560 | <5.00 | <5.00 |
| Soluble Antimony | 5.00 | 11.3 | <5.00 | <5.00 |
| Soluble Arsenic | 0.25 | 0.9 | <0.25 | <0.25 |
| Soluble Barium | 5.00 | 375 | <5.00 | <5.00 |
| Soluble Boron | 5.00 | 300 | <5.00 | <5.00 |
| Soluble Cadmium | 0.25 | 0.3 | <0.25 | <0.25 |
| Soluble Chromium III | 0.005 | 9.4 | <0.005 | 0.095 |
| Soluble Chromium VI | 0.005 | 0.005 | <0.005 | <0.005 |
| Soluble Cobalt | 0.25 | 2.6 | <0.25 | <0.25 |
| Soluble Copper | 5.00 | 156 | <5.00 | <5.00 |
| Soluble Lead | 0.25 | 0.5 | <0.25 | <0.25 |
| Soluble Manganese | 5.00 | 300 | <5.00 | <5.00 |
| Soluble Mercury | 0.25 | 1.9 | <0.25 | <0.25 |
| Soluble Nickel | 5.00 | 18.8 | <5.00 | <5.00 |
| Soluble Selenium | 5.00 | 9.4 | <5.00 | <5.00 |
| Soluble Strontium | 5.00 | 1125 | <5.00 | <5.00 |
| Soluble Tin | 0.05 | 3750 | <0.05 | <0.05 |
| Organic Tin | 0.13 | 0.2 | <0.13 | <0.13 |
| Soluble Zinc | 5.00 | 938 | <5.00 | <5.00 |
| **Conclusion** | | | **Pass** | **Pass** |

**Remark:**

1. The test results of the sample 021~028 is transferred from sample 002~009 of report 70.452.22.12522.01
2. Mass of trace amount of sample 013 is 31.00 mg, sample 014 is 31.00 mg, sample 015 is 36.00 mg, sample 016 is 35.00 mg, sample 017 is 24.00 mg, sample 018 is 30.00 mg, sample 019 is 33.00 mg

## 4. Total Lead Content Requirement in Annex XVII, Item 63 of the REACH Regulation(EC) No 1907/2006 with its Amendments

Test with reference to in house method, determination by ICP-OES/ICP-MS.

| Sample | Unit | MDL | Limit | Result(s) | Conclusion |
|---|---|---|---|---|---|
| **002+004+005** | mg/kg | 10 | 500 | <10.0 | **Pass** |
| **003** | mg/kg | 10 | 500 | <10.0 | **Pass** |
| **006+007+008** | mg/kg | 10 | 500 | <10.0 | **Pass** |
| **009+010+011** | mg/kg | 10 | 500 | <10.0 | **Pass** |
| **012** | mg/kg | 10 | 500 | <10.0 | **Pass** |
| **013+014** | mg/kg | 10 | 500 | <10.0 | **Pass** |
| **015+016** | mg/kg | 10 | 500 | <10.0 | **Pass** |
| **017+018** | mg/kg | 10 | 500 | <10.0 | **Pass** |
| **019+020** | mg/kg | 10 | 500 | <10.0 | **Pass** |

**5. Phthalates Content in Annex XVII Items 51 and 52 of the REACH Regulation (EC) No 1907/2006 with its Amendments**

Test with reference to in house method, solvent extraction and determination by GC-MS.

| Compound | CAS No. | Unit | MDL | Limit | Result(s) | |
|---|---|---|---|---|---|---|
| | | | | | 002+004+005 | 003 |
| Bis (2-ethylhexyl) phthalate, DEHP | 117-81-7 | % | 0.005 | - | <0.005 | <0.005 |
| Dibutyl phthalate, DBP | 84-74-2 | % | 0.005 | - | <0.005 | <0.005 |
| Benzyl butyl phthalate, BBP | 85-68-7 | % | 0.005 | - | <0.005 | <0.005 |
| Diisobutylphthalate, DIBP | 84-69-5 | % | 0.005 | - | <0.005 | <0.005 |
| **Sum of DBP, BBP, DEHP, DIBP** | - | % | 0.005 | **0.1** | **<0.005** | **<0.005** |
| Di-isononyl phthalate, DINP | 28553-12-0 , 68515-48-0 | % | 0.005 | - | <0.005 | <0.005 |
| Di-isodecyl phthalate, DIDP | 26761-40-0 , 68515-49-1 | % | 0.005 | - | <0.005 | <0.005 |
| Di-n-octyl phthalate, DNOP | 117-84-0 | % | 0.005 | - | <0.005 | <0.005 |
| **Sum of DINP, DIDP, DNOP** | - | % | 0.005 | **0.1** | **<0.005** | **<0.005** |
| **Conclusion** | | | | | **Pass** | **Pass** |

| Compound | CAS No. | Unit | MDL | Limit | Result(s) | |
|---|---|---|---|---|---|---|
| | | | | | 006+007+008 | 009+010+011 |
| Bis (2-ethylhexyl) phthalate, DEHP | 117-81-7 | % | 0.005 | - | <0.005 | <0.005 |
| Dibutyl phthalate, DBP | 84-74-2 | % | 0.005 | - | <0.005 | <0.005 |
| Benzyl butyl phthalate, BBP | 85-68-7 | % | 0.005 | - | <0.005 | <0.005 |
| Diisobutylphthalate, DIBP | 84-69-5 | % | 0.005 | - | <0.005 | <0.005 |
| **Sum of DBP, BBP, DEHP, DIBP** | - | % | 0.005 | **0.1** | **<0.005** | **<0.005** |
| Di-isononyl phthalate, DINP | 28553-12-0 , 68515-48-0 | % | 0.005 | - | <0.005 | <0.005 |
| Di-isodecyl phthalate, DIDP | 26761-40-0 , 68515-49-1 | % | 0.005 | - | <0.005 | <0.005 |
| Di-n-octyl phthalate, DNOP | 117-84-0 | % | 0.005 | - | <0.005 | <0.005 |
| **Sum of DINP, DIDP, DNOP** | - | % | 0.005 | **0.1** | **<0.005** | **<0.005** |
| **Conclusion** | | | | | **Pass** | **Pass** |

| Compound | CAS No. | Unit | MDL | Limit | Result(s) | |
|---|---|---|---|---|---|---|
| | | | | | 012 | 013+014 |
| Bis (2-ethylhexyl) phthalate, DEHP | 117-81-7 | % | 0.005 | - | <0.005 | <0.005 |
| Dibutyl phthalate, DBP | 84-74-2 | % | 0.005 | - | <0.005 | <0.005 |
| Benzyl butyl phthalate, BBP | 85-68-7 | % | 0.005 | - | <0.005 | <0.005 |
| Diisobutylphthalate, DIBP | 84-69-5 | % | 0.005 | - | <0.005 | <0.005 |
| **Sum of DBP, BBP, DEHP, DIBP** | - | % | 0.005 | **0.1** | **<0.005** | **<0.005** |
| Di-isononyl phthalate, DINP | 28553-12-0 , 68515-48-0 | % | 0.005 | - | <0.005 | <0.005 |
| Di-isodecyl phthalate, DIDP | 26761-40-0 , 68515-49-1 | % | 0.005 | - | <0.005 | <0.005 |
| Di-n-octyl phthalate, DNOP | 117-84-0 | % | 0.005 | - | <0.005 | <0.005 |
| **Sum of DINP, DIDP, DNOP** | - | % | 0.005 | **0.1** | **<0.005** | **<0.005** |
| **Conclusion** | | | | | **Pass** | **Pass** |

| Compound | CAS No. | Unit | MDL | Limit | Result(s) | |
|---|---|---|---|---|---|---|
| | | | | | 015+016 | 017+018 |
| Bis (2-ethylhexyl) phthalate, DEHP | 117-81-7 | % | 0.005 | - | <0.005 | <0.005 |
| Dibutyl phthalate, DBP | 84-74-2 | % | 0.005 | - | <0.005 | <0.005 |
| Benzyl butyl phthalate, BBP | 85-68-7 | % | 0.005 | - | <0.005 | <0.005 |
| Diisobutylphthalate, DIBP | 84-69-5 | % | 0.005 | - | <0.005 | <0.005 |
| **Sum of DBP, BBP, DEHP, DIBP** | - | % | 0.005 | **0.1** | **<0.005** | **<0.005** |
| Di-isononyl phthalate, DINP | 28553-12-0 , 68515-48-0 | % | 0.005 | - | <0.005 | <0.005 |
| Di-isodecyl phthalate, DIDP | 26761-40-0 , 68515-49-1 | % | 0.005 | - | <0.005 | <0.005 |
| Di-n-octyl phthalate, DNOP | 117-84-0 | % | 0.005 | - | <0.005 | <0.005 |
| **Sum of DINP, DIDP, DNOP** | - | % | 0.005 | **0.1** | **<0.005** | **<0.005** |
| **Conclusion** | | | | | **Pass** | **Pass** |

| Compound | CAS No. | Unit | MDL | Limit | Result(s) |
|---|---|---|---|---|---|
| | | | | | 019+020 |
| Bis (2-ethylhexyl) phthalate, DEHP | 117-81-7 | % | 0.005 | - | <0.005 |
| Dibutyl phthalate, DBP | 84-74-2 | % | 0.005 | - | <0.005 |
| Benzyl butyl phthalate, BBP | 85-68-7 | % | 0.005 | - | <0.005 |
| Diisobutylphthalate, DIBP | 84-69-5 | % | 0.005 | - | <0.005 |
| **Sum of DBP, BBP, DEHP, DIBP** | - | % | 0.005 | **0.1** | **<0.005** |
| Di-isononyl phthalate, DINP | 28553-12-0 , 68515-48-0 | % | 0.005 | - | <0.005 |
| Di-isodecyl phthalate, DIDP | 26761-40-0 , 68515-49-1 | % | 0.005 | - | <0.005 |
| Di-n-octyl phthalate, DNOP | 117-84-0 | % | 0.005 | - | <0.005 |
| **Sum of DINP, DIDP, DNOP** | - | % | 0.005 | **0.1** | **<0.005** |
| **Conclusion** | | | | | **Pass** |

## 6. ISO 11540:2021 Writing and marking instruments - Specification for caps to reduce the risk of asphyxiation(for sample 001)

| Clause | Requirements | Result | Verdict |
|---|---|---|---|
| **4.1** | **General** | | |
| | Caps shall conform to at least one of the following: 4.2 or 4.3. | Conform to 4.2 | P |
| **4.2** | **Cap size** | | |
| | When a cap is introduced with its main axis perpendicular to a $16^{+0.05}_{-0.00}$ mm diameter ring gauge of at least 19 mm thickness, and part of the cap enters the gauge, at least 5 mm of the length shall not enter under its own weight. | 22.52 mm of the length can't enter the gauge under its own weight | P |
| **4.3** | **Ventilated caps air flow** | | |
| | When tested in accordance with Annex A, caps shall permit a minimum air flow of 8 l/min, measured at room temperature, with a maximum pressure drop of 1.33 kPa. | Conform to 4.2 | - |
| **5** | **Identification** | | |
| | Writing or marking instruments, or their packaging or accompanying documentation, shall be legibly and indelibly identified with the name, trademark, or other means of identifying the manufacturer and/or supplier. | Found on the package | P |

**Abbreviation:**
P = Pass, F = Fail, NA = Not Applicable, NR = Not Requested.

-End of Test Report-