



Hong Kong Government Recognized Service Supplier
Approved Laboratory of The Woolmark Company

Members of :
American National Standards Institute Hong Kong Association for Testing, Inspection and Certification Limited
American Society for Testing and Materials Hong Kong Toys Council
British Standards Institute

Test Report

Number: HKGH01100003

Applicant: MONTORY ENTERPRISES LIMITED
2912 1ST AVENUE
CASTLEGAR, BRITISH COLUMBIA
CANADA, V1N 3M2

Date: Feb 02, 2011

Sample Description:
Four (4) sets of submitted sample said to be :
Item Name : **Swimava Baby Ring Set**

Tests conducted:
As requested by the applicant, refer to attached page(s) for details.

Conclusion:

| <u>Tested Sample</u> | <u>Standard</u> | <u>Result</u> |
|---|--|----------------|
| Tested components of submitted sample sets | Japan Toy Safety Standard Part 3 : 2002 (Tenth Edition 2010) clause 1.1 for coloring matters test on colored materials | Pass |
| | Japan Toy Safety Standard Part 3 : 2002 (Tenth Edition 2010) clause 1.2 for chemical tests on polyvinyl chloride | Pass |
| | Japan Toy Safety Standard Part 3 : 2002 (Tenth Edition 2010) Clause 1.9.1 to 1.9.2 for chemical tests on synthetic resin mainly composed of polyvinyl chloride | Pass |
| | Japan Toy Safety Standard Part 3 : 2002 (Tenth Edition 2010) clause 1.4 for chemical tests on vinyl chloride resin coating | Pass |
| Tested component (1) of submitted sample sets | Japan Toy Safety Standard Part 3 : 2002 (Tenth Edition 2010) clause 1.5 for heavy metals content in paint | Pass |
| Tested component (2) of submitted sample sets | Japan Toy Safety Standard Part 3 : 2002 (Tenth Edition 2010) clause 1.5 for heavy metals content in paint | Not Applicable |

For and on behalf of :
Intertek Testing Services HK Ltd.

Karen S.C. Ng
General Manager





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Tests Conducted

1 Chemical Properties Analysis on Coloring Matters

As per Japan Toy Safety Standard 2002 (Tenth Edition 2010) Part 3 Chemical Properties clause 1.1

| <u>Test items</u> | <u>(1)</u> | <u>(2)</u> | <u>Result</u> <u>(3)</u> | <u>(4)</u> | <u>(5)</u> | <u>Requirement</u> |
|-----------------------------|------------|------------|-----------------------------|------------|-------------|--------------------|
| Running of coloring matters | NR | NR | NR | NR | NR | NR |
| <u>Test items</u> | <u>(6)</u> | <u>(7)</u> | <u>Result</u> <u>(8)</u> | <u>(9)</u> | <u>(10)</u> | <u>Requirement</u> |
| Running of coloring matters | NR | NR | NR | NR | NR | NR |

Remark : NR = No running of coloring matters was observed.

Tested Components :

- (1) Transparent plastic sheet with coatings (bag, baby ring) (PVC).
- (2) Transparent plastic (handle of baby ring) (PVC).
- (3) Transparent plastic (valve) (PVC).
- (4) Silver colour metal (zipper slider, zipper puller, zipper end) (aluminum).
- (5) Pale blue plastic (zipper teeth) (nylon).
- (6) Blue woven (zipper tape) (nylon).
- (7) White plastic (buckle of baby ring) (POM).
- (8) Blue plastic (air pump) (PP).
- (9) Deep blue plastic (puller, mouth of air pump) (PP).
- (10) White paper card with coatings (instruction) (paper).

Date sample received : Dec 15, 2010
Testing period : Dec 15, 2010 to Dec 23, 2010





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2 Chemical Properties on Polyvinyl Chloride (excluding Vinyl Resin Coating)

As per Japan Toy Safety Standard 2002 (Tenth Edition 2010) Part 3 Chemical Properties clause 1.2.

| <u>Test Items</u> | <u>Result</u> (1) | <u>Requirement</u> PVC |
|---------------------------------------|----------------------|---------------------------|
| Consumption of potassium permanganate | <4 µg/ml | 50 µg/ml |
| Residue on evaporation | <4 µg/ml | 50 µg/ml |
| Heavy metals (As Lead) | NDS | NDS |
| Arsenic (As Arsenic (III) oxide) | NDS | NDS |
| Cadmium | <0.5 µg/ml | 0.5 µg/ml |

| <u>Test Items</u> | <u>Result</u> (2) | <u>Requirement</u> PVC |
|---------------------------------------|----------------------|---------------------------|
| Consumption of potassium permanganate | <4 µg/ml | 50 µg/ml |
| Residue on evaporation | <4 µg/ml | 50 µg/ml |
| Heavy metals (As Lead) | NDS | NDS |
| Arsenic (As Arsenic (III) oxide) | NDS | NDS |
| Cadmium | <0.5 µg/ml | 0.5 µg/ml |

| <u>Test Items</u> | <u>Result</u> (3) | <u>Requirement</u> PVC |
|---------------------------------------|----------------------|---------------------------|
| Consumption of potassium permanganate | <4 µg/ml | 50 µg/ml |
| Residue on evaporation | <4 µg/ml | 50 µg/ml |
| Heavy metals (As Lead) | NDS | NDS |
| Arsenic (As Arsenic (III) oxide) | NDS | NDS |
| Cadmium | <0.5 µg/ml | 0.5 µg/ml |

Remark : NDS = Color not deeper than comparison standard
 µg/ml = microgram per millilitre
 < = Less than

Tested Components :

- (1) Transparent PVC plastic sheet (bag, baby ring).
- (2) Transparent PVC plastic sheet (valve).
- (3) Transparent PVC plastic (handle of bag).

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Tests Conducted

3 Chemical Properties on Synthetic Resin Mainly Composed of Polyvinyl Chloride

As per Japan Toy Safety Standard 2002 (Tenth Edition 2010) Part 3 Chemical Properties Clause 2.10 to 2.10.3.

| | <u>Result (% w/w)</u> | | | <u>Requirement</u> |
|-------------------------------|-----------------------|------------|------------|--------------------|
| | <u>(1)</u> | <u>(2)</u> | <u>(3)</u> | |
| Dibutyl phthalate (DBP) | ND | ND | ND | ND |
| Diethylhexyl phthalate (DEHP) | ND | ND | ND | ND |
| Benzylbutyl phthalate (BBP) | ND | ND | ND | ND |

| | <u>Result (% w/w)</u> | | | <u>Requirement</u> |
|-----------------------------|-----------------------|------------|------------|--------------------|
| | <u>(1)</u> | <u>(2)</u> | <u>(3)</u> | |
| Diisononyl phthalate (DINP) | ND | ND | ND | ND |
| Di-n-octyl phthalate (DnOP) | ND | ND | ND | ND |
| Diisodecyl phthalate (DIDP) | ND | ND | ND | ND |

Remark : ND = Not detected

As requested by the applicant, the surface coatings were tested with the substrate for phthalate test. With the consideration of the dilution factor, the testing result may not represent the result of the individual coatings and substrate.

Tested Components :

- (1) Transparent PVC plastic sheet (valve).
- (2) Transparent PVC plastic sheet with coatings (bag, baby ring).
- (3) Transparent PVC plastic (handle of bag).

Date sample received : Dec 15, 2010 and Dec 25, 2010

Testing period : Dec 15, 2010 to Dec 28, 2010 and Jan 25, 2011 to Jan 26, 2011

4 Chemical Properties on Vinyl Chloride Resin Coating

As per Japan Toy Safety Standard 2002 (Tenth Edition 2010) Part 3 Chemical Properties clause 1.4.

| <u>Test Items</u> | <u>Result</u> | <u>Requirement</u> |
|---------------------------------------|---------------|--------------------|
| Consumption of potassium permanganate | <4 µg/ml | 50 µg/ml |
| Residue on evaporation | <4 µg/ml | 50 µg/ml |

Remark : µg/ml = microgram per millilitre
< = Less than

Component List : White with base PVC coatings on PVC plastic (logo of bag).

Date sample received : Dec 15, 2010

Testing period : Dec 15, 2010 to Dec 23, 2010





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5 Heavy Metals Content in Paint

As per Japan Toy Safety Standard 2002 (Tenth Edition 2010) Part 3 : Chemical Properties clause 1.5, acid extraction method was used and heavy metals content were determined by Inductively Coupled Argon Plasma Spectrometry.

| | <u>Result in mg/kg</u> | <u>Requirement</u> |
|--------------------|------------------------|--------------------|
| | (1) | mg/kg |
| Sol. Barium (Ba) | 84 | 1000 |
| Sol. Lead (Pb) | <5 | 90 |
| Sol. Cadmium (Cd) | <5 | 75 |
| Sol. Antimony (Sb) | <5 | 60 |
| Sol. Selenium (Se) | <5 | 500 |
| Sol. Chromium (Cr) | <5 | 60 |
| Sol. Mercury (Hg) | <5 | 60 |
| Sol. Arsenic (As) | <2.5 | 25 |

mg/kg = milligram per kilogram
Sol. = Soluble
< = Less than

Component List :

| | |
|------------------|---|
| PVC Coatings | √ |
| Non-PVC coatings | √ |

- (1) White with base PVC coatings on PVC plastic (logo of bag).
- (2)# Black coating on plastic (warning text).

: Since the sample weight of coating of the tested component was less than 10 mg, heavy metals content analysis were not tested.

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HKGH01100003-03

End of report

