

Test Report

Date : 2020-08-10
No. : SP20070111

Page 1 of 14

Applicant : Hayes Specialties Corporation
1761 East Genesee Saginaw, MI 48601-2407

Description of Samples : One (1) group of submitted samples said to be:
Item 16021 Die Cast Locomotive Train
Item 16114 Die Cast Helicopter- 3 Inch
Item 16116/17011 Die Cast Jet Fighter Plane
Item 16487/16920 Die Cast Car
Item 16589-Die Cast Race Car
Item 16590/16730/16732 Die Cast Car
COUNTRY OF ORIGIN: CHINA
AGE GRADING FOR APPLICANT: 3+

Date Samples Received : 2020-07-14

Date Tested : 2020-07-14 to 2020-07-22

Requirements
1. ASTM Standard Consumer Safety Specification For Toy Safety F 963-17 - physical and mechanical test(Apart from clause 7.1) - flammability test - heavy metal test
2. US Consumer Product Safety Improvement Act - Total Lead content in paint and surface coating in accordance with Sec. 101 (f) and 16 CFR 1303. - Total Lead content in substrate in accordance with Sec. 101(a). - Phthalates content in accordance with Sec 108 and 16 CFR 1307.
3. The Total Lead content requirements according to the California Proposition 65
4. The BBP, DBP, DEHP, DnHP, DINP and DIDP content requirements according to the California Proposition 65.
5. Total cadmium content requirements according to the California Proposition 65.
6. The Total Lead content requirements according to Illinois Public Act 095-1019
7. The Phthalates content requirements according to California Assembly Bill NO.1108
8. San Francisco Health Code - Phthalates content in accordance with Article 34, sec 34.2



HUANG Qinglai, Owen
Authorized Signatory



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Test Report

Date : 2020-08-10

Page 2 of 14

No. : SP20070111

The following test item(s) was/were performed on submitted sample(s) and/or components confirmed by applicant.

Item No.	Component Description
<u>Coating materials:</u>	
<u>1</u>	Coating: orange
<u>2</u>	Coating: light blue*4
<u>3</u>	Coating: yellow
<u>4</u>	Coating: red
<u>5</u>	Coating: gray
<u>6</u>	Coating: orange yellow
<u>7</u>	Coating: green
<u>8</u>	Coating: black
<u>9</u>	Coating: citrine
<u>10</u>	Coating: deep blue
<u>11</u>	Coating: deep purple
<u>12</u>	Coating: silver
<u>13</u>	Coating: iron
<u>14</u>	Coating: light green
<u>15</u>	Coating: white
<u>16</u>	Coating: gray brown
<u>17</u>	Coating: metallic blue
<u>18</u>	Coating: metallic green
<u>19</u>	Electroplated coating: gold
<u>20</u>	Electroplated coating: silver
<u>Plastic materials:</u>	
<u>21</u>	Body: black
<u>22</u>	Wheel: red
<u>23</u>	Base material: green
<u>24</u>	Lamp: transparent
<u>25</u>	Windows: transparent deep blue
<u>26</u>	Windows: transparent blue
<u>Rubber materials:</u>	
<u>27</u>	Tyre: black
<u>Metal materials:</u>	
<u>28</u>	Metal: silver
<u>29</u>	Screw: silver
<u>30</u>	Pole: silver
<u>Others materials:</u>	
<u>31</u>	Stickers: black with gold

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 3 of 14

Test Results:

1.ASTM Standard Consumer Safety Specification for Toy Safety F 963-17

AGE GRADING:

The sample did not contain an age grade; however, the applicant requested it be tested according to the age grade of 36 months and up.

AGE GRADING FOR TESTING:

36 months and up.

1.1 Mechanical and physical hazards of the submitted sample

Ref.: ASTM F 963-17

Applicable requirements before and after use and abuse testing:

<u>Applicable</u> <u>Section</u>	<u>Description</u>	<u>Result</u>
4	<u>Safety requirements</u>	----
4.1	Material Quality	Pass
4.2	Flammability	Pass* ¹
4.7	Accessible Edges	Pass
4.8	Projections	Pass
4.9	Accessible Points	Pass
4.11	Nails and Fasteners	Pass
4.17	Wheels, Tires, and Axles	Pass
4.18	Holes, clearance and Accessibility of Mechanisms	Pass
5	<u>Labeling Requirements</u>	----
5.2	Age grading labeling	* ²
7	<u>Producer's Markings</u>	----
7.1	Producer's Name and Address	* ³

*¹ = Please refer to section 1.2 of this report for details.

*² = See age grading.

*³ = There was no producer's/distributor's name and address on the submitted sample.

Use and abuse testing:

<u>Applicable</u> <u>Section</u>	<u>Description</u>	<u>Test Condition</u>
8.5	Normal Use Testing	
8.6	Abuse Testing	
8.7	Drop Tests	4 drops at 3 ft
8.8	Torque Tests	4 in-lbs or $\pm 180^\circ$
8.9	Tension Tests	15 lbs.
8.10	Compression Tests	30 lbs.

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 4 of 14

Test Results:

1.2 Flammability test for solids and soft toys

Ref.: ASTM F963-17 Section 4.2

Method used: FHSA 16CFR 1500.44

Result: pass

<u>Sample</u>	<u>Burn rate (in/sec.)</u>
Red car	DNI
Small car	DNI
Plane	DNI

DNI = Did not ignite

Note: In accordance with the FHSA, the burn rate should not be greater than 0.1 in. per second.

1.3 Heavy metal test

Ref.: ASTM F963-17 Section 4.3.5

Method: ASTM F963-17 Section 8.3

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer & Inductively Coupled Plasma Mass Spectrometry

4.3.5.1 Paint and similar surface-coating

Total lead analysis

<u>Sample</u>	<u>Result</u>	<u>Limit</u>	<u>Conclusion</u>
<u>1+2+3</u>	<10ppm	90ppm	Pass
<u>4+5+6</u>	<10ppm	90ppm	Pass
<u>7+8+9</u>	<10ppm	90ppm	Pass
<u>10+11+12</u>	<10ppm	90ppm	Pass
<u>13+14+15</u>	<10ppm	90ppm	Pass
<u>16</u>	<10ppm	90ppm	Pass
<u>17+18</u>	<10ppm	90ppm	Pass
<u>19</u>	<10ppm	90ppm	Pass
<u>20</u>	<10ppm	90ppm	Pass

Soluble metals test:

*4= There were insufficient materials to produce the test portion of 100 mg in one sample. According to the Standard, the quantities of the elements were calculated as if 100 mg of test portion had been used. The actual weight of the specified materials used for analysis were shown below :

2 Coating: light blue(27.6mg)

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 5 of 14

Test Results:

	<u>2</u>	<u>19</u>	<u>Limit</u>
Soluble lead.....	<5ppm	<5ppm	90ppm
Soluble cadmium.....	<5ppm	<5ppm	75ppm
Soluble chromium.....	<5ppm	<5ppm	60ppm
Soluble barium.....	<5ppm	<5ppm	1000ppm
Soluble antimony.....	<5ppm	<5ppm	60ppm
Soluble arsenic.....	<2ppm	<2ppm	25ppm
Soluble mercury.....	<5ppm	<5ppm	60ppm
Soluble selenium.....	<5ppm	<5ppm	500ppm
<u>Conclusion</u>	Pass	Pass	-

4.3.5.2 Toys Substrate Materials

Total lead analysis

<u>Sample</u>	<u>Result</u>	<u>Limit</u>	<u>Conclusion</u>
<u>21+22+23</u>	<10ppm	100ppm	Pass
<u>24+25+26</u>	<10ppm	100ppm	Pass
<u>27</u>	<10ppm	100ppm	Pass
<u>28</u>	<10ppm	100ppm	Pass
<u>29</u>	<10ppm	100ppm	Pass
<u>30</u>	<10ppm	100ppm	Pass
<u>31</u>	<10ppm	100ppm	Pass

Soluble metals test

	<u>21</u>	<u>22</u>	<u>25</u>	<u>Limit</u>
Soluble lead.....	<5ppm	<5ppm	<5ppm	90ppm
Soluble cadmium.....	<5ppm	<5ppm	<5ppm	75ppm
Soluble chromium.....	<5ppm	<5ppm	<5ppm	60ppm
Soluble barium.....	<5ppm	<5ppm	<5ppm	1000ppm
Soluble antimony.....	<5ppm	<5ppm	<5ppm	60ppm
Soluble arsenic.....	<2ppm	<2ppm	<2ppm	25ppm
Soluble mercury.....	<5ppm	<5ppm	<5ppm	60ppm
Soluble selenium.....	<5ppm	<5ppm	<5ppm	500ppm
<u>Conclusion</u>	Pass	Pass	Pass	-

Note: < denotes less than.

2. US Consumer Product Safety Improvement Act

2.1 Children's products containing lead - Total Lead content in paint and surface coating

Ref.: CPSIA Sec 101(f) and 16 CFR 1303

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 6 of 14

Test Results:

<u>Sample</u>	<u>Result</u>	<u>Limit</u>	<u>Conclusion</u>
1+2+3	<10ppm	90ppm	Pass
4+5+6	<10ppm	90ppm	Pass
7+8+9	<10ppm	90ppm	Pass
10+11+12	<10ppm	90ppm	Pass
13+14+15	<10ppm	90ppm	Pass
16	<10ppm	90ppm	Pass
17+18	<10ppm	90ppm	Pass
19	<10ppm	90ppm	Pass
20	<10ppm	90ppm	Pass

Note: < denotes less than.

2.2 Children's products containing lead - Total Lead content in substrate

Ref.: CPSIA Sec 101(a)

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer

<u>Sample</u>	<u>Result</u>	<u>Limit</u>	<u>Conclusion</u>
21+22+23	<10ppm	100ppm	Pass
24+25+26	<10ppm	100ppm	Pass
27	<10ppm	100ppm	Pass
28	<10ppm	100ppm	Pass
29	<10ppm	100ppm	Pass
30	<10ppm	100ppm	Pass
31	<10ppm	100ppm	Pass

Note: < denotes less than.

2.3 Phthalates content

Ref.: CPSIA Sec 108 and 16 CFR PART 1307

Determined by: Gas Chromatography with Mass Selective Detector

<u>Test Item</u>	<u>CAS No.</u>	<u>Result(ppm)</u>		<u>Limit (ppm)</u>
		<u>1+2+3</u>	<u>4+5+6</u>	
Di-n-butyl phthalate (DBP)	84-74-2	<100	<100	1000
Benzyl-n-butyl phthalate (BBP)	85-68-7	<100	<100	1000
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	<100	<100	1000
Diisononyl phthalate (DINP)	28553-12-0	<100	<100	1000
Di-n-Hexyl phthalate (DnHP)	84-75-3	<100	<100	1000
Di-isobutyl phthalate(DIBP)	84-69-5	<100	<100	1000
Di-n-pentyl phthalate(DPENP)	131-18-0	<100	<100	1000
Di-cyclohexyl phthalate(DCHP)	84-61-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 7 of 14

Test Results:

Test Item	CAS No.	Result(ppm)		Limit (ppm)
		7+8+9	10+11+12	
Di-n-butyl phthalate (DBP)	84-74-2	<100	<100	1000
Benzyl-n-butyl phthalate (BBP)	85-68-7	<100	<100	1000
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	<100	<100	1000
Diisononyl phthalate (DINP)	28553-12-0	<100	<100	1000
Di-n-Hexyl phthalate (DnHP)	84-75-3	<100	<100	1000
Di-isobutyl phthalate(DIBP)	84-69-5	<100	<100	1000
Di-n-pentyl phthalate(DPENP)	131-18-0	<100	<100	1000
Di-cyclohexyl phthalate(DCHP)	84-61-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit (ppm)
		13+14+15	16	
Di-n-butyl phthalate (DBP)	84-74-2	<100	<100	1000
Benzyl-n-butyl phthalate (BBP)	85-68-7	<100	<100	1000
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	<100	<100	1000
Diisononyl phthalate (DINP)	28553-12-0	<100	<100	1000
Di-n-Hexyl phthalate (DnHP)	84-75-3	<100	<100	1000
Di-isobutyl phthalate(DIBP)	84-69-5	<100	<100	1000
Di-n-pentyl phthalate(DPENP)	131-18-0	<100	<100	1000
Di-cyclohexyl phthalate(DCHP)	84-61-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit (ppm)
		17+18	19+20	
Di-n-butyl phthalate (DBP)	84-74-2	<100	<100	1000
Benzyl-n-butyl phthalate (BBP)	85-68-7	<100	<100	1000
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	165	<100	1000
Diisononyl phthalate (DINP)	28553-12-0	<100	<100	1000
Di-n-Hexyl phthalate (DnHP)	84-75-3	<100	<100	1000
Di-isobutyl phthalate(DIBP)	84-69-5	<100	<100	1000
Di-n-pentyl phthalate(DPENP)	131-18-0	<100	<100	1000
Di-cyclohexyl phthalate(DCHP)	84-61-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 8 of 14

Test Results:

Test Item	CAS No.	Result(ppm)		Limit (ppm)
		21+22+23	24+25+26	
Di-n-butyl phthalate (DBP)	84-74-2	<100	<100	1000
Benzyl-n-butyl phthalate (BBP)	85-68-7	<100	<100	1000
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	<100	<100	1000
Diisononyl phthalate (DINP)	28553-12-0	<100	<100	1000
Di-n-Hexyl phthalate (DnHP)	84-75-3	<100	<100	1000
Di-isobutyl phthalate(DIBP)	84-69-5	<100	<100	1000
Di-n-pentyl phthalate(DPENP)	131-18-0	<100	<100	1000
Di-cyclohexyl phthalate(DCHP)	84-61-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit (ppm)
		27	31	
Di-n-butyl phthalate (DBP)	84-74-2	<100	<100	1000
Benzyl-n-butyl phthalate (BBP)	85-68-7	<100	<100	1000
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	<100	<100	1000
Diisononyl phthalate (DINP)	28553-12-0	<100	<100	1000
Di-n-Hexyl phthalate (DnHP)	84-75-3	<100	<100	1000
Di-isobutyl phthalate(DIBP)	84-69-5	<100	<100	1000
Di-n-pentyl phthalate(DPENP)	131-18-0	<100	<100	1000
Di-cyclohexyl phthalate(DCHP)	84-61-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Note: < denotes less than.

3. The Total Lead Content

Ref.: California Proposition 65

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer

<u>Sample</u>	<u>Result</u>	<u>Limit</u>	<u>Conclusion</u>
<u>1+2+3</u>	<10ppm	90ppm	Pass
<u>4+5+6</u>	<10ppm	90ppm	Pass
<u>7+8+9</u>	<10ppm	90ppm	Pass
<u>10+11+12</u>	<10ppm	90ppm	Pass
<u>13+14+15</u>	<10ppm	90ppm	Pass
<u>16</u>	<10ppm	90ppm	Pass
<u>17+18</u>	<10ppm	90ppm	Pass
<u>19</u>	<10ppm	90ppm	Pass
<u>20</u>	<10ppm	90ppm	Pass
<u>21+22+23</u>	<10ppm	100ppm	Pass
<u>24+25+26</u>	<10ppm	100ppm	Pass
<u>27</u>	<10ppm	100ppm	Pass
<u>28</u>	<10ppm	100ppm	Pass
<u>29</u>	<10ppm	100ppm	Pass
<u>30</u>	<10ppm	100ppm	Pass
<u>31</u>	<10ppm	100ppm	Pass

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 9 of 14

Test Results:

Note: < denotes less than.

4. The BBP, DBP, DEHP, DnHP, DINP and DIDP content

Ref.: California Proposition 65

Determined by: Gas Chromatography with Mass Selective Detector

	<u>1+2+3</u>	<u>4+5+6</u>	<u>7+8+9</u>	<u>10+11+12</u>
-	Di-n-butyl phthalate (DBP)	<100ppm	<100ppm	<100ppm
-	Benzyl-n-butyl phthalate (BBP)	<100ppm	<100ppm	<100ppm
-	Di (2-ethylhexyl) phthalate (DEHP)	<100ppm	<100ppm	<100ppm
-	Di-n-Hexyl phthalate (DnHP)	<100ppm	<100ppm	<100ppm
-	Di-iso-nonyl phthalate(DINP)	<100ppm	<100ppm	<100ppm
-	Di-iso-decyl phthalate(DIDP)	<100ppm	<100ppm	<100ppm
	<u>13+14+15</u>	<u>16</u>	<u>17+18</u>	<u>19+20</u>
-	Di-n-butyl phthalate (DBP)	<100ppm	<100ppm	<100ppm
-	Benzyl-n-butyl phthalate (BBP)	<100ppm	<100ppm	<100ppm
-	Di (2-ethylhexyl) phthalate (DEHP)	<100ppm	<100ppm	165ppm
-	Di-n-Hexyl phthalate (DnHP)	<100ppm	<100ppm	<100ppm
-	Di-iso-nonyl phthalate(DINP)	<100ppm	<100ppm	<100ppm
-	Di-iso-decyl phthalate(DIDP)	<100ppm	<100ppm	<100ppm
	<u>21+22+23</u>	<u>24+25+26</u>	<u>27</u>	<u>31</u>
-	Di-n-butyl phthalate (DBP)	<100ppm	<100ppm	<100ppm
-	Benzyl-n-butyl phthalate (BBP)	<100ppm	<100ppm	<100ppm
-	Di (2-ethylhexyl) phthalate (DEHP)	<100ppm	<100ppm	<100ppm
-	Di-n-Hexyl phthalate (DnHP)	<100ppm	<100ppm	<100ppm
-	Di-iso-nonyl phthalate(DINP)	<100ppm	<100ppm	<100ppm
-	Di-iso-decyl phthalate(DIDP)	<100ppm	<100ppm	<100ppm

Requirement: Each of the above phthalates shall not be greater than 1000ppm by mass of the tested material.

Note: < denotes less than.

5. The Total cadmium content

Ref.: California Proposition 65

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer

<u>Sample</u>	<u>Result</u>	<u>Limit</u>	<u>Conclusion</u>
<u>1+2+3</u>	<5ppm	75ppm	Pass
<u>4+5+6</u>	<5ppm	75ppm	Pass
<u>7+8+9</u>	<5ppm	75ppm	Pass
<u>10+11+12</u>	<5ppm	75ppm	Pass
<u>13+14+15</u>	<5ppm	75ppm	Pass
<u>16</u>	<5ppm	75ppm	Pass
<u>17+18</u>	<5ppm	75ppm	Pass
<u>19</u>	<5ppm	75ppm	Pass
<u>20</u>	<5ppm	75ppm	Pass
<u>21+22+23</u>	<5ppm	75ppm	Pass
<u>24+25+26</u>	<5ppm	75ppm	Pass

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 10 of 14

Test Results:

<u>Sample</u>	<u>Result</u>	<u>Limit</u>	<u>Conclusion</u>
27	<5ppm	75ppm	Pass
28	<5ppm	75ppm	Pass
29	<5ppm	75ppm	Pass
30	<5ppm	75ppm	Pass
31	<5ppm	75ppm	Pass

Note: < denotes less than.

6. The Total Lead Content requirements according to Illinois Public Act 095-1019

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer

<u>Sample</u>	<u>Result</u>	<u>Limit</u>	<u>Conclusion</u>
1+2+3	<10ppm	40ppm	Pass
4+5+6	<10ppm	40ppm	Pass
7+8+9	<10ppm	40ppm	Pass
10+11+12	<10ppm	40ppm	Pass
13+14+15	<10ppm	40ppm	Pass
16	<10ppm	40ppm	Pass
17+18	<10ppm	40ppm	Pass
19	<10ppm	40ppm	Pass
20	<10ppm	40ppm	Pass
21+22+23	<10ppm	40ppm	Pass
24+25+26	<10ppm	40ppm	Pass
27	<10ppm	40ppm	Pass
28	<10ppm	40ppm	Pass
29	<10ppm	40ppm	Pass
30	<10ppm	40ppm	Pass
31	<10ppm	40ppm	Pass

Note: < denotes less than.

7. Phthalates content

Ref.: California Assembly Bill NO.1108

Determined by: Gas Chromatography with Mass Selective Detector

A. Any toy or children article

<u>Test Item</u>	<u>CAS No.</u>	<u>Result(ppm)</u>		<u>Limit(ppm)</u>
		<u>1+2+3</u>	<u>4+5+6</u>	
Dibutyl phthalate(DBP)	84-74-2	<100	<100	1000
Butyl benzyl phthalate (BBP)	85-68-7	<100	<100	1000
Di -2-ethylhexyl phthalate (DEHP)	117-81-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 11 of 14

Test Results:

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		7+8+9	10+11+12	
Dibutyl phthalate(DBP)	84-74-2	<100	<100	1000
Butyl benzyl phthalate (BBP)	85-68-7	<100	<100	1000
Di -2-ethylhexyl phthalate (DEHP)	117-81-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		13+14+15	16	
Dibutyl phthalate(DBP)	84-74-2	<100	<100	1000
Butyl benzyl phthalate (BBP)	85-68-7	<100	<100	1000
Di -2-ethylhexyl phthalate (DEHP)	117-81-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		17+18	19+20	
Dibutyl phthalate(DBP)	84-74-2	<100	<100	1000
Butyl benzyl phthalate (BBP)	85-68-7	<100	<100	1000
Di -2-ethylhexyl phthalate (DEHP)	117-81-7	165	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		21+22+23	24+25+26	
Dibutyl phthalate(DBP)	84-74-2	<100	<100	1000
Butyl benzyl phthalate (BBP)	85-68-7	<100	<100	1000
Di -2-ethylhexyl phthalate (DEHP)	117-81-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		27	31	
Dibutyl phthalate(DBP)	84-74-2	<100	<100	1000
Butyl benzyl phthalate (BBP)	85-68-7	<100	<100	1000
Di -2-ethylhexyl phthalate (DEHP)	117-81-7	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

B. Any toys and children articles which can be placed in mouth for children under 3 years

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		1+2+3	4+5+6	
Di-n-octyl phthalate(DNOP)	117-84-0	<100	<100	1000
Di-iso-decyl phthalate(DIDP)	26761-40-0	<100	<100	1000
Di-iso-nonyl phthalate(DINP)	28553-12-0	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 12 of 14

Test Results:

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		7+8+9	10+11+12	
Di-n-octyl phthalate(DNOP)	117-84-0	<100	<100	1000
Di-iso-decyl phthalate(DIDP)	26761-40-0	<100	<100	1000
Di-iso-nonyl phthalate(DINP)	28553-12-0	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		13+14+15	16	
Di-n-octyl phthalate(DNOP)	117-84-0	<100	<100	1000
Di-iso-decyl phthalate(DIDP)	26761-40-0	<100	<100	1000
Di-iso-nonyl phthalate(DINP)	28553-12-0	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		17+18	19+20	
Di-n-octyl phthalate(DNOP)	117-84-0	<100	<100	1000
Di-iso-decyl phthalate(DIDP)	26761-40-0	<100	<100	1000
Di-iso-nonyl phthalate(DINP)	28553-12-0	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		21+22+23	24+25+26	
Di-n-octyl phthalate(DNOP)	117-84-0	<100	<100	1000
Di-iso-decyl phthalate(DIDP)	26761-40-0	<100	<100	1000
Di-iso-nonyl phthalate(DINP)	28553-12-0	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Test Item	CAS No.	Result(ppm)		Limit(ppm)
		27	31	
Di-n-octyl phthalate(DNOP)	117-84-0	<100	<100	1000
Di-iso-decyl phthalate(DIDP)	26761-40-0	<100	<100	1000
Di-iso-nonyl phthalate(DINP)	28553-12-0	<100	<100	1000
<u>Conclusion</u>	-	Pass	Pass	-

Note: < denotes less than.

8. Phthalates content

Ref.: San Francisco Health Code Article 34, sec 34.2

Determined by: Gas Chromatography with Mass Selective Detector

-	Di-n-butyl phthalate (DBP)	1+2+3	4+5+6	7+8+9	10+11+12
-	Benzyl-n-butyl phthalate (BBP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di (2-ethylhexyl) phthalate (DEHP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di-n-octyl phthalate(DNOP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di-iso-nonyl phthalate(DINP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di-iso-decyl phthalate(DIDP)	<100ppm	<100ppm	<100ppm	<100ppm
	<u>Conclusion</u>	Pass	Pass	Pass	Pass

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Test Report

Date : 2020-08-10
No. : SP20070111

Page 13 of 14

Test Results:

-	Di-n-butyl phthalate (DBP)	<u>13+14+15</u>	<u>16</u>	<u>17+18</u>	<u>19+20</u>
-	Benzyl-n-butyl phthalate (BBP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di (2-ethylhexyl) phthalate (DEHP)	<100ppm	<100ppm	165ppm	<100ppm
-	Di-n-octyl phthalate(DNOP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di-iso-nonyl phthalate(DINP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di-iso-decyl phthalate(DIDP)	<100ppm	<100ppm	<100ppm	<100ppm
	<u>Conclusion</u>	Pass	Pass	Pass	Pass
-	Di-n-butyl phthalate (DBP)	<u>21+22+23</u>	<u>24+25+26</u>	<u>27</u>	<u>31</u>
-	Benzyl-n-butyl phthalate (BBP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di (2-ethylhexyl) phthalate (DEHP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di-n-octyl phthalate(DNOP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di-iso-nonyl phthalate(DINP)	<100ppm	<100ppm	<100ppm	<100ppm
-	Di-iso-decyl phthalate(DIDP)	<100ppm	<100ppm	<100ppm	<100ppm
	<u>Conclusion</u>	Pass	Pass	Pass	Pass

Requirement: Each of the above phthalates shall not be greater than 1000ppm by mass of the tested material.

Note: < denotes less than.

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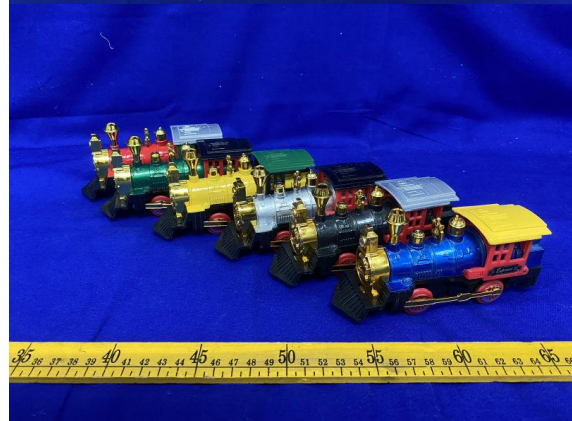
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Test Report

Date : 2020-08-10
No. : SP20070111

Page 14 of 14

The photo of submitted samples



***** End of Test Report *****

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