

## Test Report

**Date** : 2022-03-16

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**No.** : SP22030038

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

Attn: Michael

**Description of Samples** : One (1) group of submitted samples said to be:  
18218-Pirate Sword- Antiqued Plastic- 18.5 Inches Long-  
18 Piece Dsp Box  
18219-Flintlock Pirate Gun- 14 Inches Long- Antiqued Plastic-  
10 Piece Display  
COUNTRY OF ORIGIN: CHINA  
AGE GRADING FOR TESTING: 3+

**Date Samples Received** : 2022-03-03

**Date Tested** : 2022-03-03 to 2022-03-11

Requirements
1. ASTM Standard Consumer Safety Specification For Toy Safety F 963-17 - physical and mechanical test (Apart from clause 7) - flammability test - heavy metal test
2. US Consumer Product Safety Improvement Act - Total Lead content in substrate in accordance with Sec. 101(a). - Phthalates content in accordance with Sec 108 and 16 CFR 1307.
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



CHEN Lufeng, James  
Authorized Signatory



### STC (Shanghai) Company Limited

130 Huashen Road, Waigaoqiao Pilot Free Trade Zone, Shanghai, China. Zip Code: 200131

Tel: +86 21 5219 8248 Fax: +86 21 5219 8249 Email: shstc@stc.group Website: www.stc.group

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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 on gun/sword:silver
<u>2</u>	Coating on gun/sword:golden
<u>Plastic materials:</u>	
<u>3</u>	Plastic on gun:red
<u>4</u>	Substrate of gun:black
<u>5</u>	Plastic on gun:grey
<u>6</u>	Plastic trigger:black
<u>7</u>	Plastic on knife:black
<u>Metal materials:</u>	
<u>8</u>	Metal screw:silver

### 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* <sup>1</sup>
4.7	Accessible Edges	Pass
4.8	Projections	Pass
4.9	Accessible Points	Pass
4.11	Nails and Fasteners	Pass
4.18	Holes, clearance and Accessibility of Mechanisms	Pass
4.30	Toy Gun Marking	Pass
5	<u>Labeling Requirements</u>	----
5.2	Age grading labeling	Pass
7	<u>Producer's Markings</u>	----
7.1	Producer's Name and Address	* <sup>5</sup>

\*<sup>1</sup>=Please refer to section 1.2 of this report for details.

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### Test Results:

\*<sup>5</sup>=No all information = There were no producer's/ distributor's name and address on the submitted sample.

Use and abuse testing:

#### Applicable

<u>Section</u>	<u>Description</u>	<u>Test Condition</u>
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.

### 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>
gun	DNI
Sword with skeletons	DNI
sword	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

#### 4.3.5.1 Paint and similar surface-coating

##### Total lead analysis

<u>Sample</u>	<u>Result</u>	<u>Limit</u>
<u>1</u>	<10ppm	90ppm
<u>2</u>	26ppm	90ppm

##### Soluble metals test:

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**Test Results:**

	<u>1</u>	<u>2</u>	<u>Limit</u>
Soluble lead.....	<5ppm	<5ppm	90ppm
Soluble cadmium.....	<5ppm	<5ppm	75ppm
Soluble chromium.....	<5ppm	<5ppm	60ppm
Soluble barium.....	13ppm	8ppm	1000ppm
Soluble antimony.....	<5ppm	6ppm	60ppm
Soluble arsenic.....	2ppm	<2ppm	25ppm
Soluble mercury.....	<5ppm	<5ppm	60ppm
Soluble selenium.....	<5ppm	<5ppm	500ppm
Comment	Pass	Pass	---

**4.3.5.2 Toys Substrate Materials**

**Total lead test**

<u>Sample</u>	<u>Result</u>	<u>Limit</u>
<u>3+4+5</u>	<10ppm	100ppm
<u>6</u>	<10ppm	100ppm
<u>7</u>	24ppm	100ppm
<u>8</u>	<10ppm	100ppm

**Soluble metals test:**

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

<u>Sample</u>	<u>Result</u>	<u>Limit</u>
<u>1</u>	<10ppm	90ppm
<u>2</u>	26ppm	90ppm

Note: < denotes less than.

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### Test Results:

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

Ref.: CPSIA Sec 101(a)

Test method: CPSC-CH-E1002-08.3

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer

<u>Sample</u>	<u>Result</u>	<u>Limit</u>
<u>3+4+5</u>	<10ppm	100ppm
<u>6</u>	<10ppm	100ppm
<u>7</u>	24ppm	100ppm
<u>8</u>	<10ppm	100ppm

Note: < denotes less than.

#### 2.3 Phthalates content

Ref.: CPSIA Sec 108 and 16 CFR 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</u>	<u>3+4+5</u>	<u>6+7</u>	
Di-n-butyl phthalate (DBP)	84-74-2	180	<100	188	1000
Benzyl-n-butyl phthalate (BBP)	85-68-7	<100	<100	<100	1000
Di (2-ethylhexyl) phthalate (DEHP)	117-81-7	476	<100	444	1000
Diisononyl phthalate (DINP)	28553-12-0	<100	<100	<100	1000
Di-n-Hexyl phthalate (DnHP)	84-75-3	<100	<100	<100	1000
Di-isobutyl phthalate(DIBP)	84-69-5	<100	<100	<100	1000
Di-n-penty1 phthalate(DPENP)	131-18-0	<100	<100	<100	1000
Di-cyclohexyl phthalate(DCHP)	84-61-7	<100	<100	<100	1000

Note: < denotes less than.

#### 3. The Total Lead Content

Ref.: California Proposition 65

Test method: CPSC-CH-E1003-09.1 & CPSC-CH-E1002-08.3

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer

<u>Sample</u>	<u>Result</u>	<u>Limit</u>
<u>1</u>	<10ppm	90ppm
<u>2</u>	26ppm	90ppm
<u>3+4+5</u>	<10ppm	100ppm
<u>6</u>	<10ppm	100ppm
<u>7</u>	24ppm	100ppm
<u>8</u>	<10ppm	100ppm

Note: < denotes less than.

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### Test Results:

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

Ref.: California Proposition 65

Determined by: Gas Chromatography with Mass Selective Detector

	1+2	3+4+5	6+7
Di-n-butyl phthalate (DBP)	180ppm	<100ppm	188ppm
Benzyl-n-butyl phthalate (BBP)	<100ppm	<100ppm	<100ppm
Di (2-ethylhexyl) phthalate(DEHP)	476ppm	<100ppm	444ppm
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>1</u>	<5ppm	75ppm
<u>2</u>	<5ppm	75ppm
<u>3+4+5</u>	<5ppm	75ppm
<u>6</u>	<5ppm	75ppm
<u>7</u>	<5ppm	75ppm
<u>8</u>	<5ppm	75ppm

Note: < denotes less than.

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

Test method: CPSC-CH-E1003-09.1 & CPSC-CH-E1002-08.3

Determined by: Inductively Coupled Plasma-Optical Emission Spectrometer

<u>Sample</u>	<u>Result</u>	<u>Limit</u>
<u>1</u>	<10ppm	40ppm
<u>2</u>	26ppm	40ppm
<u>3+4+5</u>	<10ppm	40ppm
<u>6</u>	<10ppm	40ppm
<u>7</u>	24ppm	40ppm
<u>8</u>	<10ppm	40ppm

Note: < denotes less than.

#### **7. Phthalates content**

Ref.: California Assembly Bill NO.1108

Determined by: Gas Chromatography with Mass Selective Detector

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**Test Results:**

**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</u>	<u>3+4+5</u>	<u>6+7</u>	
Dibutyl phthalate(DBP)	84-74-2	180	<100	188	1000
Butyl benzyl phthalate (BBP)	85-68-7	<100	<100	<100	1000
Di -2-ethylhexyl phthalate (DEHP)	117-81-7	476	<100	444	1000

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

<u>Test Item</u>	<u>CAS No.</u>	<u>Result(ppm)</u>			<u>Limit(ppm)</u>
		<u>1+2</u>	<u>3+4+5</u>	<u>6+7</u>	
Di-n-octyl phthalate(DNOP)	117-84-0	<100	<100	<100	1000
Di-iso-decyl phthalate(DIDP)	26761-40-0	<100	<100	<100	1000
Di-iso-nonyl phthalate(DINP)	28553-12-0	<100	<100	<100	1000

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

	<u>1+2</u>	<u>3+4+5</u>	<u>6+7</u>
Di-n-butyl phthalate (DBP)	180ppm	<100ppm	188ppm
Benzyl-n-butyl phthalate (BBP)	<100ppm	<100ppm	<100ppm
Di (2-ethylhexyl) phthalate(DEHP)	476ppm	<100ppm	444ppm
Di-n-octyl phthalate(DNOP)	<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.

**The photo of submitted samples**



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

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5. The results in Report apply only to the sample as received and do not apply to the bulk, unless the sampling has been carried out by the Company and is stated as such in the Report. The Clients provide the sample's relevant information, and the Company will not be liable for or accept responsibility for the truth of the sample information.
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