



CONSUMER PRODUCTS SERVICES DIVISION

## CRAYON ROCKS

**Technical Report:** (5117)249-0169  
Date Received: September 06, 2017

September 12, 2017  
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BARBARA LEE  
CRAYON ROCKS  
7053 VERNON ROAD  
HESTAND, KY 42151  
UNITED STATES

Sample Description:	CRAYON ROCKS - SOY WAX CRAYONS	Sample Size:	1
Vendor:	N/A	Style No(s):	N/A
Manufacturer:	N/A	SKN/SKU No.:	N/A
Buyer:	N/A	PO No.:	8312017
Labeled Age Grade:	NOT PRESENT	Ref #:	N/A
Appropriate Age Grade:	NOT REQUESTED	Country of Origin:	N/A
Client Specified Age Grade:	NOT REQUESTED	Assortment No.:	N/A
Grade:			
Tested Age Grade:	N/A		
UPC Code:	N/A		

### **EXECUTIVE SUMMARY:**

#### **The sample(s) MEETS the following requirement(s):**

- The migration of certain elements in Category I - Dry, brittle, powder-like or pliable toy material requirements of the European Standard, "Safety of Toys", EN 71 Part 3: 2013+A1:2014.
- The soluble heavy metals content in substrate requirements of ASTM F963-16, "Standard Consumer Safety Specification for Toy Safety," Section 4.3.5.2(2)(b).
- The total lead content of 100ppm requirements in substrate materials (Consumer Products Safety Improvement Act (CPSIA) of 2008).

Note: Data has been transferred from Bureau Veritas Technical Reports (5116)356-0008 dated January 17, 2017, (5117)198-0172 dated July 27, 2017 and (5117)226-0157 dated August 29, 2017.

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/crs



**RESULTS:**

**TOTAL LEAD CONTENT IN SUBSTRATE BY COMPOSITE TESTING (100PPM) (Consumer Product Safety Improvement Act (CPSIA) of 2008)**

**Test Method:** U.S. CPSC-CH-E1001-08.1 (June 21, 2010) or U.S. CPSC-CH-E1002-08.1 (June 21, 2010).

Analyte	Lead
Requirement: Maximum allowable limit:	100 mg/kg

Analyte			Lead (Pb)	Conclusion
Sample Description			Result	
Color / Component	Location	Style	(mg/kg)	
(A)	dark yellow crayon	-	1	Pass
	green crayon		2	
	gold crayon		3	
(B)	turquoise crayon	-	4	Pass
	tan crayon		5	
	white crayon		6	
(C)	brown crayon	-	7	Pass
	black crayon		8	
	blue crayon		9	
(D)	purple crayon	-	10	Pass
	red crayon		11	
(E)	silver crayon	-	12	Pass
	orange crayon		13	

LT = Less Than

\* = Average of duplicate analyses

mg/kg = milligrams per kilogram (ppm = parts per million)



**SOLUBLE HEAVY METALS CONTENT IN SUBSTRATE (ASTM F963-16, Section 4.3.5.2(2)(b))**

**Test Method:** ASTM International Standard ASTM F963-16, Section 8.3.5 (Excluding 8.3.5.5(3))

Sample Identity	Color	Location	Style
Type I: Substrate other than modeling clay			
A	dark yellow crayon	-	1
B	green crayon	-	2
C	gold crayon	-	3
D	turquoise crayon	-	4
E	tan crayon	-	5
F	white crayon	-	6
G	brown crayon	-	7
H	black crayon	-	8
I	blue crayon	-	9
J	purple crayon	-	10
K	red crayon	-	11
L	silver crayon	-	12
M	orange crayon	-	13



**SOLUBLE HEAVY METALS CONTENT IN SUBSTRATE (ASTM F963-16, Section 4.3.5.2(2)(b))**

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	
Max. Limit Type I (mg/kg)	25	1000	75	60	60	90	60	500	
Max. Limit Type II (mg/kg)	25	250	50	25	25	90	60	500	
Analytical Correction	60%	30%	30%	30%	50%	30%	60%	60%	

Analyte	As	Ba	Cd	Cr	Hg	Pb	Sb	Se	Mass of Trace Amount (g)	Conclusion
Sample	Result (mg/kg)								(g)	
A	LT 2	2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
B	LT 2	4	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
C	LT 2	2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
D	LT 2	4	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
E	LT 2	245	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
F	LT 2	26	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
G	LT 2	208	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
H	LT 2	6	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
I	LT 2	11	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
J	LT 2	3	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
K	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
L	LT 2	6	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS
M	LT 2	6	LT 2	LT 2	LT 2	LT 2	LT 2	LT 2	-	PASS

mg/kg = milligrams per kilogram (ppm=parts per million)  
 CR = adjusted analytical result  
 LT = Less Than  
 ND = None Detected

As = Arsenic, Ba = Barium, Cd = Cadmium,  
 Cr = Chromium, Hg = Mercury, Pb = Lead,  
 Sb = Antimony, Se = Selenium  
 Detection limit (mg/kg): Each element 2

**Remark:**

Textiles (natural or synthetic) are exempted for lead content requirement according to clarification of Toy Industry Association for ASTM F963-16. The lead content analysis result of corresponding material herein is for client's reference only.



**MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A1:2014)**

Test Method : European Standard EN 71 Part 3: 2013+A1:2014, Annex E.

Class: Category I - Dry, brittle, powder-like or pliable toy material

Sample Identity	Color	Location	Style
A.	dark yellow crayon	-	1
B.	green crayon	-	2
C.	gold crayon	-	3
D.	turquoise crayon	-	4
E.	tan crayon	-	5
F.	white crayon	-	6
G.	brown crayon	-	7
H.	black crayon	-	8
I.	blue crayon	-	9
J.	purple crayon	-	10
K.	red crayon	-	11
L.	silver crayon	-	12
M.	orange crayon	-	13







**RESULTS:**

**MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A1:2014)**

Analyte	Requirement (mg/kg)	Result (mg/kg)					
		Sample ID					
		Category I	M.	-	-	-	-
Aluminium (Al)	5625	7	-	-	-	-	-
Arsenic (As)	3.8	LT 0.15	-	-	-	-	-
Boron (B)	1200	LT 2	-	-	-	-	-
Barium (Ba)	1500	6	-	-	-	-	-
Cadmium (Cd)	1.3	LT 0.15	-	-	-	-	-
Cobalt (Co)	10.5	LT 2	-	-	-	-	-
Chromium III (Cr III)	37.5	LT 0.002	-	-	-	-	-
Chromium VI (Cr VI)	0.02						
Copper (Cu)	622.5	LT 2	-	-	-	-	-
Mercury (Hg)	7.5	LT 0.15	-	-	-	-	-
Manganese (Mn)	1200	3	-	-	-	-	-
Nickel (Ni)	75	LT 2	-	-	-	-	-
Lead (Pb)	13.5	LT 0.5	-	-	-	-	-
Antimony (Sb)	45	LT 2	-	-	-	-	-
Selenium (Se)	37.5	LT 2	-	-	-	-	-
Tin (Sn)	15000	LT 2	-	-	-	-	-
Organic tin	0.9	LT 0.04	-	-	-	-	-
Strontium (Sr)	4500	20	-	-	-	-	-
Zinc (Zn)	3750	LT 2	-	-	-	-	-
Mass of trace amount (gram)		-	-	-	-	-	-
Conclusion		Pass	-	-	-	-	-

mg/kg = milligrams per kilogram (ppm=parts per million)    LT = Less Than  
 \* = Average of duplicate analysis    FR = Failed Result  
 Organic tin = migration of total organic tin is expressed as tributyl tin cation content in mg/kg  
 # = Verified results (see note)

Remark:  
 - Results of Cr III and Cr VI were reported as sum of soluble Chromium content unless specified.  
 - Result(s) of organic tin was (were) calculated while assuming the tin content wholly contributed from tributyltin cation unless specified.

Note:  
 If soluble chromium content or soluble tin content exceeded the screening limits of soluble chromium (VI) or organic tin content, the results were verified by below method  
 - Chromium VI: In house Ion-chromatography analysis.  
 - Organic tin: EN71 part 3:2013+A1:2014, Annex G by Gas Chromatography – Mass Spectroscopy analysis.

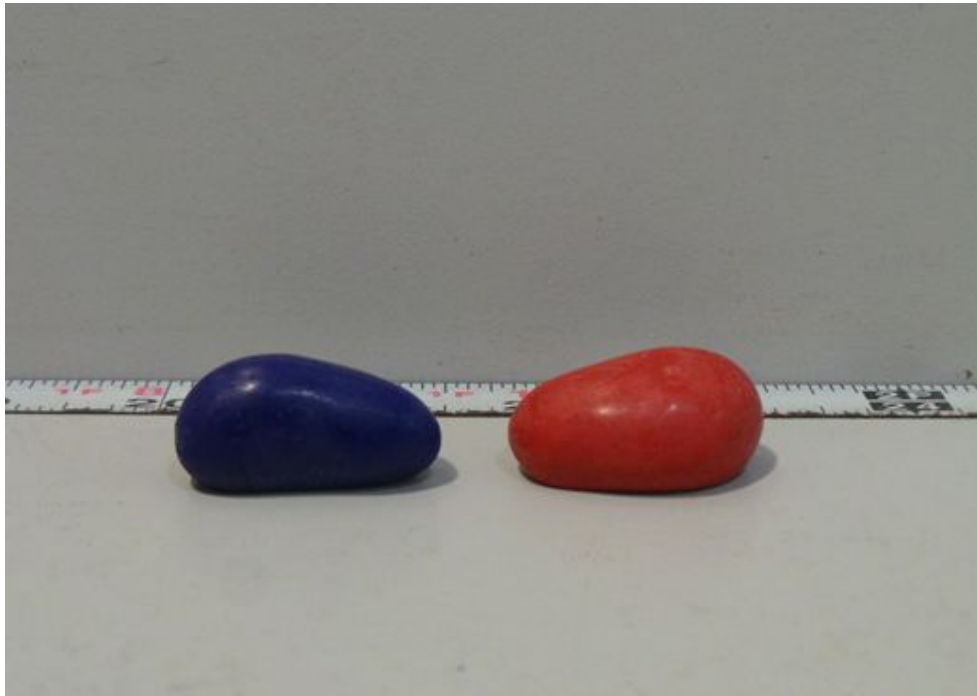


**EXHIBIT # 1**



**SAMPLE PRODUCT**

**EXHIBIT # 2**



**SAMPLE PRODUCT**

**EXHIBIT # 3**



**SAMPLE PRODUCT**