CONSUMER PRODUCTS SERVICES DIVISION

Technical Report: **(6617)319-0155 (4th REVISED)** August 17, 2018

Date Received: August 14, 2018
Revised Date: August 17, 2018

This report is amendment of and supersedes the previous (6617)319-0155 November 21, 2017.

Sample Description: ASSORTED COLORS/STYLES GLITTER POWDER
ASSORTED COLORS/STYLES GLITTER GLUE
ASSORTED COLORS/STYLES CONFETTI
ASSORTED COLORS/STYLES WIGGLY EYES
ASSORTED COLORS/STYLES FABRIC FLOWER
ASSORTED COLORS/STYLES WOODEN DECORARIONS
ASSORTED COLORS/STYLES EVA
ASSORTED COLORS/STYLES PLASTIC BEADS
ASSORTED COLORS/STYLES ACRYL DIAMOND
ASSORTED COLORS/STYLES CHENILLE STEM
ASSORTED COLORS/STYLES POM POM
ASSORTED COLORS/STYLES FELT
ASSORTED COLORS/STYLES FEATHERS
ASSORTED COLORS/STYLES PAPER STICKER

Vendor:		Sample Size:	1 CARTON
Manufacturer:		Style No(s):	N/A
Buyer:	N/A	SKN/SKU No.:	N/A
Labeled Age Grade:	N/A	PO No.:	N/A
Appropriate Age Grade:	N/A	Ref #:	N/A
Client Specified Age Grade:	N/A	Country of Origin:	CHINA
Tested Age Grade:	N/A	Assortment No.:	N/A
UPC Code:	N/A	Country of Destination:	EU
Color:	N/A		

EXECUTIVE SUMMARY:

The test component(s) MEETS the following requirement(s):

- The migration of certain elements in toy material requirements of the German Ordinance on the Safety of Toys (Second Ordinance to the Equipment and Product Safety Act), Article 10 and European Standard, "Safety of Toys", EN 71 Part 3: 2013 + A1:2014.
- The migration of certain elements in Category III - Scraped off toy material requirements of the European Standard, "Safety of Toys", EN 71 Part 3: 2013+A2:2017.

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LEON DENG
PRODUCT LINE MANAGER (TOY DIVISION)

Tested Component(s) Breakdown List

Sample Identity	Color / Component	Location	Style
A	Green glitter powder	/	/
B	Golden glitter glue	/	/
C	Silvery coating on plastic	Confetti	/
D	Transparent plastic without coating	Confetti	/
E	Transparent plastic	Eye	/
F	White plastic	Eye	/
G	Pink non-woven fabric	/	Fabric flower
H	Varnish coating on wood	/	Wooden decoration
I	Wood	/	Wooden decoration
J	Red sponge	/	/
K	Pink plastic	Bead	/
L	Light blue plastic	Acryl	/
M	White fur	Chenille stem	/
N	Silvery metal silk	Chenille stem	/
O	Green fluff ball	/	/
P	Orange yellow felt fabric	/	/
Q	Light yellow feather	/	/

Migration of Certain Elements - German Ordinance on the Safety of Toys (Second Ordinance to the Equipment and Product Safety Act), Article 10

Test Method : EN 71-3-2013 + A1:2014: Safety of Toys-Migration of certain elements

See Soluble Element (Parameter) and its corresponding Maximum Allowable Limit (Req.) in Result Table	**Category I**	**Dry, brittle, powder-like or pliable toy material**
	Category II	**Liquid or sticky toy material**
	Category III	**Scraped-off toy material**

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		A	B	C
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	-	0.0193
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.271	Combined Cr: 0.213	Combined Cr: 1.10
Chromium VI (Cr VI)	mg/kg	0.2	<0.02	Cr(III): <46 Cr(VI): <0.02	Cr(III): <46 Cr(VI): <0.02	Cr(III): <46 Cr(VI): <0.02
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		D	E	F
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	0.0807	-	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.294 Cr(III): <46 Cr(VI): <0.02	Combined Cr: 0.062	Combined Cr: 0.067
Chromium VI (Cr VI)	mg/kg	0.2	<0.02			
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		G	H	I
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	0.165	0.0365	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: <0.02	Combined Cr: 0.168	Combined Cr: 0.789 Cr(III): <46 Cr(VI): <0.02
Chromium VI (Cr VI)	mg/kg	0.2	<0.02			
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		J	K	L
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	-	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.043	Combined Cr: <0.02	Combined Cr: <0.02
Chromium VI (Cr VI)	mg/kg	0.2	<0.02			
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		M	N	O
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	-	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.215	Combined Cr: 6.26	Combined Cr: 0.043
Chromium VI (Cr VI)	mg/kg	0.2	<0.02	Cr(III): <46 Cr(VI): <0.02	Cr(III): <46 Cr(VI): <0.02	
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		P	Q	-
Category		III	III	III	III	-
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	0.0952	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	-
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	-
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.036	Combined Cr: 0.053	-
Chromium VI (Cr VI)	mg/kg	0.2	<0.02			
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	-
Cobalt (Co)	mg/kg	130	<13	<13	<13	-
Nickel (Ni)	mg/kg	930	<93	<93	<93	-
Copper (Cu)	mg/kg	7700	<770	<770	<770	-
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	-
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	-
Selenium (Se)	mg/kg	460	<46	<46	<46	-
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	-
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	-
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	-
Organic tin	mg/kg	12	<12*	<12*	<12*	-
Antimony (Sb)	mg/kg	560	<56	<56	<56	-
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	-
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	-
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	-
Conclusion	-	-	-	PASS	PASS	-

Note / Key :

ND = Not detected ">" = Greater than Req. = Requirement
NR = Not requested g = gram(s)
mg/kg = milligram(s) per kilogram = ppm = part(s) per million

Remark :

- Results of Cr III and Cr VI were reported as sum of soluble Chromium content.
- If combined Cr content exceeds 0.02mg/kg in I mat., 0.005 mg/kg in II mat., or 0.2mg/kg in III mat., confirmation Cr(VI) by LC-ICP-MS or IC and Cr(III) by LC-ICP-MS. If confirmation with IC, Cr(III)=Combined Cr – Cr(VI).
- Result(s) of organic tin was (were) calculated by assuming the soluble tin content was wholly contributed from tributyltin (TBT) cation unless further specified.

*The report limit of OT is reported by soluble tin screening.

Comment :

Proposals to amendment of European Parliament and Council Directive 2009/48/EC, Annex II, Part III, Point 13 :			
-	**Category I**	**Category II**	**Category III**
Element(s)	Lead (Pb)	Lead (Pb)	Lead (Pb)
Current	13.5 mg/kg	3.4 mg/kg	160 mg/kg
Proposed	2 mg/kg	0.5 mg/kg	23 mg/kg

MIGRATION OF CERTAIN ELEMENTS (European Standard EN 71 Part 3: 2013+A2:2017)

Test Method : European Standard EN 71 Part 3: 2013+A2:2017, Annex E.

Class: Category III - Scraped off toy material

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		A	B	C
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	-	0.0193
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.271	Combined Cr: 0.213	Combined Cr: 1.10
Chromium VI (Cr VI)	mg/kg	0.2	<0.02	Cr(III): <46 Cr(VI): <0.02	Cr(III): <46 Cr(VI): <0.02	Cr(III): <46 Cr(VI): <0.02
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		D	E	F
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	0.0807	-	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.294	Combined Cr: 0.062	Combined Cr: 0.067
Chromium VI (Cr VI)	mg/kg	0.2	<0.02	Cr(III): <46 Cr(VI): <0.02		
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		G	H	I
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	0.165	0.0365	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: <0.02	Combined Cr: 0.168	Combined Cr: 0.789 Cr(III): <46 Cr(VI): <0.02
Chromium VI (Cr VI)	mg/kg	0.2	<0.02			
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		J	K	L
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	-	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.043	Combined Cr: <0.02	Combined Cr: <0.02
Chromium VI (Cr VI)	mg/kg	0.2	<0.02			
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		M	N	O
Category		III	III	III	III	III
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	-	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	<1500
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	<7000
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.215	Combined Cr: 6.26	Combined Cr: 0.043
Chromium VI (Cr VI)	mg/kg	0.2	<0.02	Cr(III): <46 Cr(VI): <0.02	Cr(III): <46 Cr(VI): <0.02	
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	<1500
Cobalt (Co)	mg/kg	130	<13	<13	<13	<13
Nickel (Ni)	mg/kg	930	<93	<93	<93	<93
Copper (Cu)	mg/kg	7700	<770	<770	<770	<770
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	<4600
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	<4.7
Selenium (Se)	mg/kg	460	<46	<46	<46	<46
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	<5600
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	<1.7
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	<18000
Organic tin	mg/kg	12	<12*	<12*	<12*	<12*
Antimony (Sb)	mg/kg	560	<56	<56	<56	<56
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	<1875
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	<9.4
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	<2.3
Conclusion	-	-	-	PASS	PASS	PASS

-	Unit	German Req.	Report Limit	Result		
Test Item(s)	-	-		P	Q	-
Category		III	III	III	III	-
Parameter	-	-	-	-	-	-
Mass of Trace Amount	g	-	-	-	0.0952	-
Boron (B)	mg/kg	15000	<1500	<1500	<1500	-
Aluminium (Al)	mg/kg	70000	<7000	<7000	<7000	-
Chromium III (Cr III)	mg/kg	460	<46	Combined Cr: 0.036	Combined Cr: 0.053	-
Chromium VI (Cr VI)	mg/kg	0.2	<0.02			
Manganese (Mn)	mg/kg	15000	<1500	<1500	<1500	-
Cobalt (Co)	mg/kg	130	<13	<13	<13	-
Nickel (Ni)	mg/kg	930	<93	<93	<93	-
Copper (Cu)	mg/kg	7700	<770	<770	<770	-
Zinc (Zn)	mg/kg	46000	<4600	<4600	<4600	-
Arsenic (As)	mg/kg	47	<4.7	<4.7	<4.7	-
Selenium (Se)	mg/kg	460	<46	<46	<46	-
Strontium (Sr)	mg/kg	56000	<5600	<5600	<5600	-
Cadmium (Cd)	mg/kg	17	<1.7	<1.7	<1.7	-
Tin (Sn)	mg/kg	180000	<18000	<18000	<18000	-
Organic tin	mg/kg	12	<12*	<12*	<12*	-
Antimony (Sb)	mg/kg	560	<56	<56	<56	-
Barium (Ba)	mg/kg	18750	<1875	<1875	<1875	-
Mercury (Hg)	mg/kg	94	<9.4	<9.4	<9.4	-
Lead (Pb)	mg/kg	90	<2.3	<2.3	<2.3	-
Conclusion	-	-	-	PASS	PASS	-

mg/kg = milligrams per kilogram (ppm=parts per million) LT = Less Than
** = Average of duplicate analysis*
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.
- If combined Cr content exceeds 0.02mg/kg in I mat., 0.005 mg/kg in II mat., or 0.2mg/kg in III mat., confirmation Cr(VI) by LC-ICP-MS or IC and Cr(III) by LC-ICP-MS. If confirmation with IC, Cr(III)=Combined Cr – Cr(VI).
- Result(s) of organic tin was (were) calculated by assuming the soluble tin content was wholly contributed from tributyltin (TBT) cation unless further specified.


Report Number
(6617)319-0155


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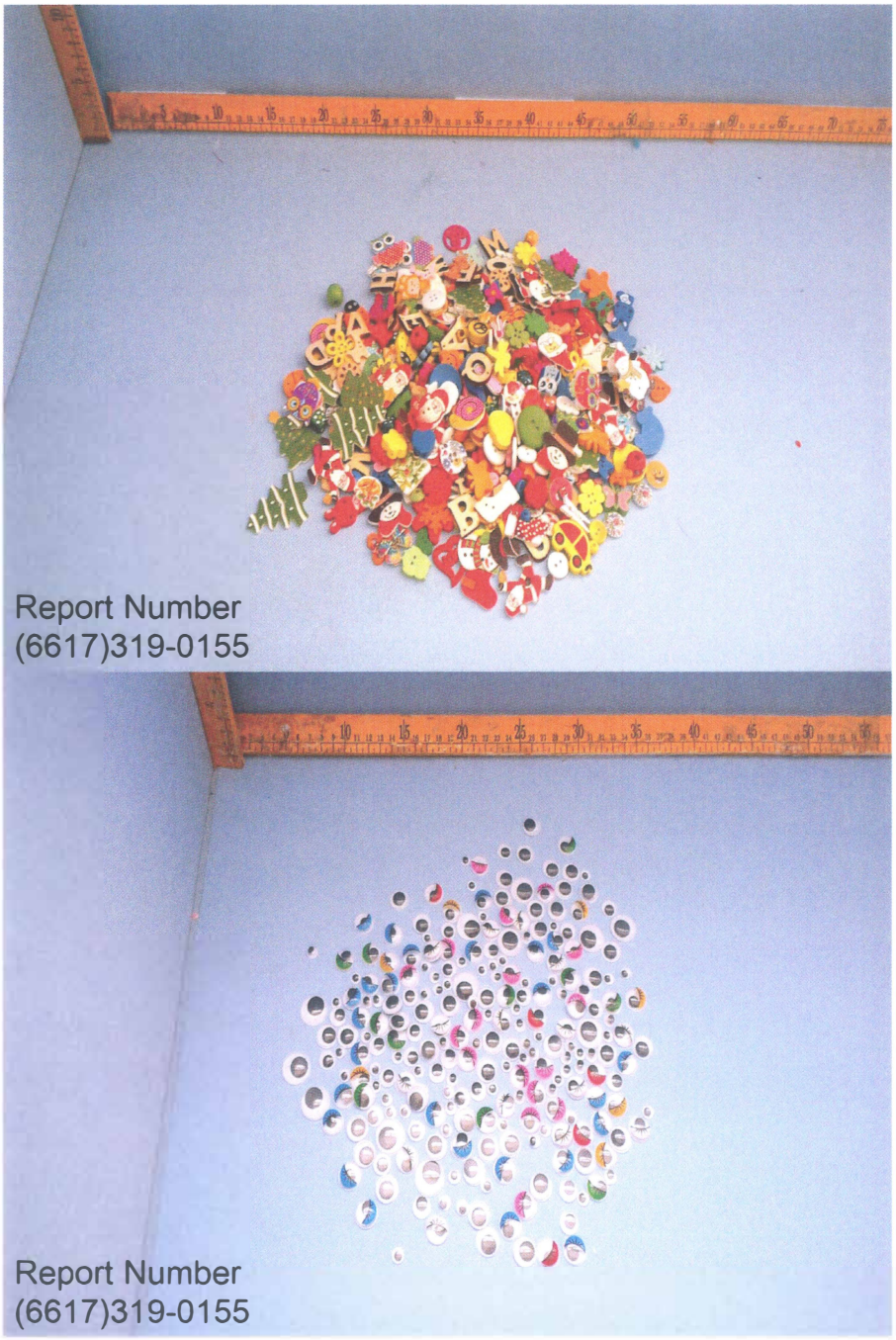
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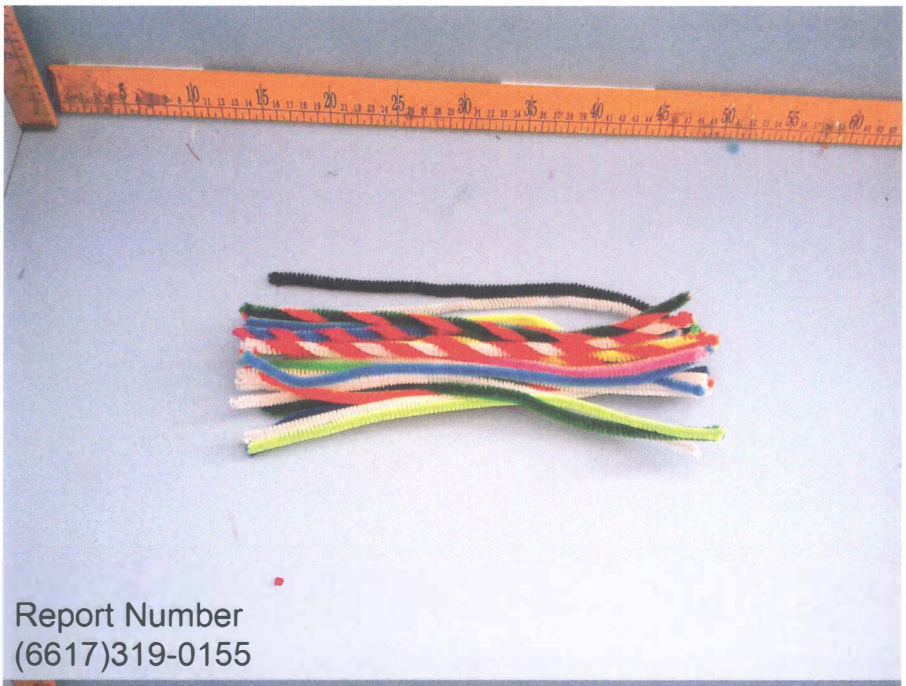
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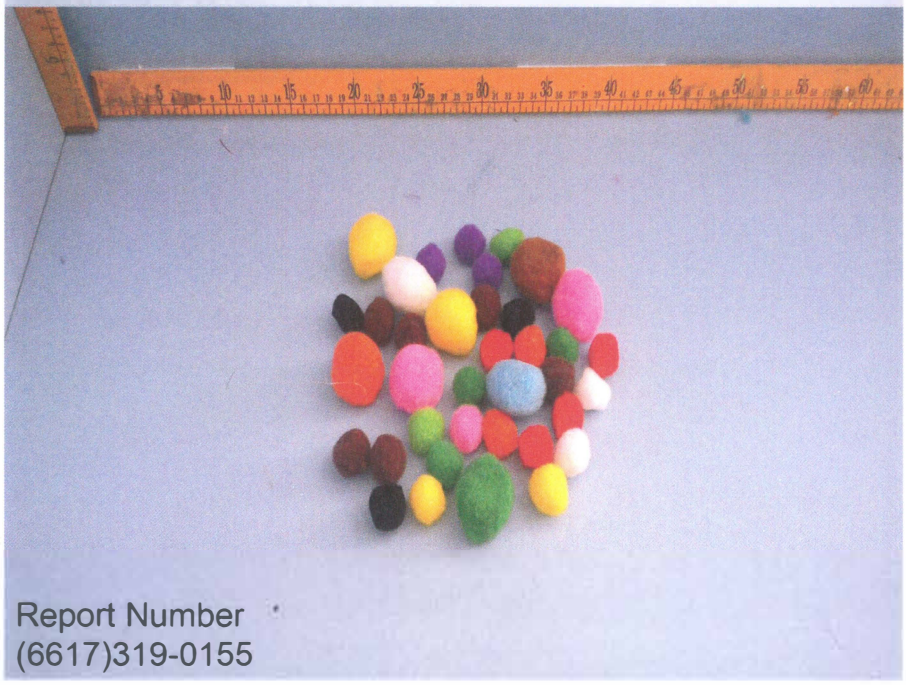
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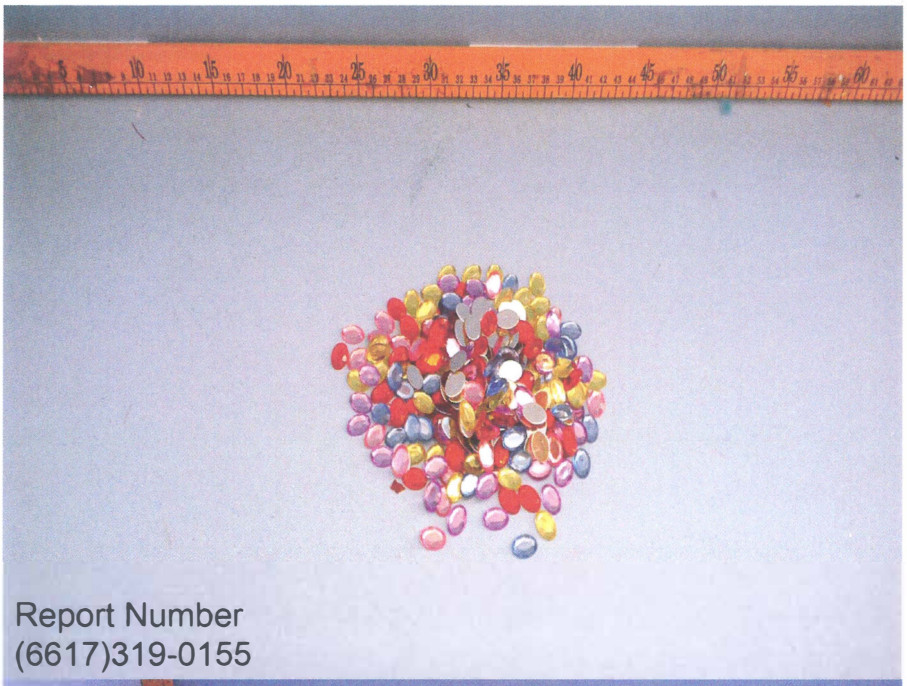
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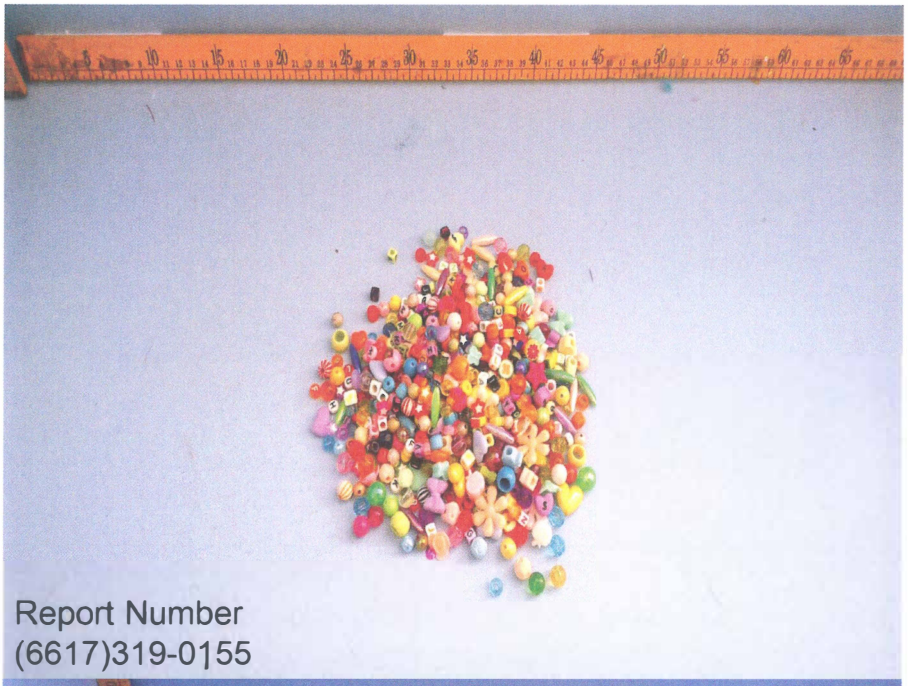
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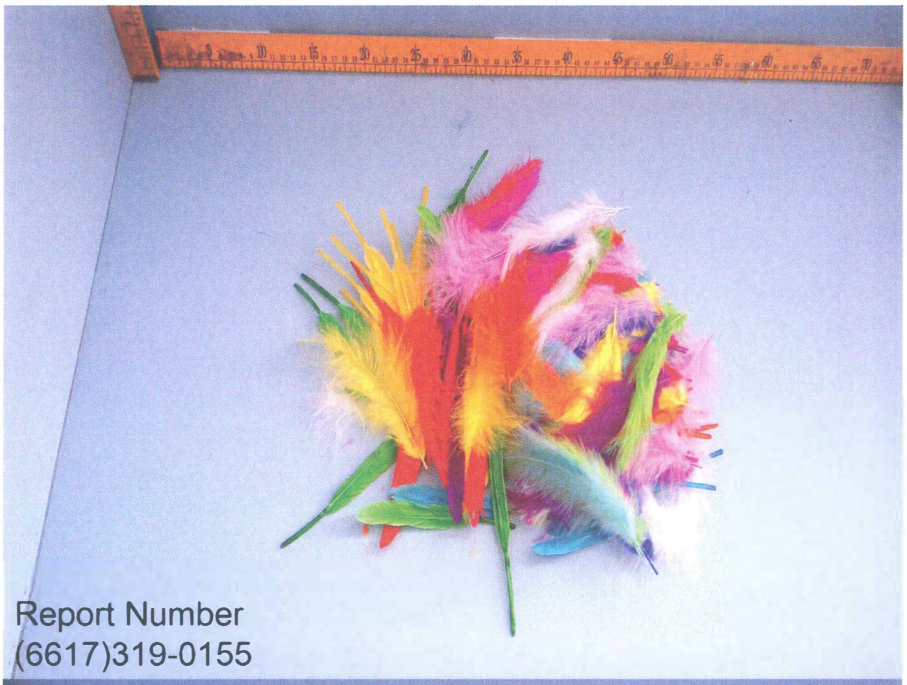
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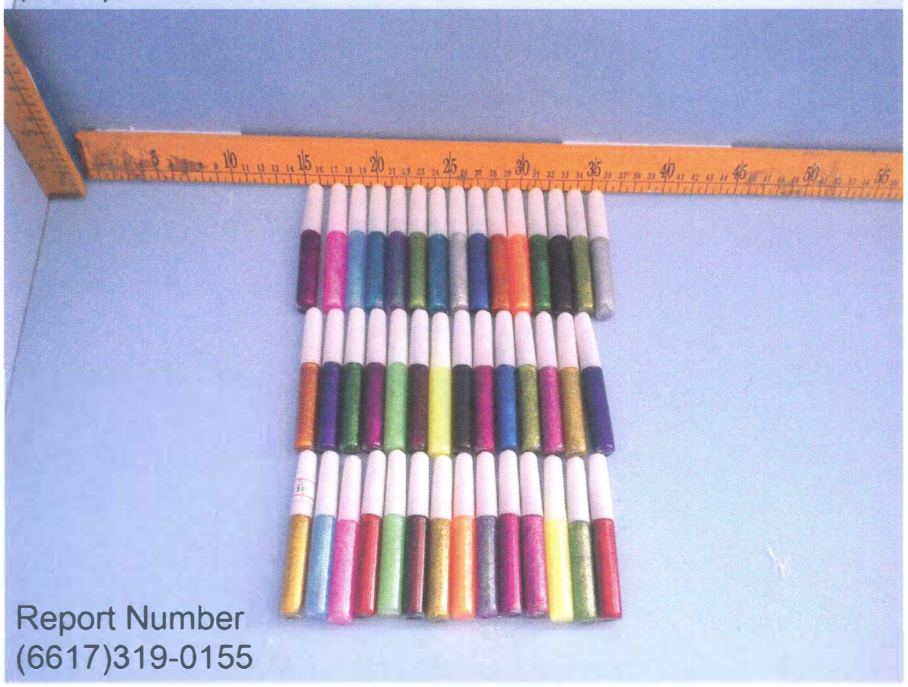
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