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Client: HAPPY ARTS&CRAFTS(NINGBO)CO., LTD.

Contact Information: HAPE INTERNATIONAL(NINGBO) LTD.
9-27Nanhai Road, Dagang industrial City, Beilun, Ningbo, China

Test item(s): Toy

Identification/ Model No(s): Refer to detail list

Sample obtaining method: Sending by customer

Sample Receiving date: 2019-11-22

Testing Period: 2019-11-22 to 2019-12-30

Test Specification:	Test result:
1. EN 71-1:2014+A1:2018 Mechanical and physical properties	PASS
2. 2009/48/EC CE marking	PASS
3. 2009/48/EC Labeling Requirement (Importer/ Manufacturer Mark, Product Identification, Washing/ Cleaning instruction)	Please refer to result page
4. EN 71-2:2011+A1:2014 Flammability	PASS
5. EN 71-3:2019 Migration of 19 Elements	PASS

Other information:
 Country of Origin: CHINA
 Sales Destination: Global
 Packaging provided: Yes
 The provided age grade of the item: Over 36 months.
 The appropriate age grade of the item: Over 36 months.
 The item was tested over 36 months.

For and on behalf of
 TÜV Rheinland (Shanghai) Co., Ltd.



2020-01-03

(Handwritten signature)
 Vice Wang / Senior Manager

Date *Name/Position*

*Test result is drawn according to the kind and extent of tests performed.
 This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.*

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Item NO.	Item Description EN	Age
E1009,E1009A	Anywhere Art Studio	3Y+
E1047,E1047A	ABC Magnetic Letters	3Y+
E1010,E1010A,E1010B	All-in-1 Easel	3Y+
E3010,E3010A	Doctor On Call	3Y+
E3014,E3014A,,E3014AE08	Beauty Belongings	3Y+



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Material List:

Item: Refer to detail list

Material No.	Material	Color	Location	Remark
M001	Whole Product	Multi-color	E1009,E1009A	
M002	Whole Product	Multi-color	E1047,E1047A	
M003	Whole Product	Multi-color	E1010,E1010A,E1010B	
M004	Whole Product	Multi-color	E3010,E3010A	
M005	Whole Product	Multi-color	E3014,E3014A,E3014AE08	
M006	Wood	Nature	Solid Wood	Refer to 244173004/M005
M007	Wood	Nature	MDF	Refer to 244174644/M004
M008	Wood	Nature	Plywood	Refer to 244174644/M003
M009	Coating	Pink	On wood, E3014	Refer to 244179678/M011
M010	Coating	Lt.green	On wood	Refer to 244179171/M017
M011	Coating	Red brown	On wood	
M012	Coating	Black	On blackboard, E1009 & E1010	
M013	Coating	White	On metal, E1009 & E1010	
M014	Coating	White	On bag, E3010	
M015	Coating	Lt.pink	On wood, E3014	
M016	Coating	Hot pink	On bag, E3014	
M017	Coating	Yellow	On wood, E1047	Refer to 244173004/M006
M018	Coating	Yellow green	On wood, E1047	
M019	Coating	Lt.purple	On wood, E1047	
M020	Coating	Silver	On wood, E3010	



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M021	Coating	Lt.blue	On wood, E1047	Refer to 244179171/M019
M022	Coating	White	On wood, E3010	Refer to 244174306/M008
M023	Coating	Red	On wood	Refer to 244174644/M009
M024	Coating	Orange	On wood	Refer to 244174644/M014
M025	Coating	Dk.blue	On wood	Refer to 244179171/M020
M026	Coating	Black	On wood	Refer to 244173004/M007
M027	Coating	Brown	On wood	Refer to 244174306/M007
M028	Materials intended to leave a trace	Blue	Chalk, E1009	
M029	Materials intended to leave a trace	Red	Chalk, E1009	
M030	Plastic	Semi-transparent	TPE Washer, E1009	
M031	Plastic	Orange	ABS eraser, E1009	
M032	Plastic	Red	PA switch, E1009	
M033	Plastic	Transparent	PP body & plug, cup, E1010	
M034	Plastic	Dk.blue	PE cover, cup, E1010	
M035	Plastic	Yellow	PE cover, cup, E1010	
M036	Plastic	Red	PE cover, cup, E1010	
M037	Plastic	Blue	Logo screw, E1010	
M038	Plastic	White	Elastic band, E3010	
M039	Plastic	Red	EVA pressure balloon, E3010	
M040	Plastic	Semi-transparent	ABS connector of elastic string, thermometer, E3010	
M041	Plastic	White	PE earplug, E3010	
M042	Plastic	White	PC round phone, E3010	



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M043	Plastic	Red	Zipper teeth, bag, E3010	
M044	Plastic	Transparent	Puller of bag, E3010	
M045	Plastic	Cream	PC connector,E3010	
M046	Plastic	Grey	PC connector,E3010	
M047	Plastic	Red	PP tube/round phone, E3010	
M048	Plastic	Transparent	PP frame, stethoscope, E3010	
M049	Plastic	White	ABS tube, stethoscope, E3010	
M050	Plastic	Pink	Zipper teeth, bag, E3014	
M051	Plastic	Reflected	PMMA mirror,E3014	Refer to 244173004/M020
M052	Silicone	White	Silicone gel wrap, E3010	
M053	Plastic + printing	White	Velcro,E3010	Refer to 244179678/M015
M054	Rubber	White	Elastic string(rubber core),E3010	Refer to 244174306/M025
M055	Paper	White	Paper, E1010/E1011	
M056	Paper + printing	White/Grey	Paper, E3010	
M057	Textile + printing	White + red	Main fabric of bag, E1047	
M058	Textile	Beige	Eraser, E1009	
M059	Rubber + Textile	White	Elastic band, E3010	
M060	Textile	Red	Main fabric of bag, E3010	
M061	Textile	Red	Piping of bag, E3010	
M062	Textile	Red	Zipper tape, bag, E3010	
M063	Textile	White	Piping of bag, E3010	
M064	Textile	Red	Lining of bag, E3010	
M065	Textile	White	Hollow PP string,E3010	Refer to 244173004/M031
M066	Textile	Hot pink	Elastic string, E3014	



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M067	Textile	Cream	Felt, E3014	
M068	Textile	Cream	Riband, E3014	
M069	Textile	Pink	Fabric of head gear, E3014	
M070	Textile	White/Black	Sewn-in label, head gear, E3014	Refer to 244173004/M035
M071	Textile	Hot pink	String, nail polish, E3014	
M072	Textile	Pink	Main fabric of bag, E3014	
M073	Textile	Pink	Zipper tape, bag, E3014	
M074	Textile	Pink	Lining of bag, E3014	
M075	Textile	Pink	Piping of bag, E3014	
M076	Textile	White/Red	Sewn-in label(logo), E1047/E3010/E3014	Refer to 244173004/M036
M077	Textile	Off-white	String of bag, E1047	
M078	Textile	Red	Elastic string, E3010	Refer to 244179171/M033
M079	Textile + coating	Red/White	Main fabric with coating, bag, E3010	
M080	Textile + coating	Pink/Hot pink	Main fabric with coating, bag, E3014	
M081	Magnet	Black	Soft magnet, E1009 & E1047	



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1. EN 71-1:2014+A1:2018 Mechanical and physical properties

	Test No:	T001
	Material No:	M001-M005
4. General requirements		
4.1 Material cleanliness		PASS
4.2 Assembly		PASS*1
4.7 Edges		PASS
4.8 Points and metallic wires		PASS
4.16 Heavy immobile toys		PASS*1
4.23 Magnets		PASS*2
7. Warnings, markings and instructions for use		
7.1 General		PASS
7.2 Toys not intended for children under 36 months		PASS*3

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.

Remark:

- *1 This clause is only applicable to M003
- *2 This clause is only applicable to M001,M002
- *3 This clause is only applicable to M00-M005



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2. 2009/48/EC CE Marking

Test result:

	Test No:	T001
	Material No:	M001-M005
CE-marking		PASS

3. 2009/48/EC Labeling Requirement (Importer/ Manufacturer Mark, Product Identification, Washing/ Cleaning instruction)

Test result:

	Test No:	T001
	Material No:	M001-M005
Importer/ Manufacturer Mark (European Company name and address)+		Present on product and package
Product Identification - type, batch, serial or model number+		Present on product and package

Remark:

+ These labeling shall be indicated on the toy, or where that is not possible, on its packaging or in a documents accompanying the toys.

The correct adherence to all requirements according to directive 2009/48/EC in regards to the marking (name or trademark and contact address of the manufacturer respectively the marking for identification [type, batch, model or serial no.])of the toy can only be confirmed by the manufacturer, his delegate or the person who brings it onto the market. The marked article were assessed, however, they can not be evaluated in the frame of this test.



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4. EN 71-2:2011+A1:2014 Flammability**Test result:**

	Test No:	T001
	Material No:	M001-M005
4.1 General		PASS

The clause and/or sub-clause would be indicated only in the test report whichever applicable. The comprehensive result report is available upon request.



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5. EN 71-3:2019 Migration of 19 Elements - with reference to 2009/48/EC and its amendments

Test Method: with reference to EN 71-3:2019, analyzed by ICP-OES or / ICP-MS / LC-ICP-MS.

1) For dry, brittle, powder-like or pliable toy materials :
Test Result:

				Test No.	T023	T024
				Material No.	M028	M029
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	
Aluminium (Al) Σ	mg/kg	10	5,625	204	57.6	
Antimony (Sb)	mg/kg	1	45	n.d.	n.d.	
Arsenic (As)	mg/kg	0.5	3.8	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	1,500	3.8	5.0	
Boron (B)	mg/kg	10	1,200	n.d.	n.d.	
Cadmium (Cd)	mg/kg	0.1	1.3	n.d.	n.d.	
Chromium III (Cr(III))	mg/kg	1	37.5	n.d.	n.d.	
Chromium VI (Cr(VI))	mg/kg	0.015	0.02	n.d.	n.d.	
Cobalt (Co)	mg/kg	0.5	10.5	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	622.5	n.d.	n.d.	
Lead (Pb)	mg/kg	0.4	2.0	0.7	0.9	
Manganese (Mn)	mg/kg	2.5	1,200	22.6	24.4	
Mercury (Hg)	mg/kg	0.5	7.5	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	75	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	37.5	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	4,500	141	245	
Tin (Sn)	mg/kg	0.2	15,000	n.d.	n.d.	
Organic Tin [^]	mg/kg	0.2	0.9	-	-	
Zinc (Zn)	mg/kg	10	3,750	n.d.	n.d.	

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (0.3 mg/kg)



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3) For scraped-off toy materials:
Test Result:

Test No.				T001	T002	T003
Material No.				M006	M007	M008
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al)Σ	mg/kg	10	70,000	32.0	15.8	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	10.2	16.1	6.4
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 Ø	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	2.6	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	7.7	50.7	4.3
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	15.2	4.3
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	62.4	13.0	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 Ø The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T004	T005	T007
				Material No.	M009	M010	M012
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	88.6	54.3	123	
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	18,750	3.5	24.4	n.d.	
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	12.3	
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	15,000	16.4	5.5	23.3	
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	4.7	13.4	
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	
Organic Tin [^]	mg/kg	0.2	12	-	-	-	
Zinc (Zn)	mg/kg	10	46,000	20.4	181	52.7	

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 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

Test No.				T008	T009	T010
Material No.				M013	M014(*1)	M015
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	3310	n.d.	154
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	4.9
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	4.3	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	12.5	4.0	14.4
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	46.0	3.0
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	11500	143	149

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Test Result:

Test No.				T011	T012	T013
Material No.				M016(*1)	M017	M018(*1)
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	21.9	137	16.6
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	329	2.6	3.8
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	2.5	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	3.5	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	23.2	5.5	6.8
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	130	1000	574

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Test Result:

Test No.				T014	T015	T016
Material No.				M019(*1)	M020(*1)	M021
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	45.9	646	12.6
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	4.7	n.d.	2.7
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	77.6	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	899	24.1	30.6

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Test Result:

Test No.				T017(*1)(100mg)	T018	T019(*1)(100mg)
Material No.				M022	M023	M024
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	16.8	31.7	51.2
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	6.3	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	11.2	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	16.2	n.d.	3.3
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	438	16.5
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	418	75.8

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T020	T021	T025
				Material No.	M025	M026	M030
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	87.0	11.3	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	2.6	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	4.8	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	4.9	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	109	n.d.	n.d.	108

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
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Test Result:

				Test No.	T026	T027	T028
				Material No.	M031	M032	M033
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
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Test Result:

				Test No.	T029	T030	T031
				Material No.	M034	M035	M036
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
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Test Result:

				Test No.	T032	T033	T034
				Material No.	M037	M038	M039
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	591	17.3	

Abbreviation: n.d. = Not Detected (< RL)
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Test Result:

				Test No.	T035	T036	T037
				Material No.	M040	M041	M042
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
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Test Result:

				Test No.	T038	T039	T040
				Material No.	M043	M044	M045
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	12.7	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	10.8	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	305	n.d.	n.d.

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Test Result:

				Test No.	T041	T042	T043
				Material No.	M046	M047	M048
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
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Test Result:

				Test No.	T044	T045	T046
				Material No.	M049	M050	M051
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	31.6	
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	
Organic Tin [^]	mg/kg	0.2	12	-	-	-	
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
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Test Result:

				Test No.	T047	T048	T049
				Material No.	M052	M053	M054
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	200
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	1570

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T050	T051	T052
				Material No.	M055	M056	M057
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	11.2	
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	18,750	n.d.	5.4	n.d.	
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	15,000	5.3	4.3	3.2	
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	56,000	28.3	20.5	6.8	
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	
Organic Tin [^]	mg/kg	0.2	12	-	-	-	
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	296	

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T053	T054	T055
				Material No.	M058	M059	M060
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	373	14.7	

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
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 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T056	T057	T058
				Material No.	M061	M062	M063
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	13.4	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T059	T060	T061
				Material No.	M064	M065	M066
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	12.5	n.d.	1400	

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
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 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

Test No.				T062	T063	T064
Material No.				M067	M068(*1)	M069
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	7.5	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	26.9	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
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 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

Test No.				T065	T066	T067
Material No.				M070	M071(*1)	M072
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	3.0	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	52.8	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	22.1

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T068	T069	T070
				Material No.	M073	M074	M075
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	n.d.	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	n.d.
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	n.d.	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T071	T072	T073
				Material No.	M076	M077	M078
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	10.6	n.d.	n.d.	n.d.
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	n.d.
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	n.d.
Barium (Ba)	mg/kg	2.5	18,750	n.d.	n.d.	n.d.	11.3
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	n.d.
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	n.d.
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	n.d.
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	n.d.
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	n.d.
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	n.d.
Manganese (Mn)	mg/kg	2.5	15,000	n.d.	n.d.	n.d.	n.d.
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	n.d.
Nickel (Ni)	mg/kg	2.5	930	4.9	n.d.	n.d.	n.d.
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	n.d.
Strontium (Sr)	mg/kg	2.5	56,000	n.d.	3.3	n.d.	n.d.
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	n.d.
Organic Tin [^]	mg/kg	0.2	12	-	-	-	-
Zinc (Zn)	mg/kg	10	46,000	n.d.	n.d.	n.d.	189

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Test Result:

				Test No.	T074	T075	T076
				Material No.	M079	M080	M081
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al) Σ	mg/kg	10	70,000	23.5	n.d.	10.1	
Antimony (Sb)	mg/kg	5	560	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	5	47	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	18,750	n.d.	172	27.8	
Boron (B)	mg/kg	10	15,000	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	
Chromium III (Cr(III))	mg/kg	10	460	n.d.	n.d.	n.d.	
Chromium VI (Cr(VI))	mg/kg	0.045	0.053 \emptyset	n.d.	n.d.	n.d.	
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	7,700	n.d.	n.d.	n.d.	
Lead (Pb)	mg/kg	2.5	23	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	15,000	2.8	3.1	n.d.	
Mercury (Hg)	mg/kg	2.5	94	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	10	460	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	56,000	33.2	15.7	427	
Tin (Sn)	mg/kg	1.0	180,000	n.d.	n.d.	n.d.	
Organic Tin [^]	mg/kg	0.2	12	-	-	-	
Zinc (Zn)	mg/kg	10	46,000	n.d.	25.0	n.d.	

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 mg/kg denotes milligram per kilogram
[^] denotes Organic tin are not necessary to be determined when the Tin concentration is less than calculated limit (3.6 mg/kg) or the components were confirmed to be pure metal
 \emptyset The requirement applies from 18 November 2019 according to Commission Directive (EU) 2018/725



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Remark:

- * Categorization of toys materials is based on the material texture. According to point H.11 of Annex H to EN 71-3:2019, cosmetic materials with dry, brittle, powder like or pliable texture such as lipstick and eyeshadow are considered as category I materials. However, as a reminder, it cannot preclude the possibility that some national enforcement authorities might take a more stringent action to treat cosmetic materials as sticky and evaluate according to category II requirement as they are intended to be applied on skin and retained for long time.
- Σ According to Commission Directive (EU) 2019/1922, the amendment of Directive 2009/48/EC, migration limits for aluminum in i) dry, brittle, powder-like or pliable toy materials; ii) liquid or sticky toy materials; and iii) scraped-off toy materials will be revised to 2250 mg/kg, 560 mg/kg and 28130 mg/kg, respectively. Effective from 20 May 2021.
- *1 According to EN 71-3:2019, the weight of test portion was less than 100mg, but greater than 10mg. The result was calculated as if 100mg of the samples were available.
- *2 According to EN 71-3:2019, the weight of test portion M011 and M027 available was less than 10mg, the test for soluble heavy metal content was not performed.



Sample Photos



E1009,E1009A



E1010,E1010A,E1010B



E1047,E1047A



E3010,E3010A



E3014,E3014A,E3014AE08

- END -



