

Report No.: 0154078519a 005

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Client: FORM_S
 VELIKA ARNAUTSKA 33 - 65125 - ODESSA - UKRAINE

Supplier's name: N/A

Test item(s): Toy
Identification / Model No(s): 12 Metallic Colored Pencils
 Refer to detail list (Page 2)

Sample Receiving Date: 2014-12-11 & 2015-01-07

Testing Period: 2014-12-11 - 2014-12-17 & 2014-12-24 - 2014-12-31 & 2015-01-07 - 2015-01-12

Test specification:
Customer's requirement:
Test result:

- | | |
|---|---------------------------|
| 1. EN71-3:2013+A1:2014 Migration of 19 Elements | PASS |
| 2. EN 71 - 9 : 2005 / A1 : 2007; EN 71 - 10 and 11 : 2005 Table 2B Colorants | PASS |
| 3. EN 71 - 9 : 2005 / A1 : 2007; EN 71 - 10 and 11 : 2005 Table 2C Primary Aromatic Amines | PASS |
| 4. ASTM F963-11 Sect. 4.3.5.1 and CPSIA Sect. 101: Total lead content in paint and coating materials | PASS |
| 5. ASTM F963-11 Sect. 4.3.5.2 and CPSIA Sect. 101: Total lead content in substrate materials | PASS |
| 6. Banned azo dyes | PASS |
| 7. Polycyclic aromatic hydrocarbons (PAHs) - 1907/2006/EC with Amendment No. 552/2009 EC Annex XVII Item No. 50 and (EU) No.1272/2013 | PASS |
| 8. Polycyclic aromatic hydrocarbons (PAHs) - ZEK 01.4-08 | PASS |
| 9. Phthalates Content | PASS |
| 10. Total Cadmium Content | PASS |
| 11. Benzene, Toluene and Xylene content | Please refer to test page |
| 12. Screening of substances of very high concern (SVHC) subject to authorisation, according to (EU) No 143/2011, (EU) No 125/2012, (EU) No 348/2013 and (EU) No 895/2014 (Annex XIV of EC No 1907/2006) and candidate list by European Chemical Agency (ECHA) | Please refer to test page |

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

2015-01-12


 Wice Wang / Section 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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Product Information

Product Code	Type	Product Description
5101B-12CB (hex)	Metallic	12

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Material list

Material No.	Material	Color	Location
M001	Materials intended to leave a trace	Metallic silvery	G01-L
M002	Materials intended to leave a trace	Metallic grey	G02-L
M003	Materials intended to leave a trace	Metallic indigo	G03-L
M004	Materials intended to leave a trace	Metallic blue	G04-L
M005	Materials intended to leave a trace	Metallic turquoise	G05-L
M006	Materials intended to leave a trace	Metallic teal	G06-L
M007	Materials intended to leave a trace	Metallic green	G07-L
M008	Materials intended to leave a trace	Metallic olive	G08-L
M009	Materials intended to leave a trace	Metallic gold	G09-L
M010	Materials intended to leave a trace	Metallic bronze	G10-L
M010'	Materials intended to leave a trace	Metallic bronze	G10-L'
M011	Materials intended to leave a trace	Metallic maroon	G11-L
M012	Materials intended to leave a trace	Metallic purple	G12-L
M013	coating	Metallic silvery	G01-P
M014	coating	Metallic grey	G02-P
M015	coating	Metallic indigo	G03-P
M016	coating	Metallic blue	G04-P
M017	coating	Metallic turquoise	G05-P
M018	coating	Metallic teal	G06-P
M019	coating	Metallic green	G07-P
M020	coating	Metallic olive	G08-P
M021	coating	Metallic gold	G09-P
M022	coating	Metallic bronze	G10-P
M023	coating	Metallic maroon	G11-P
M024	coating	Metallic purple	G12-P
M025	Wood + coating	Metallic silvery	G01-P
M026	Wood + coating	Metallic grey	G02-P
M027	Wood + coating	Metallic indigo	G03-P
M028	Wood + coating	Metallic blue	G04-P

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M029	Wood + coating	Metallic turquoise	G05-P
M030	Wood + coating	Metallic teal	G06-P
M031	Wood + coating	Metallic green	G07-P
M032	Wood + coating	Metallic olive	G08-P
M033	Wood + coating	Metallic gold	G09-P
M034	Wood + coating	Metallic bronze	G10-P
M035	Wood + coating	Metallic maroon	G11-P
M036	Wood + coating	Metallic purple	G12-P

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1. EN71-3:2013+A1:2014 Migration of 19 Elements

Test Method: with reference to EN71-3:2013+A1:2014, for inorganic elements, analyzed by ICP-OES or ICP-MS.

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

				Test No.	T001	T002	T003
				Material No.	G01-L	G02-L	G03-L
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	
Aluminium (Al)	mg/kg	10	5625	193	480	359	
Antimony (Sb)	mg/kg	1	45	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	0.5	3.8	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	1500	n.d.	n.d.	n.d.	
Boron (B)	mg/kg	10	1200	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	0.1	1.3	n.d.	n.d.	n.d.	
Chromium (III) (Cr (III))	mg/kg	1	37.5	n.d.(*2)	n.d.(*2)	n.d.(*2)	
Chromium (VI) (Cr (VI))	mg/kg	0.015	0.02	n.d.(*2)	n.d.(*2)	n.d.(*2)	
Cobalt (Co)	mg/kg	0.5	10.5	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	622.5	n.d.	n.d.	20.4	
Lead (Pb)	mg/kg	0.5	13.5	n.d.	n.d.	8.1	
Manganese (Mn)	mg/kg	2.5	1200	n.d.	n.d.	n.d.	
Mercury (Hg)	mg/kg	0.5	7.5	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	75	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	37.5	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	4500	n.d.	n.d.	n.d.	
Tin (Sn)	mg/kg	0.2	15000	n.d.	n.d.	n.d.	
Organic Tin [^]	mg/kg	0.2	0.9	-	-	-	
Zinc (Zn)	mg/kg	10	3750	n.d.	15.5	18.1	

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				Test No.	T004	T005	T006
				Material No.	G04-L	G05-L	G06-L
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al)	mg/kg	10	5625	335	300	332	
Antimony (Sb)	mg/kg	1	45	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	0.5	3.8	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	1500	n.d.	2.9	66.0	
Boron (B)	mg/kg	10	1200	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	0.1	1.3	n.d.	n.d.	n.d.	
Chromium (III) (Cr (III))	mg/kg	1	37.5	n.d.(*2)	n.d.(*2)	n.d.(*2)	
Chromium (VI) (Cr (VI))	mg/kg	0.015	0.02	n.d.(*2)	n.d.(*2)	n.d.(*2)	
Cobalt (Co)	mg/kg	0.5	10.5	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	622.5	7.8	4.8	n.d.	
Lead (Pb)	mg/kg	0.5	13.5	n.d.	0.6	n.d.	
Manganese (Mn)	mg/kg	2.5	1200	n.d.	n.d.	n.d.	
Mercury (Hg)	mg/kg	0.5	7.5	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	75	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	37.5	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	4500	n.d.	n.d.	n.d.	
Tin (Sn)	mg/kg	0.2	15000	n.d.	n.d.	n.d.	
Organic Tin^	mg/kg	0.2	0.9	-	-	-	
Zinc (Zn)	mg/kg	10	3750	n.d.	n.d.	22.7	

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				Test No.	T007	T008	T009
				Material No.	G07-L	G08-L	G09-L
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	
Aluminium (Al)	mg/kg	10	5625	1810	371	428	
Antimony (Sb)	mg/kg	1	45	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	0.5	3.8	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	1500	52.8	n.d.	n.d.	
Boron (B)	mg/kg	10	1200	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	0.1	1.3	n.d.	n.d.	n.d.	
Chromium (III) (Cr (III))	mg/kg	1	37.5	n.d.(*2)	n.d.(*2)	n.d.(*2)	
Chromium (VI) (Cr (VI))	mg/kg	0.015	0.02	n.d.(*2)	n.d.(*2)	n.d.(*2)	
Cobalt (Co)	mg/kg	0.5	10.5	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	622.5	3.7	2.9	n.d.	
Lead (Pb)	mg/kg	0.5	13.5	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	1200	n.d.	n.d.	n.d.	
Mercury (Hg)	mg/kg	0.5	7.5	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	75	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	37.5	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	4500	n.d.	n.d.	n.d.	
Tin (Sn)	mg/kg	0.2	15000	n.d.	n.d.	n.d.	
Organic Tin [^]	mg/kg	0.2	0.9	-	-	-	
Zinc (Zn)	mg/kg	10	3750	50.7	n.d.	233	

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				Test No.	T010	T011	T012
				Material No.	G10-L	G11-L	G12-L
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	
Aluminium (Al)	mg/kg	10	5625	396	106	208	
Antimony (Sb)	mg/kg	1	45	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	0.5	3.8	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	1500	n.d.	3.0	3.8	
Boron (B)	mg/kg	10	1200	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	0.1	1.3	n.d.	n.d.	n.d.	
Chromium (III) (Cr (III))	mg/kg	1	37.5	n.d.(*2)	n.d.(*2)	n.d.(*2)	
Chromium (VI) (Cr (VI))	mg/kg	0.015	0.02	n.d.(*2)	n.d.(*2)	n.d.(*2)	
Cobalt (Co)	mg/kg	0.5	10.5	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	622.5	n.d.	8.6	2.7	
Lead (Pb)	mg/kg	0.5	13.5	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	1200	n.d.	n.d.	n.d.	
Mercury (Hg)	mg/kg	0.5	7.5	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	75	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	37.5	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	4500	n.d.	n.d.	n.d.	
Tin (Sn)	mg/kg	0.2	15000	n.d.	n.d.	n.d.	
Organic Tin^	mg/kg	0.2	0.9	-	-	-	
Zinc (Zn)	mg/kg	10	3750	12.2	30.3	21.3	

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3) For scraped-off toy materials:

				Test No.	T013	T014	T015
				Material No.	G01-P	G02-P	G03-P
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	
Aluminium (Al)	mg/kg	10	70000	20400	6780	3430	
Antimony (Sb)	mg/kg	1	560	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	1	47	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	18750	3.4	336	8.8	
Boron (B)	mg/kg	10	15000	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	
Chromium (Cr)	mg/kg	0.15	-	n.d.	n.d.	n.d.	
Chromium (III) (Cr (III))§	mg/kg	0.15	460	-	-	-	
Chromium (VI) (Cr (VI))§	mg/kg	0.15	0.2	-	-	-	
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	7700	n.d.	n.d.	n.d.	
Lead (Pb)	mg/kg	2.5	160	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	15000	n.d.	3.2	n.d.	
Mercury (Hg)	mg/kg	1	94	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	460	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	56000	n.d.	5.4	n.d.	
Tin (Sn)	mg/kg	1.0	180000	n.d.	n.d.	n.d.	
Organic Tin^	mg/kg	1.0	12	-	-	-	
Zinc (Zn)	mg/kg	10	46000	19.3	n.d.	n.d.	

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				Test No.	T016	T017	T018
				Material No.	G04-P	G05-P	G06-P
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al)	mg/kg	10	70000	9750	21800	2690	
Antimony (Sb)	mg/kg	1	560	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	1	47	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	18750	7.1	62.1	95.2	
Boron (B)	mg/kg	10	15000	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	
Chromium (Cr)	mg/kg	0.15	-	n.d.	n.d.	n.d.	
Chromium (III) (Cr (III))§	mg/kg	0.15	460	-	-	-	
Chromium (VI) (Cr (VI))§	mg/kg	0.15	0.2	-	-	-	
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	7700	n.d.	n.d.	n.d.	
Lead (Pb)	mg/kg	2.5	160	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	15000	5.6	n.d.	n.d.	
Mercury (Hg)	mg/kg	1	94	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	460	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	56000	8.1	8.6	2.6	
Tin (Sn)	mg/kg	1.0	180000	n.d.	n.d.	n.d.	
Organic Tin^	mg/kg	1.0	12	-	-	-	
Zinc (Zn)	mg/kg	10	46000	11.6	80.9	15.3	

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				Test No.	T019	T020	T021
				Material No.	G07-P	G08-P	G09-P
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	
Aluminium (Al)	mg/kg	10	70000	3610	4230	241	
Antimony (Sb)	mg/kg	1	560	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	1	47	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	18750	34.7	121	13.8	
Boron (B)	mg/kg	10	15000	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	
Chromium (Cr)	mg/kg	0.15	-	n.d.	n.d.	n.d.	
Chromium (III) (Cr (III))§	mg/kg	0.15	460	-	-	-	
Chromium (VI) (Cr (VI))§	mg/kg	0.15	0.2	-	-	-	
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	7700	n.d.	n.d.	n.d.	
Lead (Pb)	mg/kg	2.5	160	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	15000	n.d.	n.d.	n.d.	
Mercury (Hg)	mg/kg	1	94	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	460	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	56000	4.9	5.7	4.9	
Tin (Sn)	mg/kg	1.0	180000	n.d.	n.d.	n.d.	
Organic Tin^	mg/kg	1.0	12	-	-	-	
Zinc (Zn)	mg/kg	10	46000	23.5	37.4	12.1	

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				Test No.	T022	T023	T024
				Material No.	G10-P	G11-P	G12-P
Test Parameter	Unit	RL	Regulatory Requirement	Result	Result	Result	Result
Aluminium (Al)	mg/kg	10	70000	5780	5640	4460	
Antimony (Sb)	mg/kg	1	560	n.d.	n.d.	n.d.	
Arsenic (As)	mg/kg	1	47	n.d.	n.d.	n.d.	
Barium (Ba)	mg/kg	2.5	18750	17.3	4.8	24.6	
Boron (B)	mg/kg	10	15000	n.d.	n.d.	n.d.	
Cadmium (Cd)	mg/kg	1	17	n.d.	n.d.	n.d.	
Chromium (Cr)	mg/kg	0.15	-	n.d.	n.d.	n.d.	
Chromium (III) (Cr (III))§	mg/kg	0.15	460	-	-	-	
Chromium (VI) (Cr (VI))§	mg/kg	0.15	0.2	-	-	-	
Cobalt (Co)	mg/kg	2.5	130	n.d.	n.d.	n.d.	
Copper (Cu)	mg/kg	2.5	7700	n.d.	n.d.	n.d.	
Lead (Pb)	mg/kg	2.5	160	n.d.	n.d.	n.d.	
Manganese (Mn)	mg/kg	2.5	15000	n.d.	n.d.	n.d.	
Mercury (Hg)	mg/kg	1	94	n.d.	n.d.	n.d.	
Nickel (Ni)	mg/kg	2.5	930	n.d.	n.d.	n.d.	
Selenium (Se)	mg/kg	2.5	460	n.d.	n.d.	n.d.	
Strontium (Sr)	mg/kg	2.5	56000	5.2	n.d.	n.d.	
Tin (Sn)	mg/kg	1.0	180000	n.d.	n.d.	n.d.	
Organic Tin [^]	mg/kg	1.0	12	-	-	-	
Zinc (Zn)	mg/kg	10	46000	16.4	21.8	20.4	

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)

Remark:

- *1 The cadmium requirement is following 2012/7/EU, as of 3 Mar 2012. This restriction will come into effect starting from 20 July 2013 onwards.
- *2 Confirmation of Cr(III) and Cr(VI) content has been performed with reference to EN71- 3:2013+A1:2014, Annex F (analyzed by LC-ICP-MS or IC-ICP-MS/MS). Cr(III) content was confirmed by calculation.

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2.EN 71 - 9 + A1/2007; 10-11/2005 Table 2B Colourants

Test Method: EN 71 - 10 and 11 : 2005 for Table 2B Colourants

Test Result:

					Test No.	T001	T002	T003
					Material No.	G01-L + G02-L + G03-L	G04-L + G05-L + G06-L	G07-L + G08-L + G09-L
Test Parameter	CAS No.	Unit	RL	Regulatory Requirement	Result	Result	Result	
Disperse Blue 1	2475-45-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Blue 3	2475-46-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Blue 106	12223-01-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Blue 124	61951-51-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Orange 3	730-40-5	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Orange 37/76	12223-33-5; 13301-61-6	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Yellow 3	2832-40-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Red 1	2872-52-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Solvent Yellow 1	60-09-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Solvent Yellow 2	60-11-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Solvent Yellow 3	97-56-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Basic Red 9	569-61-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Basic Violet 1	8004-87-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Basic Violet 3	548-62-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Acid Red 26	3761-53-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Acid Violet 49	1694-09-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Blue 35*	12222-75-2	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	

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					Test No.	T004	T005	T006
					Material No.	G10-L + G11-L + G12-L	G01-P + G02-P + G03-P	G04-P + G05-P + G06-P
Test Parameter	CAS No.	Unit	RL	Regulatory Requirement	Result	Result	Result	
Disperse Blue 1	2475-45-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Blue 3	2475-46-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Blue 106	12223-01-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Blue 124	61951-51-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Orange 3	730-40-5	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Orange 37/76	12223-33-5; 13301-61-6	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Yellow 3	2832-40-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Red 1	2872-52-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Solvent Yellow 1	60-09-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Solvent Yellow 2	60-11-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Solvent Yellow 3	97-56-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Basic Red 9	569-61-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Basic Violet 1	8004-87-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Basic Violet 3	548-62-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Acid Red 26	3761-53-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Acid Violet 49	1694-09-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	
Disperse Blue 35*	12222-75-2	mg/kg	10	10 (Action Limit)	n.d.	n.d.	n.d.	

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					Test No.	T007	T008
					Material No.	G07-P + G08-P + G09-P	G10-P + G11-P + G12-P
Test Parameter	CAS No.	Unit	RL	Regulatory Requirement	Result	Result	
Disperse Blue 1	2475-45-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Disperse Blue 3	2475-46-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Disperse Blue 106	12223-01-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Disperse Blue 124	61951-51-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Disperse Orange 3	730-40-5	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Disperse Orange 37/76	12223-33-5; 13301-61-6	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Disperse Yellow 3	2832-40-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Disperse Red 1	2872-52-8	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Solvent Yellow 1	60-09-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Solvent Yellow 2	60-11-7	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Solvent Yellow 3	97-56-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Basic Red 9	569-61-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Basic Violet 1	8004-87-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Basic Violet 3	548-62-9	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Acid Red 26	3761-53-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Acid Violet 49	1694-09-3	mg/kg	10	10 (Action Limit)	n.d.	n.d.	
Disperse Blue 35*	12222-75-2	mg/kg	10	10 (Action Limit)	n.d.	n.d.	

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

Remark:

- * According to the BfR-recommendations (Bundesinstitut für Risikobewertung), Disperse blue 35 is analysed additionally.

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3.EN 71 - 9 + A1/2007; 10-11/2005 Table 2C Primary Aromatic Amines

Test Method: EN 71 - 10 and 11 : 2005 for Table 2C Primary Aromatic Amines

Test Result:

					Test No.	T001	T002	T003
					Material No.	G01-L + G02-L + G03-L	G04-L + G05-L + G06-L	G07-L + G08-L + G09-L
Test Parameter	CAS No.	Unit	RL	Regulatory Requirement	Result	Result	Result	
Benzidine	92-87-5	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
2-Naphthylamine	91-59-8	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
4-Chloroaniline	106-47-8	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
3,3'-Dichlorobenzidine	91-94-1	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
3,3'-Dimethoxybenzidine	119-90-4	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
3,3'-Dimethylbenzidine	119-93-7	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
o-Toluidine	95-53-4	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
2-Methoxyaniline (o-Anisidine)	90-04-0	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
Aniline	62-53-3	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	

					Test No.	T004	T005	T006
					Material No.	G10-L + G11-L + G12-L	G01-P + G02-P + G03-P	G04-P + G05-P + G06-P
Test Parameter	CAS No.	Unit	RL	Regulatory Requirement	Result	Result	Result	
Benzidine	92-87-5	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
2-Naphthylamine	91-59-8	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
4-Chloroaniline	106-47-8	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
3,3'-Dichlorobenzidine	91-94-1	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
3,3'-Dimethoxybenzidine	119-90-4	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
3,3'-Dimethylbenzidine	119-93-7	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
o-Toluidine	95-53-4	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
2-Methoxyaniline (o-Anisidine)	90-04-0	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	
Aniline	62-53-3	mg/kg	5	5 (Action Limit)	n.d.	n.d.	n.d.	

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					Test No.	T007	T008
					Material No.	G07-P + G08-P + G09-P	G10-P + G11-P + G12-P
Test Parameter	CAS No.	Unit	RL	Regulatory Requirement	Result	Result	
Benzidine	92-87-5	mg/kg	5	5 (Action Limit)	n.d.	n.d.	
2-Naphthylamine	91-59-8	mg/kg	5	5 (Action Limit)	n.d.	n.d.	
4-Chloroaniline	106-47-8	mg/kg	5	5 (Action Limit)	n.d.	n.d.	
3,3'-Dichlorobenzidine	91-94-1	mg/kg	5	5 (Action Limit)	n.d.	n.d.	
3,3'-Dimethoxybenzidine	119-90-4	mg/kg	5	5 (Action Limit)	n.d.	n.d.	
3,3'-Dimethylbenzidine	119-93-7	mg/kg	5	5 (Action Limit)	n.d.	n.d.	
o-Toluidine	95-53-4	mg/kg	5	5 (Action Limit)	n.d.	n.d.	
2-Methoxyaniline (o-Anisidine)	90-04-0	mg/kg	5	5 (Action Limit)	n.d.	n.d.	
Aniline	62-53-3	mg/kg	5	5 (Action Limit)	n.d.	n.d.	

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

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4.ASTM F963-11 Sect. 4.3.5.1 and CPSIA Sect. 101: Total lead content in paint and coating materials

Test Method: CPSC-CH-E1003-09.1 (Microwave method)

Test result

ASTM F963-11 Sect. 4.3.5.1	Total lead content in paint and coating materials	PASS
CPSIA Sect. 101	Total lead content in paint and coating materials	PASS

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Test Result
T001	G01-P + G02-P + G03-P	Total Pb	ppm	10	90	n.d.
T002	G04-P + G05-P + G06-P	Total Pb	ppm	10	90	n.d.
T003	G07-P + G08-P + G09-P	Total Pb	ppm	10	90	n.d.
T004	G10-P + G11-P + G12-P	Total Pb	ppm	10	90	n.d.

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 ppm = parts per million

Remark:

Requirement according to Consumer Product Safety Improvement Act 2008 Public Law 110-314, section 101, is summarized below:

Effective Date	Maximum Permissible Limit Lead in paint and similar surface coating
1 year after enactment/ 14 Aug 2009	90 ppm

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5.ASTM F963-11 Sect. 4.3.5.2 and CPSIA Sect. 101: Total lead content in substrate materials

Test Method: CPSC-CH-E1001-08.3 and CPSC-CH-E1002-08.3 (Microwave method)

Test result

ASTM F963-11 Sect. 4.3.5.2	Total lead content in substrate materials	PASS
CPSIA Sect. 101	Total lead content in substrate materials	PASS

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Test Result
T001	G01-L + G02-L + G03-L	Total Pb	ppm	10	100	n.d.
T002	G04-L + G05-L + G06-L	Total Pb	ppm	10	100	n.d.
T003	G07-L + G08-L + G09-L	Total Pb	ppm	10	100	n.d.
T004	G10-L + G11-L + G12-L	Total Pb	ppm	10	100	15

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 ppm = parts per million

Remark:

Requirement according to Consumer Product Safety Improvement Act 2008 Public Law 110-314, section 101, is summarized below:

Effective Date	<u>Maximum Permissible Limit</u> Lead in accessible substrate materials
180 days after enactment/10 Feb 2009	600 ppm
1 year after enactment/14 Aug 2009	300 ppm
3 years after enactment/14 Aug 2011	100 ppm

- *1 According to Consumer Product Safety Commission, exemptions for lead as used in certain parts of children's electronic devices, the following lead-containing components are granted the exemptions :
- Glass of cathode ray tubes, electronic components and fluorescent tubes
 - As an alloying element in steel, the maximum amount of lead shall be less than 0.35% by weight (3,500 ppm);
 - Used the manufacture of aluminum, the maximum amount of lead shall be less than 0.4% by weight (4,000 ppm);
 - Used in copper-based alloys, the maximum amount of lead shall be less than 4% by weight (40,000 ppm);
 - Lead-bronze bearing shells and bushings;
 - Compliant pin connector systems;
- *2 According to Consumer Product Safety Commission, the following materials are exempted based on they are untreated and unadulterated with respect to the addition of materials or chemicals, including pigments, dyes, coatings, finishes or any other substance, and that do not undergo any processing that could result in the addition of lead into the product or material:
- Precious gemstones: diamond, ruby, sapphire or emeralds;
 - Semiprecious gemstones provided that the mineral or material is not based on lead and is not associated with mineral based on lead or lead compounds;
 - Natural or cultured pearls;
 - Wood;
 - Paper and similar materials made from wood or cellulosic fiber;
 - Dyed or undyed textiles (cotton, wool, hemp, nylon, yam, etc.);
 - CMYK process printing inks;
- *3 According to H.R. 2715, the following functional purpose children's products are granted the exemptions:
- Off-highway motorized vehicles;
 - Bicycles and related products (the lead limit for metal components described in June 20, 2009 "Notice of Stay of Enforcement Pertaining to Bicycles and Related Products" continue to be applied until December 31, 2011. After the date, these metal components must meet a 300 ppm total lead limit.);
 - Resale of used children's products (excluding children's jewelry or any children's product for which known to be violated the lead limit).
- *4 According to Consumer Product Safety Commission, the aluminum alloy components on children's ride-on tractors, children's ride-on cars, and other ride-on toys for children ages 3 years and older are granted to have a 300 ppm lead limit.

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6.Banned azo dyes (1907/2006/EC) (modified)

 Test Method: EN 14362-1:2012
 EN 14362-3:2012

Test result:

Test No.	Material No.	Test Parameter	Method	Unit	RL	Customer's Requirement	Result
T001	G01-L + G02-L + G03-L	Azo dyes	EN 14362-1,EN 14362-3	mg/kg	5	30	n.d.
T002	G04-L + G05-L + G06-L	Azo dyes	EN 14362-1	mg/kg	5	30	n.d.
T003	G07-L + G08-L + G09-L	Azo dyes	EN 14362-1,EN 14362-3	mg/kg	5	30	n.d.
T004	G10-L'	Azo dyes	EN 14362-1,EN 14362-3	mg/kg	5	30	a10:14
T005	G11-L	Azo dyes	EN 14362-1	mg/kg	5	30	n.d.
T006	G12-L	Azo dyes	EN 14362-1,EN 14362-3	mg/kg	5	30	n.d.
T007	G01-P + G02-P + G03-P	Azo dyes	EN 14362-1,EN 14362-3	mg/kg	5	30	n.d.
T008	G04-P + G05-P + G06-P	Azo dyes	EN 14362-1,EN 14362-3	mg/kg	5	30	n.d.
T009	G07-P + G08-P + G09-P	Azo dyes	EN 14362-1,EN 14362-3	mg/kg	5	30	n.d.
T010	G10-P + G11-P + G12-P	Azo dyes	EN 14362-1,EN 14362-3	mg/kg	5	30	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
 RL = Reporting Limit
 mg/kg = milligram per kilogram

Remark:

- * The CAS-number 97-56-3 (A5) and 99-55-8 (A6) are further reduced to CAS-number 95-53-4 (A18) and 95-80-7 (A19).
- ** Azo colorants that are able to form CAS-number 60-09-03 (A22), generate under the condition of this method CAS-number 62-53-3 (A25) and 106-50-3 (A26).
- *** Azo colorants that are able to form 4-aminoazobenzene (A22), is confirmed by EN 14362-3:2012 / ISO 17234-2:2011.
- **** Azo colorants are detected & quantified by GC/MS and confirmed by LC/MS.

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^ Additional azo colorants were tested according to customer's requirement.

ID	Azo colorant	CAS No.	ID	Azo colorant	CAS No.
A1	biphenyl-4-ylamine / 4-aminobiphenyl / xenylamine	92-67-1	A14	p-cresidine	120-71-8
A2	benzidine	92-87-5	A15	4,4'-methylene-bis-(2-chloro-aniline) / 2,2'-dichloro-4,4'-methylene-dianiline	101-14-4
A3	4-chloro-o-toluidine	95-69-2	A16	4,4'-oxydianiline	101-80-4
A4	2-naphthylamine	91-59-8	A17	4,4'-thiodianiline	139-65-1
A5*	o-aminoazotoluene / 4-amino-2',3'-dimethylazobenzene / 4-o-tolylazo-o-toluidine	97-56-3	A18	o-toluidine / 2-aminotoluene	95-53-4
A6*	5-nitro-o-toluidine	99-55-8	A19	4-methyl-m-phenylenediamine	95-80-7
A7	4-chloroaniline	106-47-8	A20	2,4,5-trimethylaniline	137-17-7
A8	4-methoxy-m-phenylenediamine	615-05-4	A21	o-anisidine / 2-methoxyaniline	90-04-0
A9	4,4'-methylenedianiline / 4,4'-diaminodiphenylmethane	101-77-9	A22**	4-aminoazobenzene	60-09-3
A10	3,3'-dichlorobenzidine / 3,3'-dichlorobiphenyl-4,4'-ylenediamine	91-94-1	A23^	2,4-xylidine	95-68-1
A11	3,3'-dimethoxybenzidine	119-90-4	A24^	2,6-xylidine	87-62-7
A12	3,3'-dimethylbenzidine / 4,4'-bi-o-toluidine	119-93-7	A25	Aniline	62-53-3
A13	4,4'-methylenedi-o-toluidine	838-88-0	A26	4-aminoaniline	106-50-3

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**7.Polycyclic aromatic hydrocarbons (PAHs) - 1907/2006/EC with Amendment No. 552/2009
EC Annex XVII Item No. 50 and (EU) No.1272/2013**

Test Method: Organic solvent extraction, GCMS

					Test No.	T001	T002	T003
					Material No.	G01-L + G02-L	G03-L + G04-L	G05-L + G06-L
Test Parameter	CAS NO	Unit	RL	Regulatory Requirement	Result	Result	Result	
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo(e)pyrene	192-97-2	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[a]anthracene	56-55-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Chrysene	218-01-9	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[b]fluoranthene	205-99-2	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[j]fluoranthene	205-82-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[k]fluoranthene	207-08-9	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	

					Test No.	T004	T005	T006
					Material No.	G07-L + G08-L	G09-L + G10-L	G11-L + G12-L
Test Parameter	CAS NO	Unit	RL	Regulatory Requirement	Result	Result	Result	
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo(e)pyrene	192-97-2	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[a]anthracene	56-55-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Chrysene	218-01-9	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[b]fluoranthene	205-99-2	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[j]fluoranthene	205-82-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[k]fluoranthene	207-08-9	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	

					Test No.	T007	T008	T009
					Material No.	G01-P + G02-P	G03-P + G04-P	G05-P + G06-P
Test Parameter	CAS NO	Unit	RL	Regulatory Requirement	Result	Result	Result	
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo(e)pyrene	192-97-2	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[a]anthracene	56-55-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Chrysene	218-01-9	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[b]fluoranthene	205-99-2	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[j]fluoranthene	205-82-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[k]fluoranthene	207-08-9	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	

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					Test No.	T010	T011	T012
					Material No.	G07-P + G08-P	G09-P + G10-P	G11-P + G12-P
Test Parameter	CAS NO	Unit	RL	Regulatory Requirement	Result	Result	Result	
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo(e)pyrene	192-97-2	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[a]anthracene	56-55-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Chrysene	218-01-9	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[b]fluoranthene	205-99-2	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[j]fluoranthene	205-82-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Benzo[k]fluoranthene	207-08-9	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.2	0.5	n.d.	n.d.	n.d.	

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

Remark:

- * Requirement according to European Directive 1907/2006/EC with Amendment No. 552/2009 EC Annex XVII Item No.: 50 and (EU) No.1272/2013 are summarized as below:

Scope	Parameter	Unit	Maximum permissible limit
Articles with direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use, made of plastic and rubber shall follow below limit:			
Such articles include amongst others: ---sport equipment such as bicycles, golf clubs, racquets ---household utensils, trolleys, walking frames --- tools for domestic use --- clothing, footwear, gloves and sportswear ---watch-straps, wrist-bands, masks, head-bands	Each of 8 listed PAHs	mg/kg	1
Toys, including activity toys, and childcare articles	Each of 8 listed PAHs	mg/kg	0.5

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8. Polycyclic aromatic hydrocarbons (PAHs)
Test Method: ZEK 01.4-08

Test Result:

				Test No.	T001	T002	T003
				Material No.	G01-L + G02-L	G03-L + G04-L	G05-L + G06-L
Test Parameter	CAS NO	Unit	RL	Result	Result	Result	
Acenaphthene	83-32-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Acenaphthylene	208-96-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Anthracene	120-12-7	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[a]anthracene	56-55-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[b]fluoranthene	205-99-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[k]fluoranthene	207-08-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[j]fluoranthene	205-82-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[g,h,i]perylene	191-24-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[e]pyrene	192-97-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Chrysene	218-01-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Fluoranthene	206-44-0	mg/kg	0.2	n.d.	n.d.	n.d.	
Fluorene	86-73-7	mg/kg	0.2	n.d.	n.d.	n.d.	
Indeno[1,2,3-cd]pyrene	193-39-5	mg/kg	0.2	n.d.	n.d.	n.d.	
Naphthalene	91-20-3	mg/kg	0.2	n.d.	0.4	0.2	
Phenanthrene	85-01-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Pyrene	129-00-0	mg/kg	0.2	n.d.	n.d.	n.d.	
Sum PAHs	NA	mg/kg	NA	n.d.	0.4	0.2	
Category*	NA	NA	NA	2	2	2	
Limit of Benzo[a]pyrene(BaP)	50-32-8	mg/kg	NA	1	1	1	
Limit of Sum PAHs	NA	mg/kg	NA	10	10	10	

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Test No.				T004	T005	T006
Material No.				G07-L + G08-L	G09-L + G10-L	G11-L + G12-L
Test Parameter	CAS NO	Unit	RL	Result	Result	Result
Acenaphthene	83-32-9	mg/kg	0.2	n.d.	n.d.	n.d.
Acenaphthylene	208-96-8	mg/kg	0.2	n.d.	n.d.	n.d.
Anthracene	120-12-7	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[a]anthracene	56-55-3	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[b]fluoranthene	205-99-2	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[k]fluoranthene	207-08-9	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[j]fluoranthene	205-82-3	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[g,h,i]perylene	191-24-2	mg/kg	0.2	n.d.	n.d.	n.d.
Benzo[e]pyrene	192-97-2	mg/kg	0.2	n.d.	n.d.	n.d.
Chrysene	218-01-9	mg/kg	0.2	n.d.	n.d.	n.d.
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.2	n.d.	n.d.	n.d.
Fluoranthene	206-44-0	mg/kg	0.2	n.d.	n.d.	n.d.
Fluorene	86-73-7	mg/kg	0.2	n.d.	n.d.	n.d.
Indeno[1,2,3-cd]pyrene	193-39-5	mg/kg	0.2	n.d.	n.d.	n.d.
Naphthalene	91-20-3	mg/kg	0.2	n.d.	n.d.	n.d.
Phenanthrene	85-01-8	mg/kg	0.2	n.d.	n.d.	n.d.
Pyrene	129-00-0	mg/kg	0.2	n.d.	n.d.	n.d.
Sum PAHs	NA	mg/kg	NA	n.d.	n.d.	n.d.
Category*	NA	NA	NA	2	2	2
Limit of Benzo[a]pyrene(BaP)	50-32-8	mg/kg	NA	1	1	1
Limit of Sum PAHs	NA	mg/kg	NA	10	10	10

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				Test No.	T007	T008	T009
				Material No.	G01-P + G02-P	G03-P + G04-P	G05-P + G06-P
Test Parameter	CAS NO	Unit	RL	Result	Result	Result	
Acenaphthene	83-32-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Acenaphthylene	208-96-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Anthracene	120-12-7	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[a]anthracene	56-55-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[b]fluoranthene	205-99-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[k]fluoranthene	207-08-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[j]fluoranthene	205-82-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[g,h,i]perylene	191-24-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[e]pyrene	192-97-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Chrysene	218-01-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Fluoranthene	206-44-0	mg/kg	0.2	n.d.	n.d.	n.d.	
Fluorene	86-73-7	mg/kg	0.2	n.d.	n.d.	n.d.	
Indeno[1,2,3-cd]pyrene	193-39-5	mg/kg	0.2	n.d.	n.d.	n.d.	
Naphthalene	91-20-3	mg/kg	0.2	0.3	0.2	0.3	
Phenanthrene	85-01-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Pyrene	129-00-0	mg/kg	0.2	n.d.	n.d.	n.d.	
Sum PAHs	NA	mg/kg	NA	0.3	0.2	0.3	
Category*	NA	NA	NA	2	2	2	
Limit of Benzo[a]pyrene(BaP)	50-32-8	mg/kg	NA	1	1	1	
Limit of Sum PAHs	NA	mg/kg	NA	10	10	10	

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				Test No.	T010	T011	T012
				Material No.	G07-P + G08-P	G09-P + G10-P	G11-P + G12-P
Test Parameter	CAS NO	Unit	RL	Result	Result	Result	
Acenaphthene	83-32-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Acenaphthylene	208-96-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Anthracene	120-12-7	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[a]anthracene	56-55-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[a]pyrene(BaP)	50-32-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[b]fluoranthene	205-99-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[k]fluoranthene	207-08-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[j]fluoranthene	205-82-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[g,h,i]perylene	191-24-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Benzo[e]pyrene	192-97-2	mg/kg	0.2	n.d.	n.d.	n.d.	
Chrysene	218-01-9	mg/kg	0.2	n.d.	n.d.	n.d.	
Dibenzo[a,h]anthracene	53-70-3	mg/kg	0.2	n.d.	n.d.	n.d.	
Fluoranthene	206-44-0	mg/kg	0.2	n.d.	n.d.	n.d.	
Fluorene	86-73-7	mg/kg	0.2	n.d.	n.d.	n.d.	
Indeno[1,2,3-cd]pyrene	193-39-5	mg/kg	0.2	n.d.	n.d.	n.d.	
Naphthalene	91-20-3	mg/kg	0.2	0.4	0.3	0.8	
Phenanthrene	85-01-8	mg/kg	0.2	n.d.	n.d.	n.d.	
Pyrene	129-00-0	mg/kg	0.2	n.d.	n.d.	n.d.	
Sum PAHs	NA	mg/kg	NA	0.4	0.3	0.8	
Category*	NA	NA	NA	2	2	2	
Limit of Benzo[a]pyrene(BaP)	50-32-8	mg/kg	NA	1	1	1	
Limit of Sum PAHs	NA	mg/kg	NA	10	10	10	

Abbreviation: n.d. = not detected (< Reporting Limit)
 RL = Reporting Limit
 NA = Not Applicable
 mg/kg = milligram per kilogram

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Remark:

* Single components with an amount of <0.2 mg/kg were not considered by the calculation of the sum. In the case of all 18 PAHs according to ZEK 01.4-08 was not detected, the result is stated n.d.

** PAH maximum permissible limits requirement from the GS-Mark Approval

Parameter	Category 1	Category 2	Category 3
	Materials intended to be put into the mouth, or toy materials for children aged <36 months with intended skin contact	Materials, which is not falling into Cat. 1, with foreseeable skin contact longer than 30 seconds (long-term skin contact)	Materials, which is not falling into Cat. 1 or Cat. 2, with foreseeable skin contact up to 30 seconds (short-term skin contact)
Benzo(a)pyrene (mg/kg)	<0.2	1	20
Sum 18 PAH (ZEK 01.4-08) (mg/kg)	< 0.2	10	200

Limit: Specific evaluation required according to type of foreseeable use.

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9. Phthalates (group)

Test Method: Organic solvent extraction, analyzed by GCMS

Test Result:

Test Parameter	CAS NO	Unit	RL	Customer's Requirement	Test No.	T001	T002	T003
					Material No.	G01-L + G02-L + G03-L	G04-L + G05-L + G06-L	G07-L + G08-L + G09-L
Dibutyl phthalate (DBP)	84-74-2	%	0.005	-		n.d.	n.d.	n.d.
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	-		n.d.	n.d.	n.d.
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	-		n.d.	n.d.	n.d.
Sum (DBP+BBP+DEHP)	-	%	NA	0.1		n.d.	n.d.	n.d.
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	-		n.d.	n.d.	n.d.
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	-		n.d.	n.d.	n.d.
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	-		n.d.	n.d.	n.d.
Sum (DINP+ DIDP+ DNOP)	-	%	NA	0.1		n.d.	n.d.	n.d.
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1		n.d.	n.d.	n.d.
Diisopentyl phthalate (DiPP)	605-50-5	%	0.005	0.1		n.d.	n.d.	n.d.
n-Pentyl-isopentyl phthalate	776297-69-9	%	0.005	0.1		n.d.	n.d.	n.d.
Di(methoxyethyl) phthalate (DMEP)	117-82-8	%	0.005	0.1		n.d.	n.d.	n.d.
1,2-Benzenedicarboxylic acid, di-C6-8 branched alkyl esters, C7-rich (DIHP)	71888-89-6	%	0.01	0.1		n.d.	n.d.	n.d.
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl ester (DHNUP)	68515-42-4	%	0.01	0.1		n.d.	n.d.	n.d.
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	%	0.01	0.1		n.d.	n.d.	n.d.
Dipentyl phthalate (DPP)	131-18-0	%	0.005	0.1		n.d.	n.d.	n.d.
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1		n.d.	n.d.	n.d.
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	%	0.01	0.1		n.d.	n.d.	n.d.

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					Test No.	T004	T005	T006
					Material No.	G10-L + G11-L + G12-L	G01-P + G02-P + G03-P	G04-P + G05-P + G06-P
Test Parameter	CAS NO	Unit	RL	Customer's Requirement	Result	Result	Result	
Dibutyl phthalate (DBP)	84-74-2	%	0.005	-	n.d.	n.d.	n.d.	
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	-	n.d.	n.d.	n.d.	
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	-	n.d.	n.d.	n.d.	
Sum (DBP+BBP+DEHP)	-	%	NA	0.1	n.d.	n.d.	n.d.	
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	-	n.d.	n.d.	n.d.	
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	-	n.d.	n.d.	n.d.	
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	-	n.d.	n.d.	n.d.	
Sum (DINP+ DIDP+ DNOP)	-	%	NA	0.1	n.d.	n.d.	n.d.	
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1	n.d.	n.d.	n.d.	
Diisopentyl phthalate (DiPP)	605-50-5	%	0.005	0.1	n.d.	n.d.	n.d.	
n-Pentyl-isopentyl phthalate	776297-69-9	%	0.005	0.1	n.d.	n.d.	n.d.	
Di(methoxyethyl) phthalate (DMEP)	117-82-8	%	0.005	0.1	n.d.	n.d.	n.d.	
1,2-Benzenedicarboxylic acid, di-C6-8 branched alkyl esters, C7-rich (DIHP)	71888-89-6	%	0.01	0.1	n.d.	n.d.	n.d.	
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl ester (DHNUP)	68515-42-4	%	0.01	0.1	n.d.	n.d.	n.d.	
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	%	0.01	0.1	n.d.	n.d.	n.d.	
Dipentyl phthalate(DPP)	131-18-0	%	0.005	0.1	n.d.	n.d.	n.d.	
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1	n.d.	n.d.	n.d.	
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	%	0.01	0.1	n.d.	n.d.	n.d.	

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					Test No.	T007	T008
					Material No.	G07-P + G08-P + G09-P	G10-P + G11-P + G12-P
Test Parameter	CAS NO	Unit	RL	Customer's Requirement	Result	Result	
Dibutyl phthalate (DBP)	84-74-2	%	0.005	-	n.d.	n.d.	
Benzylbutyl phthalate (BBP)	85-68-7	%	0.005	-	n.d.	n.d.	
Diethylhexyl phthalate (DEHP)	117-81-7	%	0.005	-	n.d.	n.d.	
Sum (DBP+BBP+DEHP)	-	%	NA	0.1	n.d.	n.d.	
Di-n-octyl phthalate (DNOP)	117-84-0	%	0.005	-	n.d.	n.d.	
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1	%	0.005	-	n.d.	n.d.	
Diisononyl phthalate (DINP)	28553-12-0, 68515-48-0	%	0.005	-	n.d.	n.d.	
Sum (DINP+ DIDP+ DNOP)	-	%	NA	0.1	n.d.	n.d.	
Diisobutyl phthalate (DIBP)	84-69-5	%	0.005	0.1	n.d.	n.d.	
Diisopentyl phthalate (DiPP)	605-50-5	%	0.005	0.1	n.d.	n.d.	
n-Pentyl-isopentyl phthalate	776297-69-9	%	0.005	0.1	n.d.	n.d.	
Di(methoxyethyl) phthalate (DMEP)	117-82-8	%	0.005	0.1	n.d.	n.d.	
1,2-Benzenedicarboxylic acid, di-C6-8 branched alkyl esters, C7-rich (DIHP)	71888-89-6	%	0.01	0.1	n.d.	n.d.	
1,2-benzenedicarboxylic acid, di-C7-11-branched and linear alkyl ester (DHNUPE)	68515-42-4	%	0.01	0.1	n.d.	n.d.	
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	%	0.01	0.1	n.d.	n.d.	
Dipentyl phthalate(DPP)	131-18-0	%	0.005	0.1	n.d.	n.d.	
Di-n-hexyl phthalate (DnHP)	84-75-3	%	0.005	0.1	n.d.	n.d.	
1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	%	0.01	0.1	n.d.	n.d.	

Abbreviation: n.d. = Not Detected (< RL)
 RL = Reporting Limit
 NA = Not Applicable
 % = percentage

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10.Total Cadmium Content

Test Method: EN 1122:2001 (method B)

Test Result:

Test No.	Material No.	Test Parameter	Unit	RL	Regulatory Requirement	Test Result
T001	G01-L + G02-L + G03-L	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
T002	G04-L + G05-L + G06-L	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
T003	G07-L + G08-L + G09-L	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
T004	G10-L + G11-L + G12-L	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
T005	G01-P + G02-P + G03-P	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
T006	G04-P + G05-P + G06-P	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
T007	G07-P + G08-P + G09-P	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.
T008	G10-P + G11-P + G12-P	Trial 1	mg/kg	10	100	n.d.
		Trial 2	mg/kg	10	100	n.d.
		Average	mg/kg	10	100	n.d.

Abbreviation: n.d. = not detected (< Reporting Limit)
 RL = Reporting Limit
 mg/kg = milligram per kilogram

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Remark:

*Regulations on Cadmium

EU	Legislation	Maximum Permissible Limit				
		Plastic materials	Paint (wet state)	Paint on the painted articles	Paint (high zinc content)	Metal parts of jewellery and imitation jewellery articles and hair accessories
EC	REACH regulation (EC) No. 1907/2006 Annex XVII Item 23 and its amendments (EC) No. 552/2009, (EU) No. 494/2011 and (EU) No. 835/2012	100mg/kg	N.D.	1000mg/kg	1000mg/kg	100mg/kg

Country	Legislation	Maximum Permissible Limit
		Paint, plastic, plating/ coating of surface treatment
Germany	Germany Chemikalien-Verbotsverordnung - ChemVerbotsV, Anhang Abschnitt 18, Okt 1993	100mg/kg
Switzerland	Switzerland Chemikalien-Risikoreduktions-Verordnung-ChemRRV, 814.81, 18 May 2005	100mg/kg

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11. Benzene, Toluene and Xylene content

Test Method: Organic solvent extraction, GCMS

Test Result:

Test No.	Material No.	Test Parameter	CAS No.	Unit	RL	Regulatory Requirement	Test Result
T001	G01-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	25
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T002	G02-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	20
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T003	G03-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	19
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T004	G04-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	20
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T005	G05-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	23
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T006	G06-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	20
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T007	G07-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	21
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T008	G08-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	18
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T009	G09-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	47
		Xylene	1330-20-7	mg/kg	5	NA	n.d.

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T010	G10-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	41
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T011	G11-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	31
		Xylene	1330-20-7	mg/kg	5	NA	n.d.
T012	G12-P	Benzene	71-43-2	mg/kg	5	5	n.d.
		Toluene	108-88-3	mg/kg	5	1000	27
		Xylene	1330-20-7	mg/kg	5	NA	n.d.

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12. Screening of substances of very high concern (SVHC) subject to authorisation, according to (EU) No 143/2011, (EU) No 125/2012, (EU) No 348/2013 and (EU) No 895/2014 (Annex XIV of EC No 1907/2006) and candidate list by European Chemical Agency (ECHA)

Test Method: 1) Test portion is digested with acid and assisted with microwave, the elements are analysed by ICP-OES.
 2) Test portion is extracted by organic solvent, semi-quantitative analysis by GC-MS / UV-Vis
 3) Test portion is extracted by organic solvent, the extraction solution is analyzed by Headspace-GC/MS / LC-DAD-MS / LC-MS/MS.

Product Classification

With reference to Corrigendum to Regulation (EC) no.1907/2006 and ECHA, this product is classified as:

- Article
- Article with an integral substance/ mixture
- Combinations of an article (functioning as a container or a carrier material) and a substance/ mixture
- Substance/ mixture

Conclusion:

Conclusion			
Product Location	Acc. to authorisation list (EU) No 143/2011, (EU) No 125/2012, (EU) No 348/2013 and (EU) No 895/2014 (Annex XIV of EC No 1907/2006), and candidate list by ECHA, the detected SVHC concentration is:	Obligation of Importer (*) (For article)	Detected Substance (if any)
12 Metallic Colored Pencils	< 0.1%	Not necessary	--

(*) To communicate information down the supply chain according to article. 33 of REACH. **OR**

1. Notification to ECHA, if the quantities of SVHC in the produced/imported articles are above 1 ton in total per year per company.
2. Provide sufficient information to ensure safe use of the article and, as a minimum, include the name of the substance, to their customers and on request to consumers within 45 days of the receipt of this request.

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Test Result:

Test No.:	T001	T002	T003
Material No.:	1+2+3+4+5+6	7+8+9+10+11+12	25+26+27+28+29+30
Result (%)	n.d.	n.d.	n.d.

Test No.:	T004
Material No.:	31+32+33+34+35+36
Result (%)	n.d.

Abbreviation:

n.d. = Not Detected (< Reporting Limit)

RL = Reporting Limit

% = Percentage

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Remark:

- (*1) The reporting limit for each individual SVHC subject to authorisation according to (EU) No 143/2011, (EU) No 125/2012, (EU) No 348/2013 and (EU) No 895/2014 (Annex XIV of EC No 1907/2006):

	Substances	CAS No.	Reporting Limit
1	4,4'- Diaminodiphenylmethane (MDA)	101-77-9	0.01%
2	Benzylbutyl phthalate (BBP)	85-68-7	0.01%
3	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	0.01%
4	Dibutyl phthalate (DBP)	84-74-2	0.01%
5	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4/3194-55-6	0.01%
6	5-Tert-butyl-2,4,6-trinitro-m-xylene (Musk Xylene, MX)	81-15-2	0.01%
7	2,4-Dinitrotoluene (2,4-DNT)	121-14-2	0.01%
8	Diisobutyl phthalate (DIBP)	84-69-5	0.01%
9	Tris(2-chloroethyl)phosphate	115-96-8	0.01%
10	Diarsenic pentoxide(*3)	1303-28-2	0.01%
11	Diarsenic trioxide(*3)	1327-53-3	0.01%
12	Lead chromate(*3)(*4)	7758-97-6	0.01%
13	Lead chromate molybdate sulphate red (C.I. Pigment Red 104) (*3)(*4)	12656-85-8	0.01%
14	Lead sulfochromate yellow (C.I.Pigment Yellow 34) (*3)	1344-37-2	0.01%
15	Trichloroethylene	79-01-6	0.01%
16	Chromium trioxide(*4)	1333-82-0	0.01%
17	Acids generated from chromium trioxide and their oligomers: Chromic acid Dichromic acid Oligomers of chromic acid and dichromic acid(*4)	7738-94-5 13530-68-2	0.01%
18	Sodium dichromate, dihydrate (*3)	7789-12-0/10588-01-9	0.01%
19	Potassium dichromate(*4)	7778-50-9	0.01%
20	Ammonium dichromate(*4)	7789-09-5	0.01%
21	Potassium chromate(*4)	7789-00-6	0.01%
22	Sodium chromate(*4)	7775-11-3	0.01%
23	Formaldehyde, oligomeric reaction products with aniline (technical MDA) (*11)	25214-70-4	0.01%
24	1,2-Dichloroethane	107-06-2	0.01%
25	Bis(2-methoxyethyl) ether	111-96-6	0.01%
26	Arsenic acid (*3)	7778-39-4	0.01%
27	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	0.01%
28	Dichromium tris(chromate) (*4)	24613-89-6	0.01%
29	Strontium chromate (*4)	7789-06-2	0.01%
30	Potassium hydroxyoctaoxidizincatedi-chromate (*4)	11103-86-9	0.01%
31	Pentazinc chromate octahydroxide (*4)	49663-84-5	0.01%

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(*2) The reporting limit for each individual SVHC in Candidate List by ECHA:

	Substances	CAS No.	Reporting Limit
32	Anthracene	120-12-7	0.01%
33	Bis(tributyltin)oxide (TBTO) (*3) (*5)	56-35-9	0.01%
34	Triethyl arsenate(*3)	15606-95-8	0.01%
35	Lead hydrogen arsenate(*3)	7784-40-9	0.01%
36	Cobalt(II) dichloride(*3)	7646-79-9	0.01%
37	Acrylamide	79-06-1	0.01%
38	Anthracene oil(*7)	90640-80-5	0.01%(*8)
39	Anthracene oil,anthracene paste,distn.lights(*7)	91995-17-4	
40	Anthracene oil, anthracene paste, anthracene fraction (*7)	91995-15-2	
41	Anthracene oil, anthracene-low(*7)	90640-82-7	
42	Anthracene oil, anthracene paste (*7)	90640-81-6	
43	Coal tar pitch, high temperature (*7)	65996-93-2	
44	Boric acid(*3) (*6)	10043-35-3 / 11113-50-1	0.01%
45	Disodium tetraborate, anhydrous(*3) (*6)	1330-43-4 / 12179-04-3 / 1303-96-4	0.01%
46	Tetraboron disodium heptaoxide, hydrate(*3) (*6)	12267-73-1	0.01%
47	2-Methoxyethanol	109-86-4	0.01%
48	2-Ethoxyethanol	110-80-5	0.01%
49	Cobalt(II) sulphate(*3)	10124-43-3	0.01%
50	Cobalt(II) dinitrate(*3)	10141-05-6	0.01%
51	Cobalt(II) carbonate(*3)	513-79-1	0.01%
52	Cobalt(II) diacetate(*3)	71-48-7	0.01%
53	Alkanes C10-C13, chloro (Short chain chlorinated paraffins) (SCCP)	85535-84-8	0.01%
54	2-Ethoxyethyl acetate	111-15-9	0.01%
55	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	0.01%
56	Hydrazine	7803-57-8 / 302-01-2	0.01%
57	1-Methyl-2-pyrrolidone	872-50-4	0.01%
58	1,2,3-Trichloropropane	96-18-4	0.01%
59	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters C7-rich (DIHP)	71888-89-6	0.01%
60	Aluminosilicate Refractory Ceramic Fibres (RCF) (*9)	-	0.01%
61	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF) (*9)	-	0.01%
62	Bis(2-methoxyethyl) phthalate	117-82-8	0.01%
63	2-Methoxyaniline; o-Anisidine	90-04-0	0.01%
64	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	0.01%
65	Calcium arsenate (*3)	7778-44-1	0.01%
66	Trilead diarsenate (*3)	3687-31-8	0.01%
67	N,N-dimethylacetamide (DMAC)	127-19-5	0.01%
68	Phenolphthalein	77-09-8	0.01%
69	Lead dipicrate (*3)	6477-64-1	0.01%

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	Substances	CAS No.	Reporting Limit
70	Lead diazide, Lead azide (*3)	13424-46-9	0.01%
71	Lead styphnate (*3)	15245-44-0	0.01%
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	0.01%
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	0.01%
74	Diboron trioxide (*3) (*6)	1303-86-2	0.01%
75	Formamide	75-12-7	0.01%
76	Lead(II) bis(methanesulfonate) (*3)	17570-76-2	0.01%
77	1,3,5-tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	0.01%
78	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β-TGIC)	59653-74-6	
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone), MK	90-94-8	0.01%
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base), RMK	101-61-1	0.01%
81	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) (*10)	2580-56-5	0.01%
82	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) (*10)	548-62-9	
83	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol (*10)	561-41-1	
84	α,α-Bis[4-(dimethylamino)phenyl]-4 (phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) (*10)	6786-83-0	
85	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	0.01%
86	Pentacosafuorotridecanoic acid	72629-94-8	0.01%
87	Tricosafuorododecanoic acid	307-55-1	0.01%
88	Henicosafuoroundecanoic acid	2058-94-8	0.01%
89	Heptacosafuorotetradecanoic acid	376-06-7	0.01%
90	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated (OPEO) <i>[covering well-defined substances and UVCB substances, polymers and homologues]</i>	-	0.01%
91	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) (ADCB) (*12)	123-77-3	0.05%
92	4-Nonylphenol, branched and linear <i>[substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]</i>	-	0.01%
93	Hexahydro-2-benzofuran-1,3-dione (HHPA) Cis-cyclohexane-1,2-dicarboxylic anhydride Trans-cyclohexane-1,2-dicarboxylic anhydride	85-42-7 13149-00-3 14166-21-3	0.01%
94	Hexahydromethylphthalic anhydride (MHHPA) Hexahydro-4-methylphthalic anhydride Hexahydro-1-methylphthalic anhydride Hexahydro-3-methylphthalic anhydride	25550-51-0 19438-60-9 48122-14-1 57110-29-9	0.01%
95	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	0.01%
96	Diisopentylphthalate	605-50-5	
97	N-pentyl-isopentylphthalate	776297-69-9	
98	Methoxyacetic acid (MAA)	625-45-6	0.01%
99	N,N-dimethylformamide	68-12-2	0.01%
100	1,2-Diethoxyethane	629-14-1	0.01%
101	Diethyl sulphate	64-67-5	0.01%
102	Dimethyl sulphate	77-78-1	0.01%
103	N-methylacetamide	79-16-3	0.01%

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	Substances	CAS No.	Reporting Limit
104	1-bromopropane (n-propyl bromide)	106-94-5	0.01%
105	Furan	110-00-9	0.01%
106	Methyloxirane (Propylene oxide)	75-56-9	0.01%
107	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	0.01%
108	Dibutyltin dichloride (DBTC) (*3)	683-18-1	0.01%
109	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	0.01%
110	4,4'-methylenedi-o-toluidine	838-88-0	0.01%
111	4,4'-oxydianiline and its salts	101-80-4	0.01%
112	4-Aminoazobenzene	60-09-3	0.01%
113	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	0.01%
114	6-methoxy-m-toluidine (p-cresidine)	120-71-8	0.01%
115	Biphenyl-4-ylamine	92-67-1	0.01%
116	o-aminoazotoluene	97-56-3	0.01%
117	o-Toluidine; 2-	95-53-4	0.01%
118	Acetic acid, lead salt, basic (*3)	51404-69-4	0.01%
119	Trilead bis(carbonate)dihydroxide (*3)	1319-46-6	0.01%
120	Lead oxide sulfate (*3)	12036-76-9	0.01%
121	[Phthalato(2-)]dioxotrilead (*3)	69011-06-9	0.01%
122	Dioxobis(stearato)trilead (*3)	12578-12-0	0.01%
123	Fatty acids, C16-18, lead salts (*3)	91031-62-8	0.01%
124	Lead bis(tetrafluoroborate) (*3)	13814-96-5	0.01%
125	Lead cyanamidate (*3)	20837-86-9	0.01%
126	Lead dinitrate (*3)	10099-74-8	0.01%
127	Lead monoxide (Lead oxide) (*3)	1317-36-8	0.01%
128	Orange lead (Lead tetroxide) (*3)	1314-41-6	0.01%
129	Lead titanium trioxide (*3)	12060-00-3	0.01%
130	Lead Titanium Zirconium Oxide (*3)	12626-81-2	0.01%
131	Pyrochlore, antimony lead yellow (*3)	8012-00-8	0.01%
132	Pentalead tetraoxide sulphate (*3)	12065-90-6	0.01%
133	Silicic acid, barium salt (1:1), lead-doped (*3)	68784-75-8	0.01%
134	Silicic acid, lead salt (*3)	11120-22-2	0.01%
135	Sulfurous acid, lead salt, dibasic (*3)	62229-08-7	0.01%
136	Tetraethyllead (*3)	78-00-2	0.01%
137	Tetralead trioxide sulphate (*3)	12202-17-4	0.01%
138	Trilead dioxide phosphonate (*3)	12141-20-7	0.01%
139	Dipentyl phthalate (DPP)	131-18-0	0.01%
140	Ammonium pentadecafluorooctanoate (APFO) (*13)	3825-26-1	0.01%
141	Pentadecafluorooctanoic acid (PFOA)	335-67-1	0.01%
142	Cadmium (*3)	7440-43-9	0.01%
143	Cadmium oxide (*3)	1306-19-0	0.01%
144	4-Nonylphenol, branched and linear, ethoxylated (NPEO) [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	0.01%

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	Substances	CAS No.	Reporting Limit
145	Dihexyl phthalate	84-75-3	0.01%
146	Trixylyl phosphate	25155-23-1	0.01%
147	Imidazolidine-2-thione; 2-imidazoline-2-thiol (Ethylenethiourea)	96-45-7	0.01%
148	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0	0.01%
149	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	0.01%
150	Lead di(acetate) (*3)	301-04-2	0.01%
151	Cadmium Sulphide (*3)	1306-23-6	0.01%
152	1,2-Benzenedicarboxylicacid, 1,2-dihexyl ester, branched and linear	68515-50-4	0.01%
153	Cadmium chloride (*3)	10108-64-2	0.01%
154	Sodium perborate; perboric acid, sodium salt (*3)	---	0.01%
155	Sodium peroxometaborate (*3)	7632-04-4	0.01%
156	Cadmium fluoride(*3)	7790-79-6	0.01%
157	Cadmium sulphate(*3)	10124-36-4; 31119-53-6	0.01%
158	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	0.01%
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	0.01%
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)(*14)	15571-58-1	0.01%
161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)(*15)	---	0.01%

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Remarks:

- (*3) The substance is tested in terms of its respective elements (As, Pb, Co, B, Cd)
- (*4) The substance is tested in terms of Cr (VI)
- (*5) The substance is tested and calculated in terms of Tributyl tin.
- (*6) The substance is confirmed and tested in terms of Boric acid
- (*7) The substances are UVCB (substance of unknown or variable composition, complex reaction products or biological materials), which are identified by its main constituents.
- (*8) Individual concentrations to the constituent of UVCB with an amount of < 0.01% were not considered by the calculation of the sum.
- (*9) The test result is based on microscopic and chemical evaluation.
- (*10) The substance is quantified in terms of Michler's Ketone and Michler's Base by LC-MS, as Michler's Ketone or Michler's Base was found exceeds 0.01%
- (*11) The oligomer content is determined by Py-GC/MS.
- (*12) The content of diazene-1,2-dicarboxamide is analyzed in term of its breakdown product
- (*13) The substance is tested in terms of pentadecafluorooctanoate

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Concentration of Detected SVHC in Article

Article: 12 Metallic Colored Pencils

Weight of whole article (g): 65

Detected SVHCs	Concentration of detected SVHCs in an article (%)
--	<0.01%

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Sample Photo:



- END -