

# TEST REPORT



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**Name of the client:** ROLAND DG EUROPE HOLDINGS B.V.

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ÉMI-TÜV SÜD Kft.  
Central Laboratory  
KERMI Department  
Budapest, 30/04/2021  
test report No.: R-1699676  
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**Date of application:** 01/04/2021

**Receipt date of samples:** 01/04/2021

**Subject of order:** Testing of printing inks according to EN 71-3:2019 Safety of toys.  
Part 3: Migration of certain elements.

**Samples description:** 7 printing ink cartridges  
Reference: TEST EUV5. 1000100023\_Various\_90EMXXBD

Sample number	Ink type	EAN code
1.	WH, White, EUV5-WH INK, 220 ml	4 982978 706411
2.	CY, Cyan, EUV5-WH INK, 500 ml	4 982978 706374
3.	PR, PRIMER, EUV5-5PR INK, 500 ml	4 982978 706435
4.	BK, BLACK, EUV5-5BK INK, 500 ml	4 982978 706411
5.	YE, YELLOW, EUV5-5YE INK, 500 ml	4 982978 706398
6.	GL, GLOSS, EUV5-5GL INK, 500 ml	4 982978 706428
7.	MG, MAGENTA, EUV5-5MG INK	4 982978 706381

**Producer of tested samples:** Roland Digital Group Iberia S.L.

**Testing period:** 06/04/2021– 30/04/2021

**Conclusion:** **Test pass**

Remark: The result relates only to the items tested  
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to the specific test carried out and not to samples of the current production line.  
Sample photo:





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## Test results:

### Chemical properties

#### EN 71-3:2019 Safety of toys Part 3: Migration of certain elements Determined by ICP-MS

Tested parameter	Result [mg/kg]			LOQ mg/kg	Limits [mg/kg] II. category
	sample 1. WH, White	sample 2. CY, Cyan	sample 3 PR, PRIMER		
Aluminium (Al)	6,69	10,7	5,4	0,25	1406
Antimony (Sb)	<0,025	<0,025	<0,025	0,025	11,3
Arsenic (As)	<0,05	<0,05	<0,05	0,05	0,9
Barium (Ba)	<0,15	0,18	<0,15	0,15	375
Boron (B)	<0,25	<0,25	<0,25	0,25	300
Cadmium (Cd)	<0,025	<0,025	<0,025	0,025	0,3
Chromium (III) (Cr)	<0,01	0,017	<0,01	0,01	9,4
Chromium (VI) (Cr)	<0,005	<0,005	<0,005	0,005	0,005
Cobalt (Co)	<0,025	<0,025	<0,025	0,025	2,6
Copper (Cu)	0,1	17,1	0,1	0,025	156
Lead (Pb)	<0,025	<0,025	<0,025	0,025	0,5
Manganese (Mn)	0.18	<0,025	<0,025	0,025	300
Mercury (Hg)	<0,025	<0,025	<0,025	0,025	1,9
Nickel (Ni)	0,05	<0,05	<0,05	0,05	18,8
Selenium (Se)	<0,05	<0,05	<0,05	0,05	9,4
Strontium (Sr)	2,6	0,08	0,06	0,05	1125
Tin (Sn)	<0,05	<0,05	<0,05	0,05	3750
Organic tin	<0,05	<0,05	<0,05	0,05	0,2
Zinc (Zn)	7,4	2,5	0,5	0,25	938



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**EN 71-3:2019 Safety of toys**  
**Part 3: Migration of certain elements**  
Determined by ICP-MS

Tested parameter	Result [mg/kg]			LOQ mg/kg	Limits [mg/kg]
	sample 4. BK, Black	sample 5. YE, Yellow	sample 6. GL, Gloss		II. category
Aluminium (Al)	120,7	56,2	1,8	0,25	1406
Antimony (Sb)	<0,025	<0,025	<0,025	0,025	11,3
Arsenic (As)	<0,05	<0,05	<0,05	0,05	0,9
Barium (Ba)	<0,15	<0,15	<0,15	0,15	375
Boron (B)	<0,25	<0,25	<0,25	0,25	300
Cadmium (Cd)	<0,025	<0,025	<0,025	0,025	0,3
Chromium (III) (Cr)	0,02	<0,01	<0,01	0,025	9,4
Chromium (VI) (Cr)	<0,005	<0,005	<0,005	0,005	0,005
Cobalt (Co)	<0,025	<0,025	<0,025	0,025	2,6
Copper (Cu)	<0,025	<0,025	<0,025	0,025	156
Lead (Pb)	<0,025	<0,025	<0,025	0,025	0,5
Manganese (Mn)	<0,025	<0,025	<0,025	0,025	300
Mercury (Hg)	<0,025	<0,025	<0,025	0,025	1,9
Nickel (Ni)	<0,05	<0,05	<0,05	0,05	18,8
Selenium (Se)	<0,05	<0,05	<0,05	0,05	9,4
Strontium (Sr)	0,07	0,07	0,07	0,05	1125
Tin (Sn)	<0,05	<0,05	<0,05	0,05	3750
Organic tin	<0,05	<0,05	<0,05	0,05	0,2
Zinc (Zn)	0,75	<0,25	2,5	0,25	938



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**EN 71-3:2019 Safety of toys**  
**Part 3: Migration of certain elements**  
Determined by ICP-MS

Tested parameter	Result [mg/kg]	LOQ mg/kg	Limits [mg/kg]
	Sample 7. MG, Magenta		II. category
Aluminium (Al)	12,9	0,25	1406
Antimony (Sb)	<0,025	0,025	11,3
Arsenic (As)	<0,05	0,05	0,9
Barium (Ba)	<0,15	0,15	375
Boron (B)	<0,25	0,25	300
Cadmium (Cd)	<0,025	0,025	0,3
Chromium (III) (Cr)	<0,01	0,025	9,4
Chromium (VI) (Cr)	<0,005	0,005	0,005
Cobalt (Co)	<0,025	0,025	2,6
Copper (Cu)	<0,025	0,025	156
Lead (Pb)	<0,025	0,025	0,5
Manganese (Mn)	<0,025	0,025	300
Mercury (Hg)	<0,025	0,025	1,9
Nickel (Ni)	<0,05	0,05	18,8
Selenium (Se)	<0,05	0,05	9,4
Strontium (Sr)	0,07	0,05	1125
Tin (Sn)	<0,05	0,05	3750
Organic tin	<0,05	0,05	0,2
Zinc (Zn)	4,0	0,25	938

The samples were used for tests.

Reviewed by:

*Orsolya Molnár*

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