

# TEST REPORT



ÉMI-TÜV

Add value.  
Inspire trust.

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

**Address:** Professor J.H.Bavincklaan 2  
1183 AT Amstelveen  
The Netherlands

ÉMI-TÜV SÜD Kft.  
Central Laboratory  
KERMI Department  
Budapest, 29/10/2019  
test report No.: R-1396752-2  
1 / 5 pages

**Date of application:** 11/10/2019

**Receipt date of samples:** 11/10/2019

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

**Samples description:** 5 printing ink cartridges:  
-INKU SF 220 YE, yellow, batch number: 3201753  
-INKU SF 220 BK; black, batch number: 3202054  
-INKU SF 220 WH; white, batch number:3203865  
-INKU SF 220 CY; cielo blue, batch number: 3203145  
-INKU SF 220 MG; magenta, batch number: 3201754  
1 printed picture

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

**Testing period:** 11/10/2019 – 22/10/2019

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

Remark: The result relates only to the items tested  
No extract, abridgment or abstraction from a test report may be published or used to advertise a product without the written consent of the Director of ÉMI-TUV SÜD Ltd KERMI Department. The results contained herein apply only to the particular sample tested and to the specific test carried out and not to samples of the current production line.



Rn.: 13-09-072640  
VAT nr: 10687105-2-13  
Bank: UniCredit Bank Hungary Zrt.  
10918001-00000068-72970003

Managing Director  
Miklós Cseresznyák

Phone: +36/1 210 9570

www.emi-tuv.hu  
**TUV**<sup>®</sup>

ÉMI-TÜV SÜD Kft.  
TÜV SÜD Group  
KERMI Department

H-1043 Budapest  
Dugonics u. 11.



ÉMI-TÜV  
KERMI Department

Sample photo:





ÉMI-TÜV  
KERMI Department

## 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<br>mg/kg | Limits<br>[mg/kg] |
|---------------------|-------------------|-------------------|-------------------|--------------|-------------------|
|                     | INKU SF 220<br>YE | INKU SF 220<br>BK | INKU SF 220<br>WH |              | II. category      |
| Aluminium (Al)      | 1.5               | <0,25             | 383,7             | 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) | <0,025            | <0,025            | 0,052             | 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)         | 0,1               | 0,5               | 0,1               | 0,025        | 156               |
| Lead (Pb)           | <0,025            | <0,025            | 0,03              | 0,025        | 0,5               |
| Manganese (Mn)      | <0,025            | 0,03              | 0,04              | 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)      | <0,05             | <0,05             | 0,1               | 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)           | 2,1               | 2,1               | <0,25             | 0,25         | 938               |



ÉMI-TÜV  
KERMI Department

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

| Tested parameter    | Result [mg/kg] |                | LOQ<br>mg/kg | Limits<br>[mg/kg] |
|---------------------|----------------|----------------|--------------|-------------------|
|                     | INKU SF 220 CY | INKU SF 220 MG |              | II. category      |
| Aluminium (Al)      | <0,25          | 16,4           | 0,25         | 1406              |
| Antimony (Sb)       | <0,025         | <0,025         | 0,025        | 11,3              |
| Arsenic (As)        | <0,05          | <0,05          | 0,05         | 0,9               |
| Barium (Ba)         | 1,9            | <0,15          | 0,15         | 375               |
| Boron (B)           | <0,25          | <0,25          | 0,25         | 300               |
| Cadmium (Cd)        | <0,025         | <0,025         | 0,025        | 0,3               |
| Chromium (III) (Cr) | 0,014          | 0,026          | 0,025        | 9,4               |
| Chromium (VI) (Cr)  | <0,005         | <0,005         | 0,005        | 0,005             |
| Cobalt (Co)         | 0,026          | <0,025         | 0,025        | 2,6               |
| Copper (Cu)         | 16,6           | 0,03           | 0,025        | 156               |
| Lead (Pb)           | <0,025         | <0,025         | 0,025        | 0,5               |
| Manganese (Mn)      | <0,025         | <0,025         | 0,025        | 300               |
| Mercury (Hg)        | <0,025         | <0,025         | 0,025        | 1,9               |
| Nickel (Ni)         | <0,05          | <0,05          | 0,05         | 18,8              |
| Selenium (Se)       | <0,05          | <0,05          | 0,05         | 9,4               |
| Strontium (Sr)      | 0,1            | 0,1            | 0,05         | 1125              |
| Tin (Sn)            | <0,05          | 0,1            | 0,05         | 3750              |
| Organic tin         | <0,05          | <0,05          | 0,05         | 0,2               |
| Zinc (Zn)           | 2,1            | 2,0            | 0,25         | 938               |



ÉMI-TÜV  
KERMI Department

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

| Tested parameter    | Result [mg/kg]  | LOQ<br>mg/kg | Limits<br>[mg/kg] |
|---------------------|-----------------|--------------|-------------------|
|                     | printed picture |              | III. category     |
| Aluminium (Al)      | 61,2            | 0,25         | 70000             |
| Antimony (Sb)       | <0,025          | 0,025        | 560               |
| Arsenic (As)        | <0,05           | 0,05         | 47                |
| Barium (Ba)         | <0,15           | 0,15         | 18750             |
| Boron (B)           | <0,25           | 0,25         | 15000             |
| Cadmium (Cd)        | <0,025          | 0,025        | 17                |
| Chromium (III) (Cr) | 0,026           | 0,025        | 460               |
| Chromium (VI) (Cr)  | <0,01           | 0,025        | 0,2<br>0.053*     |
| Cobalt (Co)         | <0,025          | 0,025        | 130               |
| Copper (Cu)         | 0,5             | 0,025        | 7700              |
| Lead (Pb)           | 0,03            | 0,025        | 23                |
| Manganese (Mn)      | 0,03            | 0,025        | 15000             |
| Mercury (Hg)        | <0,025          | 0,025        | 94                |
| Nickel (Ni)         | 0,2             | 0,05         | 930               |
| Selenium (Se)       | <0,05           | 0,05         | 460               |
| Strontium (Sr)      | 0,1             | 0,05         | 56000             |
| Tin (Sn)            | <0,05           | 0,05         | 180000            |
| Organic tin         | <0,05           | 0,05         | 12                |
| Zinc (Zn)           | 2,0             | 0,25         | 46000             |

\*new limit effective date: from 18/11/2019 according to Commission Directive 2018/725

The samples were used for tests.

*Gabriella Süvegesné Váradi*  
**Gabriella Süvegesné Váradi**  
Head of Department



*Gizella Kókai*  
**Gizella Kókai**  
Expert