

Test Report

8 July, 2019

Type of Product : Artline PERMANENT MARKER EK-170, EK-190 (Black)(Red)(Blue)(Green)
<Object:Ink>

Test Item	Colour	Result (unit mg/kg)	Minimum limit of determination	Testing Date
a) Lead and lead compounds	All colours	Not detected	2	21 February, 2019 - 27 February, 2019
b) Cadmium and cadmium compounds	All colours	Not detected	2	21 February, 2019 - 27 February, 2019
c) Mercury and mercury compounds	All colours	Not detected	2	21 February, 2019 - 27 February, 2019
d) Hexavalent chromium compounds	3 colours (except Green)	Not detected	8	21 February, 2019 - 27 February, 2019
	Green	Not detected	8	4 March, 2019 - 13 March, 2019
e) PBBs/PBDEs	All colours	Not detected	5	21 February, 2019 - 27 February, 2019
f) DBP	All colours	Not detected	50	21 February, 2019 - 27 February, 2019
g) BBP	All colours	Not detected	50	21 February, 2019 - 27 February, 2019
h) DEHP	All colours	Not detected	50	21 February, 2019 - 27 February, 2019
i) DIBP	All colours	Not detected	50	21 February, 2019 - 27 February, 2019

(Unit; mg/kg=ppm)


Analysis company : Pb, Cd, Hg, PBBs/PBDEs, DBP, BBP, DEHP, DIDP - SGS-CSTC [Approved Signatory : Dora Hu]
Cr(VI) <3colours (except Green)> - SGS-CSTC [Approved Signatory : Dora Hu]
Cr(VI) < Green> - SGS Japan [Lab Manager : Yukihiro Ouchi]

		Pretreatment:	Analysis method:
a),b)	<All colours>	IEC 62321-5:2013	ICP-OES
c)	<All colours>	IEC 62321-4:2013+AMD1:2017	ICP-OES
d)	<3colours (except Green)>	IEC 62321-7-2:2017	UV-Vis
	< Green>	Water extraction (The Analysis of Cr(VI) has been taken removal process of element interference.)	UV-VIS
e)	<All colours>	IEC 62321-6:2015	GC-MS
f),g),h),i)	<All colours>	IEC 62321-8:2017	GC-MS

note) • A sample completely dissolved in preprocessing operation and performed quantitative analysis. (Lead, Cadmium, Mercury)
“Not detected” means under the minimum limit of determination.
• Green ink contain chromium compounds, dyestuff (Trivalent chromium, not Hexavalent chromium).
Please note that test result by X-ray fluorescence spectrometer shows total chromium value.



Shachihata Inc


Nobuhiro Inukai Quality Assurance Gr.