

## Test Report

8 July, 2019

Type of Product : Artline KAWAKIMA PEN permanent Marker K-177N, K-199N  
<Object:Ink> Artline KAWAKIMA PEN permanent Marker Set 177NK-8S・12S, 199NK-8S・12S  
Artline KAWAKIMA PEN marking ink KR-ND  
(Black)(Red)(Blue)(Green)(Yellow)(Brown)(Orange)(Purple)(Yellow Green)(Ochre)(Light blue)(Pink)

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	10 colours (except Green, Ochre)	Not detected	8	21 February, 2019 - 27 February, 2019
	Green, Ochre	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) <10colours (except Green, Ochre)> - SGS-CSTC [Approved Signatory : Dora Hu]  
Cr(VI) < Green, Ochre> - 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)	<10colours (except Green, Ochre)> IEC 62321-7-2:2017	UV-Vis
	< Green, Ochre> 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, Ochre 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.