

JNBK CORPORATION

Chemical Evaluation Test Report

Test Report: ICP20160071301
Sample No.: 2016071301
Executive Standard: SAE J2975:2011
Sample Name: PN8264
Lining Material: J609L
Test Date: 07/13/2016

Requested By

Hirokazu Fuji
JNBK Corporation K.K.

Tested By

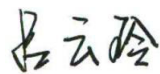
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Report Reviewed by:



Date: 7-14-2016

Report Approved by:



Date: 7-14-2016

SAE J2975:2011 Copper and other elements in brake friction materials

Test Information

Sample Name	PN8264	Sample Type	J609L
Sample Source	R&D	Requestor	Kong Peng
Process State	Normal	Test Date	07/13/2016
Sample Quantity	1	Sample No.	2016071301
Ambient Condition	26°C /40%	Sample State	Normal
Equipment Name	ICP-OES	Equipment No.	iCAP6300

Material Summary and Designation

Chemical analysis summary		Method	Average/%	Limit/%	Designation
Cadmium and its compounds	Cd	EPA-3050B/6010C	ND	0.01	N
Chromium (total)	Cr	EPA-3050B/6010C	0.0129	note1	N
Chromium-VI salts	Cr ⁺⁶	EPA-3050B/6010C	n.a.	0.1	N
Lead and its compounds	Pb	EPA-3050B/6010C	0.0174	0.1	N
Mercury and its compounds	Hg	EPA-3050B/6010C	0.0005	0.1	N
Copper and its compounds	Cu	EPA-3050B/6010C	0.0017	note2	N
Antimony	Sb	EPA-3050B/6010C	5.8367	note3	n.a.
Nickel	Ni	EPA-3050B/6010C	0.0108	note3	n.a.
Zinc	Zn	EPA-3050B/6010C	0.0086	note3	n.a.

SAE J866:2012 material designation:

Elemental Analysis with Individual Results

Chemical Analysis Summary		Detection limit		test1		test2		test3		average	
		mg/kg	%w/w	mg/kg	%w/w	mg/kg	%w/w	mg/kg	%w/w	mg/kg	%w/w
Cadmium and its compounds	Cd	4.0	0.0004	ND	ND	ND	ND	ND	ND	ND	ND
Chromium (total)	Cr	40.0	0.0040	131	0.0131	130	0.013	126	0.0126	129	0.0129
Chromium-VI salts	Cr ⁺⁶	50.0	0.0050	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Lead and its compounds	Pb	40.0	0.0040	174	0.0174	171	0.0171	177	0.0177	174	0.0174
Mercury and its compounds	Hg	4.0	0.0004	5	0.0005	4	0.0004	5	0.0005	5	0.0005
Copper and its compounds	Cu	40.0	0.0040	16	0.0016	17	0.0017	19	0.0019	17	0.0017
Antimony	Sb	20.0	0.0020	58360	5.836	57630	5.763	59110	5.911	58367	5.8367
Nickel	Ni	4.0	0.0004	106	0.0106	110	0.011	108	0.0108	108	0.0108
Zinc	Zn	20.0	0.0020	83	0.0083	86	0.0086	88	0.0088	86	0.0086

NOTES

- 1: no limit specified
- 2: A > 5; 0.5 < B ≤ 5; N ≤ 0.5
- 3: for reference only for WA and CA

LEGENDS:

- *: marks an element with an average content above the stated limit
- n.a.: not applicable (or not measured) for the tested material
- ND: Non Detected. Actual value is below the measurable value
- %w/w: percent by weight per measurement method for a particular element