

Test Report

中国认可
国际互认
检测
TESTING
CNAS L5138

Client	:	NANJING CBAK ENERGY TECHNOLOGY COMPANY LIMITED
Address	:	Plant 8, phase II, standard plant, No. 86, Shuanggao Road, economic development zone, Gaochun District, Nanjing, Jiangsu Province

The following sample(s) and sample information was/were submitted and identified by/on the behalf of the client

Sample Name	:	Lithium ion cell
Model/P.O. No.	:	32140FS
Manufacturer	:	NANJING CBAK ENERGY TECHNOLOGY COMPANY LIMITED
Received Date	:	Mar 01, 2023
Test Period	:	Mar 01, 2023~Mar 07, 2023
Test Requested	:	EU RoHS 2011/65/EU and 2015/863/EU

Conclusion

-	Lead(Pb), Cadmium(Cd), Mercury(Hg), Hexavalent Chromium(Cr ⁶⁺)	PASS
-	Polybromobiphenyls (PBBs) & Polybromodiphenyl ethers (PBDEs)	PASS
-	DBP, BBP, DEHP, DIBP	PASS

For Further Details, Please Refer To the Following Page(s)

Approved by:

Date: Mar 09, 2023



Add: Building 1/4, No.2, Jinlong Road, Longgang District, Shenzhen, Guangdong, China.

Post Code: 518116

Tel: 0755-89457984

Website: www.tiansu.org

E-mail: tsjc@tiansu.org

Report No. : TSZ23020642-P02-R01

Page 2 of 6

Test Method

Test Item(s)	Test Method	Equipment	MDL
Pb, Cd, Hg, Cr, Br	IEC 62321-3-1:2013	XRF	5mg/kg
Pb, Cd	IEC 62321-5:2013	ICP-OES	5mg/kg
Hg	IEC 62321-4:2013+AMD1:2017	ICP-OES	5mg/kg
Cr ⁶⁺	IEC 62321-7-2:2017	UV-Vis	5mg/kg
	IEC 62321-7-1:2015		0.10μg/cm ²
PBBs & PBDEs	IEC 62321-6:2015	GC-MS	5mg/kg
DBP, BBP, DEHP, DIBP	IEC 62321-8:2017	GC-MS	30mg/kg

Test Result(s)

- Screening test results

Test items	1	2	3	4	5	6	7	8	9
Pb	P	P	P	P	P	D	D	P	P
Cd	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P
Cr	P	P	P	P	P	P	P	P	P
Br	P	P	/	P	/	/	/	P	P
Conclusion	P	P	P	P	P	D	D	P	P

Test items	10	11	12	13	14	15	16	17	18
Pb	P	P	P	D	P	P	P	P	P
Cd	P	P	P	P	P	P	P	P	P
Hg	P	P	P	P	P	P	P	P	P
Cr	P	P	P	D	P	P	P	P	P
Br	P	P	P	/	/	P	/	/	P
Conclusion	P	P	P	D	P	P	P	P	P

Note:

- It is the result on total Br while testing PBBs and PBDEs by XRF. It is the result on total Cr while testing Hexavalent Chromium by XRF.

Report No. : TSZ23020642-P02-R01

Page 3 of 6

- Results are obtained by XRF for primary screening, and chemical testing by ICP (for Cd, Pb, Hg), UV-Vis (for Cr(VI)) and GCMS (for PBBs, PBDEs) is recommended to be performed, if the concentration exceeds the below warning value according to IEC 62321-3-1:2013 (unit: mg/kg)

Element	Polymer	Metal	Composite Materials
Cd	$P \leq 70-3\sigma < D < 130+3\sigma \leq F$	$P \leq 70-3\sigma < D < 130+3\sigma \leq F$	$P \leq 50-3\sigma < D < 150+3\sigma \leq F$
Pb	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 500-3\sigma < D < 1500+3\sigma \leq F$
Hg	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 700-3\sigma < D < 1300+3\sigma \leq F$	$P \leq 500-3\sigma < D < 1500+3\sigma \leq F$
Br	$P \leq 300-3\sigma < D$	----	$P \leq 250-3\sigma < F$
Cr	$P \leq 700-3\sigma < D$	$P \leq 700-3\sigma < D$	$P \leq 500-3\sigma < F$

- P=PASS, F=FAIL, D=DETECTED

- mg/kg = ppm = 0.0001%, /= Not Available

- Chemical test results:

Test results of Pb, Cd, Hg and Cr⁶⁺

Test Item(s)	MDL	Result(s) (mg/kg)			Limit (mg/kg)
		6	7	13	
Lead(Pb)	5mg/kg	N.D.	N.D.	N.D.	1000
Cadmium(Cd)	5mg/kg	N.D.	N.D.	N.D.	100
Mercury(Hg)	5mg/kg	N.D.	N.D.	N.D.	1000
Hexavalent Chromium(Cr ⁶⁺)#1	5mg/kg	/	/	/	1000
Hexavalent Chromium(Cr ⁶⁺)#2	0.10μg/cm ²	N.D.	N.D.	N.D.	/

Note:

- mg/kg=ppm=parts per million;
- N.D.=Not Detected (<MDL); MDL=method detection limit;
- #1: For non-metal materials test.
- #2: For metal materials test:
 “Positive” indicates Cr⁶⁺ in a sample is detected above 0.13μg/cm²;
 “Negative” indicates Cr⁶⁺ in a sample is detected below 0.10μg/cm²;

Report No. : TSZ23020642-P02-R01

Page 4 of 6

Test results of Phthalates

Test Item(s)	MDL	Result(s) (mg/kg)					Limit (mg/kg)
		1	2	4	8	9	
Dibutyl phthalate(DBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Butyl benzyl phthalate(BBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Di (2-ethylhexyl) phthalate(DEHP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate (DIBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Test Item(s)	MDL	Result(s) (mg/kg)					Limit (mg/kg)
		10	11	12	15	18	
Dibutyl phthalate(DBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Butyl benzyl phthalate(BBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Di (2-ethylhexyl) phthalate(DEHP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000
Diisobutyl phthalate (DIBP)	30mg/kg	N.D.	N.D.	N.D.	N.D.	N.D.	1000

Note:

- mg/kg=ppm=parts per million;
- N.D.=Not Detected (<MDL);
- MDL=method detection limit.

Test components:

1	Green plastic (case)	2	White plastic (Gasket)
3	Silver metal (case)	4	Black plastic ring
5	Silver metal cap	6	Aluminium sheet
7	Silver sheet metal	8	Translucent plastic ring
9	Blue Plastic (Gasket)	10	Yellow tape
11	Blue tape	12	White plastic (diaphragm)
13	Positive lug	14	Aluminum foil
15	Positive toner	16	Negative lug
17	Copper foil	18	Negative toner

Report No. : TSZ23020642-P02-R01

Page 5 of 6

Chemical Test Process

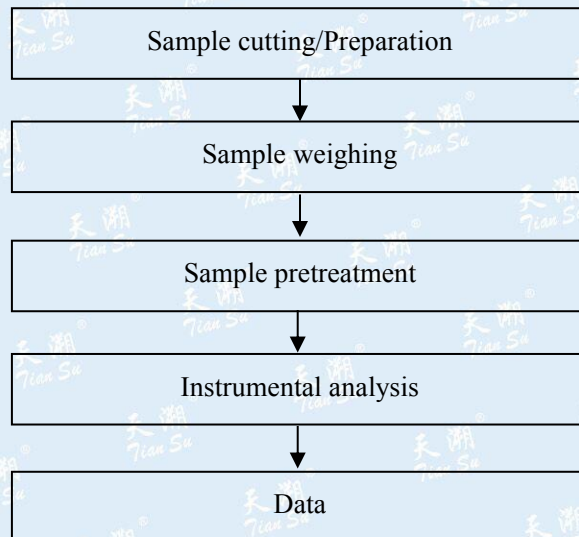
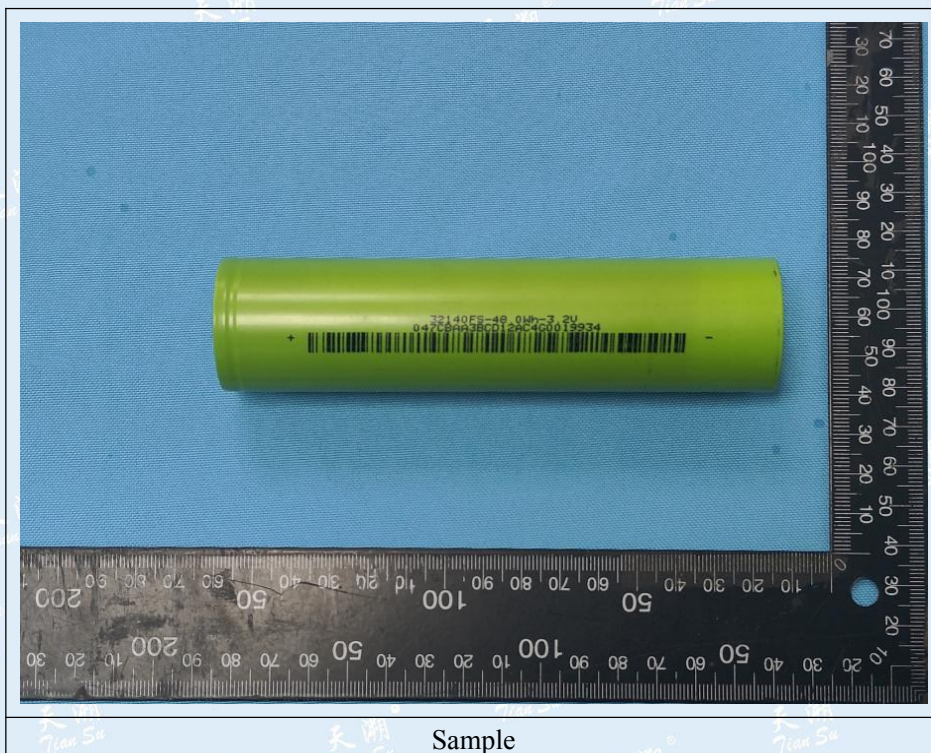


Photo of the sample



Sample

Report No. : TSZ23020642-P02-R01

Page 6 of 6



***** End of report *****

This report is invalid without the Special Seal of Tiansu. This report shall not be altered, increased or deleted. The results shown in this report refer only to the sample(s) tested.

