

Test Report

Number: 181101202SHA-002

Applicant: LithiumWerks China Manufacturing Co.,Ltd
BeiHai Road No.8, Integrated Free Trade Zone, New Strict,
Changzhou, China

Date: Nov. 30, 2018

Sample Description:

One (1) submitted sample said to be:

Item Name : ANR26650M1B
Brand Name : LithiumWerks
Manufacturer : LithiumWerks China Manufacturing Co.,Ltd
BeiHai Road No.8, Integrated Free Trade Zone, New Strict, Changzhou, China

Tests conducted:

As requested by the applicant, for details refer to attached page(s).

Conclusion:

<u>Tested sample</u>	<u>Standard</u>	<u>Result</u>
Tested groups	EU REACH Regulation No 1907/2006 Article 33(1) Obligation to provide information of safe use (see REACH requirement in report for details)	Meet requirement

To be continued

Authorized by:
For Intertek testing services Ltd., Shanghai



Jonny Jing
Operation Manager



Test Report

Number: 181101202SHA-002

Tests Conducted

(I) SVHC Testing Results

By a combination of Inductively Coupled Argon Plasma Spectrometry, Gas Chromatography – Mass Spectrometry, Liquid Chromatography - Mass Spectrometry, UV-VIS Spectrophotometer, Gas Chromatography - Electron Capture Detector, Headspace Gas Chromatography - Mass Spectrometry and High-Performance Liquid Chromatography.

No.	Chemical Substance	CAS No.	Results % (w/w)		
			(B)		
49	1-methyl-2-pyrrolidone	872-50-4	0.019		
--	Other tested SVHCs in Chemical list	--	ND		

No.	Chemical Substance	CAS No.	Results % (w/w)		
			(A)	(C)	(D)
--	Tested SVHCs in Chemical list	--	ND	ND	ND

SVHC = Substance of very high concern
 ND = Not Detected (less than reporting limit)
 Reporting limit = 0.010%(w/w)

As applicant's requirement, materials were screened in composite testing.

(II) Tested SVHC Chemical list:

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
1	Cobalt Dichloride Δ	7646-79-9	2	Diarsenic Pentaoxide Δ	1303-28-2
3	Diarsenic Trioxide Δ	1327-53-3	4	Lead Hydrogen Arsenate Δ	7784-40-9
5	Triethyl Arsenate Δ	15606-95-8	6	Sodium Dichromate Δ	7789-12-0, 10588-01-9
7	Bis (Tributyltin) Oxide (TBTO) Δ	56-35-9	8	Anthracene	120-12-7
9	4,4'-Diaminodiphenylmethane (MDA)	101-77-9	10	Hexabromocyclododecane (HBCDD) and All Major Diastereoisomers Identified (α-HBCDD, β-HBCDD, γ-HBCDD)	25637-99-4 and 3194-55-6 (134237-50-6, 134237-51-7, 134237-52-8)
11	5-Tert-Butyl-2,4,6-Trinitro-m-Xylene (Musk Xylene)	81-15-2	12	Bis (2-Ethylhexyl) Phthalate (DEHP)	117-81-7

To be continued



Test Report

Number: 181101202SHA-002

Tests Conducted

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
13	Dibutyl Phthalate (DBP)	84-74-2	14	Benzyl Butyl Phthalate (BBP)	85-68-7
15	Short Chain Chlorinated Paraffins (C10-13)	85535-84-8	16	Lead Chromate Δ	7758-97-6
17	Lead Chromate Molybdate Sulphate Red (C.I. Pigment Red 104) Δ	12656-85-8	18	Lead Sulfochromate Yellow (C.I. Pigment Yellow 34) Δ	1344-37-2
19	Tris (2-Chloroethyl) Phosphate	115-96-8	20	2,4-Dinitrotoluene	121-14-2
21	Diisobutyl Phthalate (DIBP)	84-69-5	22	Coal Tar Pitch, High Temperature	65996-93-2
23	Anthracene Oil	90640-80-5	24	Anthracene Oil, Anthracene Paste, Distn. Lights	91995-17-4
25	Anthracene Oil, Anthracene Paste, Anthracene Fraction	91995-15-2	26	Anthracene Oil, Anthracene-low	90640-82-7
27	Anthracene Oil, Anthracene Paste	90640-81-6	28	Acrylamide	79-06-1
29	Boric Acid Δ	10043-35-3, 11113-50-1	30	Disodium Tetraborate, Anhydrous Δ	1330-43-4, 12179-04-3, 1303-96-4
31	Tetraboron Disodium Heptaoxide, Hydrate Δ	12267-73-1	32	Sodium Chromate Δ	7775-11-3
33	Potassium Chromate Δ	7789-00-6	34	Ammonium Dichromate Δ	7789-09-5
35	Potassium Dichromate Δ	7778-50-9	36	Trichloroethylene	79-01-6
37	2-Methoxyethanol	109-86-4	38	2-Ethoxyethanol	110-80-5
39	Cobalt Sulphate Δ	10124-43-3	40	Cobalt Dinitrate Δ	10141-05-6
41	Cobalt Carbonate Δ	513-79-1	42	Cobalt Diacetate Δ	71-48-7
43	Chromium Trioxide Δ	1333-82-0	44	Chromic Acid Δ Dichromic Acid Δ Oligomers of Chromic Acid and Dichromic Acid Δ	7738-94-5 13530-68-2 --
45	Strontium ChromateΔ	7789-06-2	46	2-ethoxyethyl acetate (2-EEA)	111-15-9
47	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4	48	Hydrazine	7803-57-8 302-01-2
49	1-methyl-2-pyrrolidone	872-50-4	50	1,2,3-trichloropropane	96-18-4
51	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)	71888-89-6	52	Lead dipicrateΔ	6477-64-1

To be continued



Test Report

Number: 181101202SHA-002

Tests Conducted

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
53	Lead styphnate Δ	15245-44-0	54	Lead azide; Lead diazide Δ	13424-46-9
55	Phenolphthalein	77-09-8	56	2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4
57	N,N-dimethylacetamide (DMAC)	127-19-5	58	Trilead diarsenate Δ	3687-31-8
59	Calcium arsenate Δ	7778-44-1	60	Arsenic acid Δ	7778-39-4
61	Bis(2-methoxyethyl) ether	111-96-6	62	1,2-Dichloroethane	107-06-2
63	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	140-66-9	64	2-Methoxyaniline; o-Anisidine	90-04-0
65	Bis(2-methoxyethyl) phthalate (DMEP)	117-82-8	66	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	25214-70-4
67	Pentazinc chromate octahydroxide Δ	49663-84-5	68	Potassium hydroxyoctaoxodizincate dichromate Δ	11103-86-9
69	Dichromium tris(chromate) Δ	24613-89-6	70	Aluminosilicate Refractory Ceramic Fibres Δ	(Index No. 650-017-00-8)
71	Zirconia Aluminosilicate Refractory Ceramic Fibres Δ	(Index No. 650-017-00-8)	72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	74	Diboron trioxide Δ	1303-86-2
75	Formamide	75-12-7	76	Lead(II) bis(methanesulfonate) Δ	17570-76-2
77	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	2451-62-9	78	β -TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	59653-74-6
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1

To be continued



Test Report

Number: 181101202SHA-002

Tests Conducted

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
81	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylen e]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5
83	α,α-Bis[4-(dimethylamino)phenyl]-4(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	1163-19-5	86	Pentacosaflluorotridecanoic acid	72629-94-8
87	Tricosaflluorododecanoic acid	307-55-1	88	Henicosaflluoroundecanoic acid	2058-94-8
89	Heptacosaflluorotetradecanoic acid	376-06-7	90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3

To be continued



Tests Conducted

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
91	Cyclohexane-1,2-dicarboxylic anhydride [1]	85-42-7	92	Hexahydromethylphthalic anhydride [1],	25550-51-0
	cis-cyclohexane-1,2-dicarboxylic anhydride [2]	13149-00-3		Hexahydro-4-methylphthalic anhydride [2],	19438-60-9
	trans-cyclohexane-1,2-dicarboxylic anhydride [3]	14166-21-3		Hexahydro-1-methylphthalic anhydride [3],	48122-14-1
	[The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry].			Hexahydro-3-methylphthalic anhydride [4]	57110-29-9
				[The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry]	
93	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	--	94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	--
95	Methoxyacetic acid	625-45-6	96	N,N-dimethylformamide	68-12-2
97	Dibutyltin dichloride (DBTC) Δ	683-18-1	98	Lead monoxide (Lead oxide) Δ	1317-36-8
99	Orange lead (Lead tetroxide) Δ	1314-41-6	100	Lead bis(tetrafluoroborate) Δ	13814-96-5
101	Trilead bis(carbonate)dihydroxide Δ	1319-46-6	102	Lead titanium trioxideΔ	12060-00-3

To be continued



Tests Conducted

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
103	Lead titanium zirconium oxide Δ	12626-81-2	104	Silicic acid, lead salt Δ	11120-22-2
105	Silicic acid (H ₂ Si ₂ O ₅), barium salt (1:1), lead-doped Δ [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008]	68784-75-8	106	1-bromopropane (n-propyl bromide)	106-94-5
107	Methyloxirane (Propylene oxide)	75-56-9	108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0
109	Diisopentylphthalate (DIPP)	605-50-5	110	N-pentyl-isopentylphthalate	776297-69-9
111	1,2-diethoxyethane	629-14-1	112	Acetic acid, lead salt, basic Δ	51404-69-4
113	Lead oxide sulfate Δ	12036-76-9	114	[Phthalato(2-)]dioxotrilead Δ	69011-06-9
115	Dioxobis(stearato)trilead Δ	12578-12-0	116	Fatty acids, C16-18, lead salts Δ	91031-62-8
117	Lead cyanidate Δ	20837-86-9	118	Lead dinitrate Δ	10099-74-8
119	Pentalead tetraoxide sulphate Δ	12065-90-6	120	Pyrochlore, antimony lead yellow Δ	8012-00-8
121	Sulfurous acid, lead salt, dibasic Δ	62229-08-7	122	Tetraethyllead Δ	78-00-2
123	Tetralead trioxide sulphate Δ	12202-17-4	124	Trilead dioxide phosphonate Δ	12141-20-7
125	Furan	110-00-9	126	Diethyl sulphate	64-67-5
127	Dimethyl sulphate	77-78-1	128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	88-85-7	130	4,4'-methylenedi-o-toluidine	838-88-0
131	4,4'-oxydianiline and its salts	101-80-4	132	4-aminoazobenzene	60-09-3
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	95-80-7	134	6-methoxy-m-toluidine (p-cresidine)	120-71-8
135	Biphenyl-4-ylamine	92-67-1	136	o-aminoazotoluene [(4-o-tolylazo-o-toluidine)]	97-56-3

To be continued



Tests Conducted

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
137	o-toluidine	95-53-4	138	N-methylacetamide	79-16-3
139	Cadmium Δ	7440-43-9	140	Cadmium oxide Δ	1306-19-0
141	Dipentyl phthalate (DPP)	131-18-0	142	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	--
143	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	144	Pentadecafluorooctanoic acid (PFOA)	335-67-1
145	Cadmium sulphide Δ	1306-23-6	146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	573-58-0
147	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C.I. Direct Black 38)	1937-37-7	148	Dihexyl phthalate (DnHP)	84-75-3
149	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	150	Lead di(acetate) Δ	301-04-2
151	Trixylyl phosphate	25155-23-1	152	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear (Diisohexyl phthalate(DIHP))	68515-50-4
153	Cadmium chloride Δ	10108-64-2	154	Sodium perborate; perboric acid, sodium salt Δ	--
155	Sodium peroxometaborate Δ	7632-04-4	156	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1
157	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	158	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1
159	Cadmium fluoride Δ	7790-79-6	160	Cadmium sulphate Δ	10124-36-4; 31119-53-6

To be continued



Tests Conducted

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
161	Reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	15571-58-1; 27107-89-7	162	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate (EC No. 201-559-5)	68515-51-5 68648-93-1
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual isomers of [1] and [2] or any combination thereof]	117933-89-8	164	Nitrobenzene	98-95-3
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3
167	1,3-propanesultone	1120-71-4	168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4
169	Benzo[def]chrysene(Benzo[a]pyrene	50-32-8	170	4,4'-isopropylidenediphenol (Bisphenol A)	80-05-7
171	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	335-76-2 3108-42-7 3830-45-3	172	4-heptylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	--
173	p-(1,1 dimethylpropyl)phenol	80-46-6	174	Perfluorohexane-1-sulphonic acid and its salts (PFHxS)	355-46-4

To be continued



Tests Conducted

No.	Chemical Substance	CAS No.	No.	Chemical Substance	CAS No.
175	1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™) [covering any of its individual anti- and syn-isomers or any combination thereof]	13560-89-9; 135821-74-8; 135821-03-3	176	Benz[a]anthracene	56-55-3
177	Cadmium nitrate Δ	10325-94-7	178	Cadmium carbonate Δ	513-78-0
179	Cadmium hydroxide Δ	21041-95-2	180	Chrysene	218-01-9
181	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with $\geq 0.1\%$ w/w 4-heptylphenol, branched and linear]	--	182	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride (trimellitic anhydride, TMA)	552-30-7
183	Dicyclohexyl phthalate (DCHP)	84-61-7	184	Octamethylcyclotetrasiloxane (D4)	556-67-2
185	Decamethylcyclopentasiloxane (D5)	541-02-6	186	Dodecamethylcyclohexasiloxane (D6)	540-97-6
187	Lead	7439-92-1	188	Disodium octaborate	12008-41-2
189	Benzo[ghi]perylene	191-24-2	190	Terphenyl hydrogenate	61788-32-7
191	Ethylenediamine (EDA)	107-15-3	--	--	--

Δ = Determination was based on elemental analysis. The content was calculated based on assumption of worst-case.

To be continued



Tests Conducted

(III) Tested groups: See component list in the last section of this report.

(A): 隔膜, 14mm 高温胶带, 白色绝缘件, 蓝色绝缘件, 封口件, 59.5mm 绿胶带, 8mm 绿胶带, 条码纸

(B): 正极片, 负极片, 负极盖非金属部分, 面垫, 热缩管

(C): 弹性钢针, 正极盖, 负极盖金属部分, 封口钉

(D): 铜极耳, 铝极耳, 铝壳, 铝延伸柄

Notes:

1. Substances of very high concern (SVHC) are classified as:
 - a. Carcinogenic, mutagenic or toxic to reproduction category 1 (proven on humans) and category 2 (proven on animals)
 - b. Persistent, bioaccumulative and toxic chemicals (PBT)
 - c. Very persistent and very bioaccumulative chemicals (vPvB)
 - d. Other similar substances such as endocrine disrupters
2. If the imported or manufactured volume of each individual SVHC in article is more than 0.1% (w/w) and if it exceeds 1 tonne per year across all product ranges, then importer or manufacturer require notification to the European Chemical Agency (ECHA). For substances included in the Candidate List on or after 1 December 2010, the notifications have to be submitted no later than 6 months after the inclusion. The following information has to be submitted for notification:
 - a. Identification of the registrant and the substance
 - b. Classification and labelling of the substance
 - c. Description of use of the substance and the article
 - d. Registration number, if available
 - e. Tonnage range

REACH requirement:

As per article 31 of regulation (EC) No. 1907/2006 (REACH), suppliers of mixtures not classified as dangerous according to directive 1999/45/EC have to provide the recipients, at their request, with a safety data sheet if the mixtures contain at least one substance on the SVHC candidate list and its individual concentration is 0.1%(w/w) or above for non-gaseous preparations.

As per article 33(1) of regulation (EC) No. 1907/2006 (REACH), recipients of product must be provided with information of safe use if any of the tested substances (SVHC) exceeded 0.1% (w/w). A product meets the requirement of article 33(1) by default when no SVHC exceeds 0.1% (w/w).

Date sample received: Nov. 16, 2018

Testing period: Nov. 16, 2018 To Nov. 26, 2018



Tests Conducted



End of report

This report is made solely on the basis of your instructions and/or information and materials supplied by you. It is not intended to be a recommendation for any particular course of action. Intertek does not accept a duty of care or any other responsibility to any person other than the Client in respect of this report and only accepts liability to the Client insofar as is expressly contained in the terms and conditions governing Intertek's provision of services to you. Intertek makes no warranties or representations either express or implied with respect to this report save as provided for in those terms and conditions. We have aimed to conduct the Review on a diligent and careful basis and we do not accept any liability to you for any loss arising out of or in connection with this report, in contract, tort, by statute or otherwise, except in the event of our gross negligence or wilful misconduct.

