

Test Report Date: 05 Mar 2021 Page 1 of 14 No. TAOEC2100776503

JIANGSU BEIHUA XINXIANG NEWMATERIAL TECHNOLOGY CO.,LTD YIXING ECONOMIC ANG TECHNOLOGICAL DEVELOPMENT ZONE, JIANGSU, PROVINCE YIBEI ROAD.

The following sample(s) was/were submitted and identified on behalf of the clients as: THERMOPLASTIC HALOGEN-FREE FLAME RETARDANT POLYOLEFIN CABLE MATERIAL

SGS Job No.: QP21-000506 - QD

Model No.: **BHE-183**

Client Ref. Information: Other Model No.:

BHE-100,BHE-155,BHE-156,BHE-161,BHE-105,BHE-110,BHE-181,BHE-182,BH

E-185,BHE-186,BHE-190,BHE-183UV

Date of Sample Received: 25 Feb 2021

Testing Period: 25 Feb 2021 - 05 Mar 2021

Test Requested: Selected test(s) as requested by client.

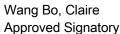
Test Method: Please refer to next page(s). Test Results: Please refer to next page(s).

Based on the performed tests on submitted sample(s), the results of Lead, Conclusion:

> Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs) and Phthalates such as Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP), and Diisobutyl phthalate (DIBP) comply with the limits as set by RoHS Directive (EU)

2015/863 amending Annex II to Directive 2011/65/EU.

Signed for and on behalf of SGS-CSTC Standards Technical Services (Qingdao) Co., Ltd.









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Test Results:

Test Part Description:

Specimen No. SGS Sample ID **Description** TAO21-007765.002 SN₁ white solid grains

Remarks:

- (1) 1 mg/kg = 0.0001%
- (2) MDL = Method Detection Limit
- (3) ND = Not Detected (< MDL)
- (4) "-" = Not Regulated

RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU

Test Method: With reference to IEC 62321-5:2013, IEC 62321-4:2013+AMD1:2017, IEC 62321-7-2:2017, IEC 62321-6:2015 and IEC 62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	ND
Mercury (Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))	1000	mg/kg	8	ND
Sum of PBBs	1000	mg/kg	-	ND
Monobromobiphenyl	-	mg/kg	5	ND
Dibromobiphenyl	-	mg/kg	5	ND
Tribromobiphenyl	-	mg/kg	5	ND
Tetrabromobiphenyl	-	mg/kg	5	ND
Pentabromobiphenyl	-	mg/kg	5	ND
Hexabromobiphenyl	-	mg/kg	5	ND
Heptabromobiphenyl	-	mg/kg	5	ND
Octabromobiphenyl	-	mg/kg	5	ND
Nonabromobiphenyl	-	mg/kg	5	ND
Decabromobiphenyl	-	mg/kg	5	ND
Sum of PBDEs	1000	mg/kg	-	ND
Monobromodiphenyl ether	-	mg/kg	5	ND
Dibromodiphenyl ether	-	mg/kg	5	ND
Tribromodiphenyl ether	-	mg/kg	5	ND
Tetrabromodiphenyl ether	-	mg/kg	5	ND
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND



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Test Item(s)	<u>Limit</u>	<u>Unit</u>	<u>MDL</u>	<u>002</u>	
Heptabromodiphenyl ether	-	mg/kg	5	ND	
Octabromodiphenyl ether	-	mg/kg	5	ND	
Nonabromodiphenyl ether	-	mg/kg	5	ND	
Decabromodiphenyl ether	-	mg/kg	5	ND	
Di-butyl Phthalate (DBP)	1000	mg/kg	50	ND	
Benzyl Butyl Phthalate (BBP)	1000	mg/kg	50	ND	
Di-2-Ethyl Hexyl Phthalate (DEHP)	1000	mg/kg	50	ND	
Diisobutyl Phthalates (DIBP)	1000	mg/kg	50	ND	

Notes:

- (1) The maximum permissible limit is quoted from RoHS Directive (EU) 2015/863.
- (2) IEC 62321 series is equivalent to EN 62321 series https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101::::FSP_ORG_ID,FSP_LANG_ID:12586 37.25
- (3) The restriction of DEHP, BBP, DBP and DIBP shall apply to medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, from 22 July 2021.

Halogen

Test Method: With reference to EN 14582: 2016, analysis was performed by Ion Chromatograph (IC).

Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Fluorine (F)	mg/kg	50	ND
Chlorine (CI)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	ND
lodine (I)	mg/kg	50	ND

Notes:

- The test was subcontracted to SGS Tianjin chemical lab.

Element(s)

Test Method: With reference to US EPA 3052:1996 US EPA 3051A:2007 US EPA 6010C:2007, analyzed

by ICP-OES.



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Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Antimony (Sb)	mg/kg	10	ND
Sb ₂ O ₃ ◆	mg/kg	12	ND

Notes:

- ◆Calculated concentration of Sb₂O₃ is based on the identified Sb

Polycyclic aromatic hydrocarbons (PAHs)

Test Method: With reference to AfPS GS 2019:01 PAK, analysis was performed by GC-MS.

Test Item(s)	<u>Unit</u>	<u>MDL</u>	<u>002</u>
Benzo(a)pyrene(BaP)	mg/kg	0.1	ND
Benzo(e)pyrene(BeP)	mg/kg	0.1	ND
Benzo(a)anthracene(BaA)	mg/kg	0.1	ND
Benzo(b)fluoranthene(BbF)	mg/kg	0.1	ND
Benzo(j)fluoranthene(BjF)	mg/kg	0.1	ND
Benzo(k)fluoranthene(BkF)	mg/kg	0.1	ND
Chrysene(CHR)	mg/kg	0.1	ND
Dibenzo(a,h)anthracene(DBA)	mg/kg	0.1	ND
Benzo(g,h,i)perylene(BPE)	mg/kg	0.1	ND
Indeno(1,2,3-c,d)pyrene(IPY)	mg/kg	0.1	ND
Phenanthrene(PHE)	mg/kg	0.1	ND
Pyrene(PYR)	mg/kg	0.1	ND
Anthracene(ANT)	mg/kg	0.1	ND
Fluoranthene(FLT)	mg/kg	0.1	ND
Sum of Phenanthrene(PHE), Pyrene(PYR), Anthracene(ANT),	mg/kg	-	ND
Fluoranthene(FLT)			
Naphthalene(NAP)	mg/kg	0.1	ND
Sum of 15 PAHs	mg/kg	-	ND

Notes:

As per client information, the tested sample is not children product which is under the directive of German ProdSG.



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AfPS (German commission for Product Safety): PAHs requirements

	Category 1	Cate	egory 2	Categor	y 3	
Parameter (mg/kg)	Materials intended to be placed in the mouth, or materials coming into long-term contact with skin (more than 30s) during the intended use in toys according to	category 1, of long-term contain 30s) or repetitive co	ntact (more short-term ntact ^o with he intended or	Materials covered neither by category 1 nor by category 2, coming into short-term contact (up to 30s) with skin during the intended or foreseeable use.		
	Directive 2009/48/EC or -for the use by children ^{a,b} up to 3 years of age.	a. use by children	b. other consumer products	a. use by children	b. other consumer products	
Benzo(a)pyrene (BaP)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(e)pyrene (BeP)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(a)anthracene (BaA)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(b)fluoranthene (BbF)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(j)fluoranthene (BjF)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(k)fluoranthene (BkF)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Chrysene (CHR) mg/kg	< 0.2	< 0.2	< 0.5	< 0.5	<1	
Dibenzo(a,h)anthracene (DBA)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Benzo(g,h,i)perylene (BPE)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Indeno(1,2,3-cd)pyrene (IPY)	< 0.2	< 0.2	< 0.5	< 0.5	< 1	
Phenanthrene (PHE), pyrene (PYR), anthracene (ANT), fluoranthene (FLT)	< 1 Sum	< 5 Sum	< 10 Sum	< 20 Sum	< 50 Sum	
Naphthalene (NAP)	<.1	< 2		< 10		
Sum of 15 PAHs	<1	< 5	< 10	< 20	< 50	

Remark: The German committee on Product Safety (AfPS) published a new PAHs document (AfPS GS 2019:01 PAK) on April 10, 2020, which will be binding for the issue of GS mark certificate from July 1, 2020.

Phthalates

Test Method: With reference to EN14372: 2004, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	<u>Unit</u>	MDL	002
Dibutyl Phthalate (DBP)	84-74-2	%	0.003	ND
Benzylbutyl Phthalate (BBP)	85-68-7	%	0.003	ND
Bis-(2-ethylhexyl) Phthalate (DEHP)	117-81-7	%	0.003	ND
Diisononyl Phthalate (DINP)	28553-12-0/	%	0.01	ND
	68515-48-0			



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^a A "Child" is legally defined as a person before reaching the age of 14 years.

b Use by children includes both active and passive contact by children.

C Definition "short-term repetitive contact" taken from REACH Annex XVII entry 50 amendment (Regulation (EC) No. 1272/2013)

d According to the definition of the German Product Safety Act (ProdSG) (chapter 1 Article 2 No. 28) "foreseeable use" shall mean the use of a product in a manner that the person placing it on the market, has not intended, but which could be reasonably foreseeable.



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Test Item(s)		CAS NO.		<u>Unit</u>	MDL	002
Di-n-octyl Phthalate (DNOP)		117-84-0		%	0.003	ND
Diisodecyl Phthalate (DIDP)		26761-40-0/	1	%	0.01	ND
		68515-49-1				
Dimethyl Phthalate (DMP)		131-11-3		%	0.003	ND
Diethyl Phthalate (DEP)		84-66-2		%	0.003	ND
Di-n-pentyl Phthalate (DnPP)		131-18-0		%	0.003	ND
Diisopentyl Phthalate (DIPP)		605-50-5		%	0.003	ND
n-pentyl Isopentyl phthalate(nPiPP)		776297-69-9)	%	0.003	ND
1,2-Benzenedicarboxylic acid, di-C6-	8-branched alkyl	71888-89-6		%	0.01	ND
esters, C7-rich (DIHP)				0.4		
1,2-Benzenedicarboxylic acid, di-C7-	11-branched and	68515-42-4		%	0.01	ND
linear alkyl esters (DHNUP)				0.4		
1,2-Benzenedicarboxylic acid,dipenty	/lester, branched and	84777-06-0		%	0.003	ND
linear (DPP)						
Di-n-hexyl Phthalate (DnHP)		84-75-3		%	0.003	ND
Bis(2-methoxyethyl) Phthalate (DME	P)	117-82-8		%	0.003	ND



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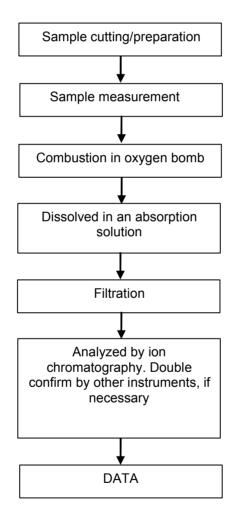
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Halogen Testing Flow Chart





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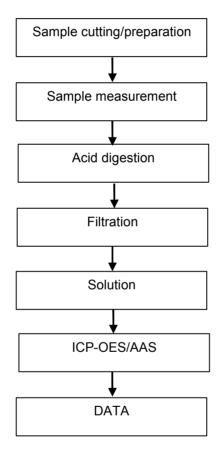
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Elementary Testing Flow Chart







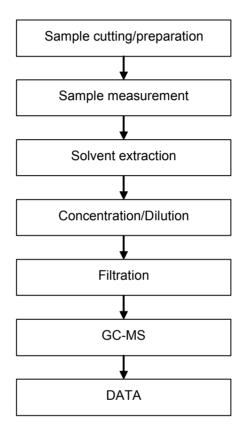
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PAHs Testing Flow Chart







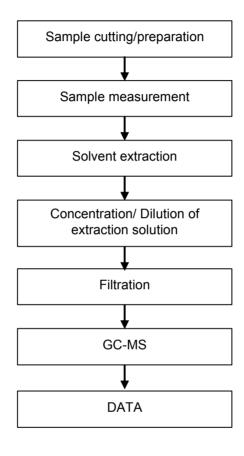
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PBBs/PBDEs Testing Flow Chart







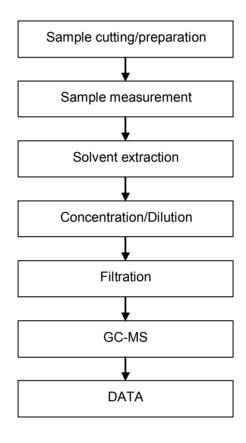
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Phthalates Testing Flow Chart







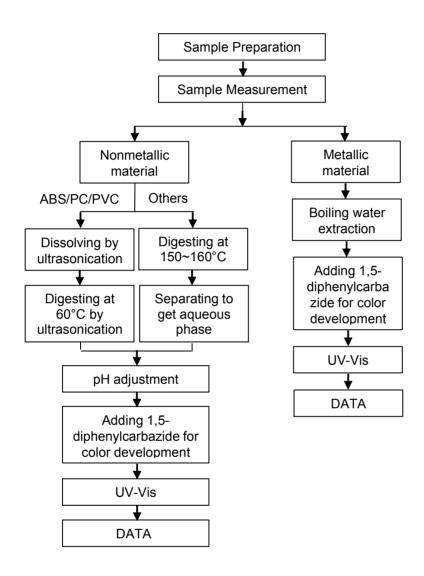
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Hexavalent Chromium (Cr(VI)) Testing Flow Chart







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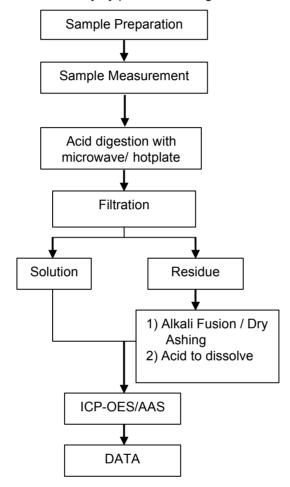
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Elements (IEC62321) Testing Flow Chart

1) These samples were dissolved totally by pre-conditioning method according to below flow chart.







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Sample photo:



SGS authenticate the photo on original report only

*** End of Report ***



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