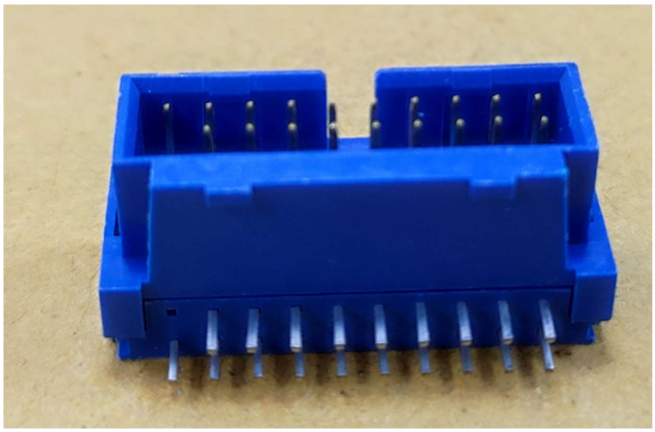
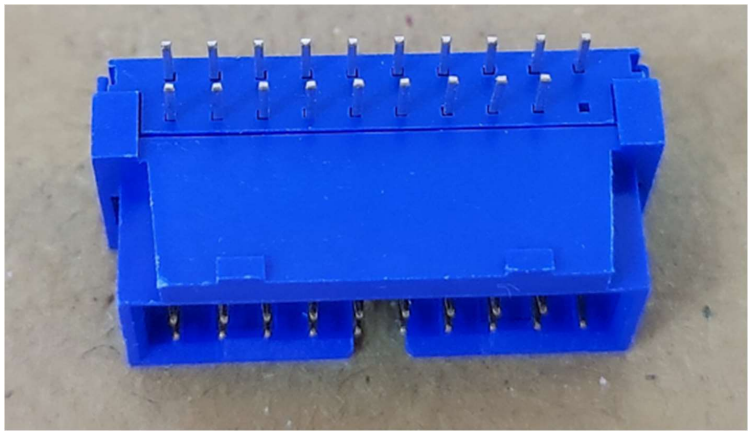
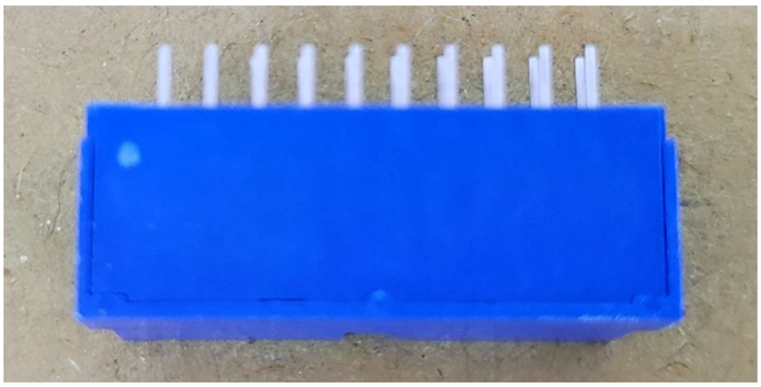
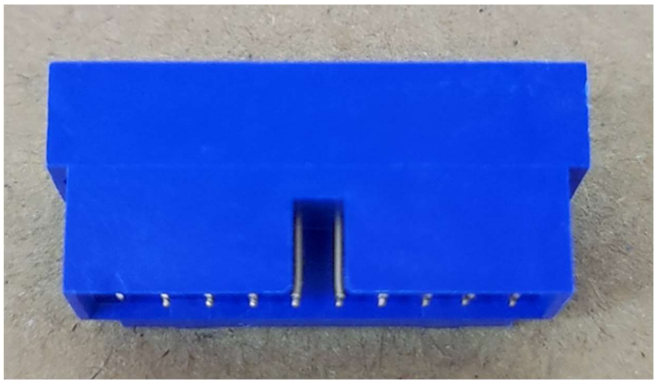
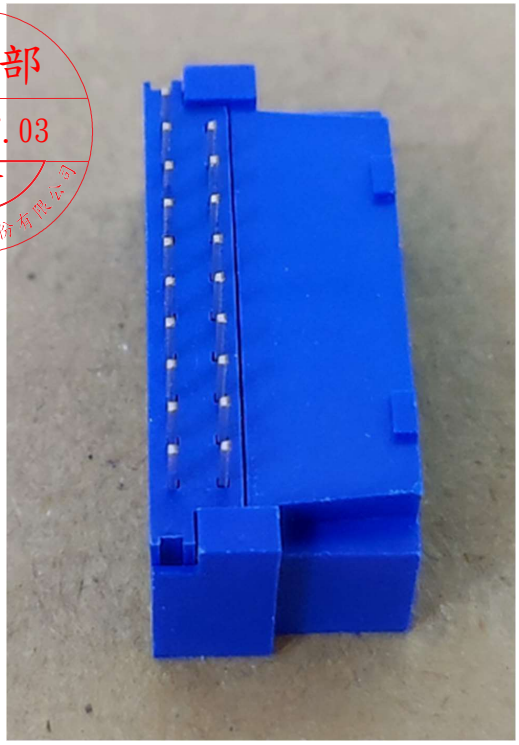


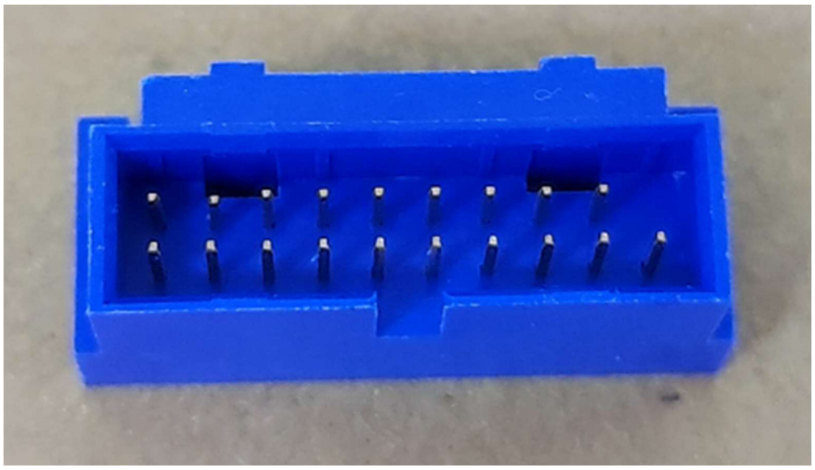


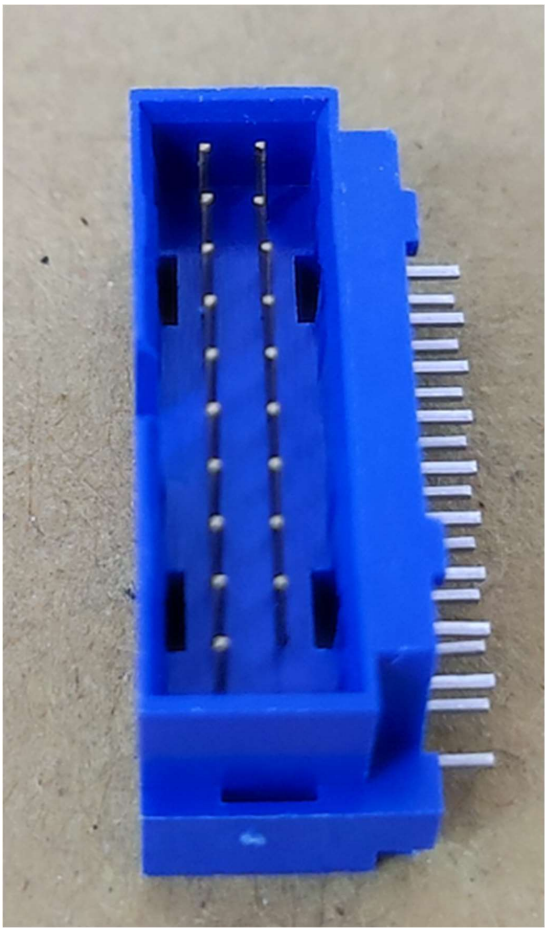


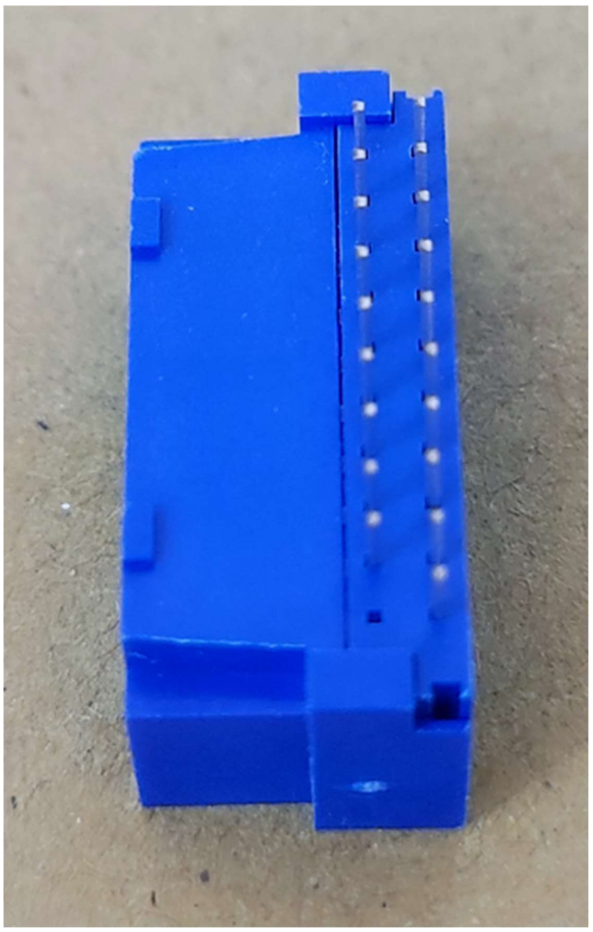


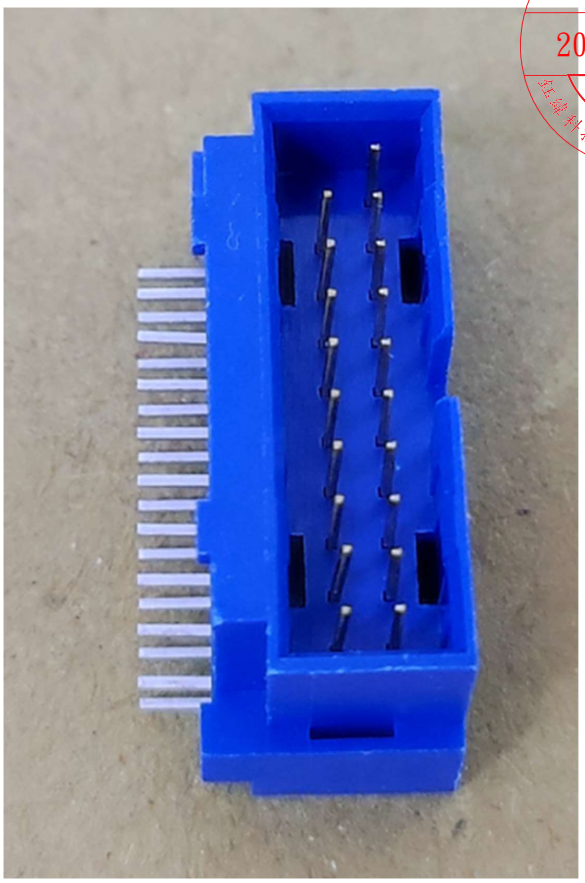
開發部
2023.07.03
發行
旺矽科技開發股份有限公司











開發部
2023.07.03
發行
[illegible]科技開發股份有限公司

TEKCON ® 台捷電子股份有限公司

DATE：2023/06/30

SPECIFICATION FOR APPROVAL

CUSTOMER：鈺緯科技開發股份有限公司

PART NAME：USB3.0 IDC 20PIN FEMALE R/A DIP TYPE

TEKCON P/N：1140-025-20R-E

CUST. P/N：3FM01900210 (F0286)

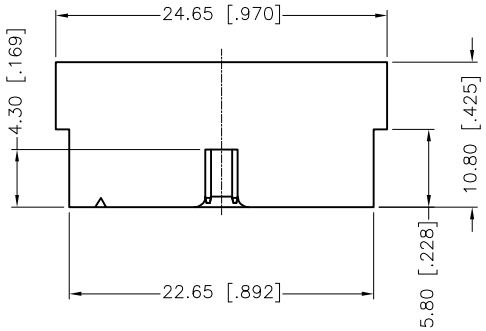
APPROVED DATE：	/ /
CUSTOMER APPROVED BY ：	開發部 2023.07.03 發行 鈺緯科技開發股份有限公司

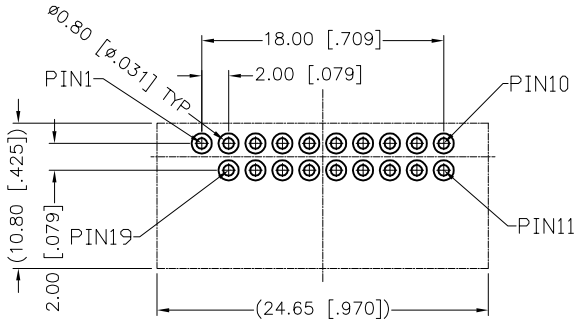
TEKCON ®Electronics Corp.
2F., No.4, Lane 95, Anxing Rd., Xindian City, Taipei County 23159, Taiwan, R.O.C.
E-mail: info@tekcon.com.tw
TEL: 886-2-2212-0369
FAX: 886-2-2212-0200

TEKCON ®Electronics Corp.
2F., No.4, Lane 95, Anxing Rd., Xindian City, Taipei County 23159, Taiwan, R.O.C.
Assistant Sales Manager: Joyce Chen
E-mail: joycechen@tekcon.com.tw
TEL: 886-2-2212-0369 Ext.2580
FAX: 886-2-2212-0200

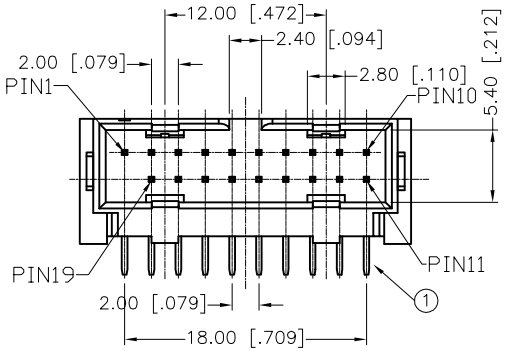
RoHS

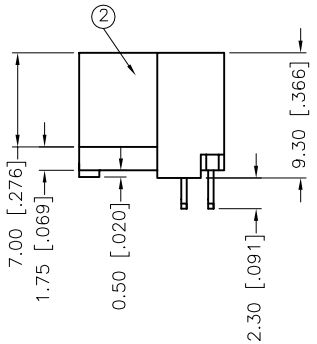
REV.	ECN. NO.	NAME	DATE
1	TER23-00042	DEBBIE	06/16/23"

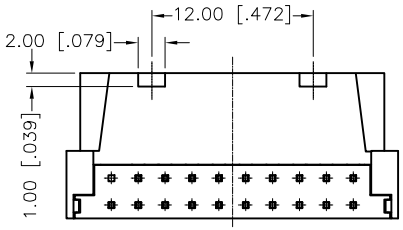




RECOMMENDED PCB LAYOUT (TOP VIEW)
T=1.60[.005] TOLERANCES:±0.05[.002]







NOTES:

1. THE PRODUCT NUMBERS ARE ASSIGNED AS FOLLOWS:

1140-0 2 5-20 R-E

- PIN LENGTH E-2.30mm
- R-RIGHT ANGLE
- NO. OF CONTACT
- INSULATOR TYPE 5-PA6T, BLUE
- NO. OF ROW 2-DUAL ROW
- CONTACT PLATING 0-GOLD FLASH/TIN
- 2.00mm FEMALE HEADER

2. ELECTRICAL
. VOLTAGE RATING: 30V AC
. CURRENT RATING: 1.5 AMP.
. INSULATION RESISTANCE: 100 MEGAOHMS MIN.
. DIELECTRIC WITHSTANDING VOLTAGE: 500 VAC
. CONTACT RESISTANCE: 30 MILLIOHMS MAX.

3. MECHANICAL:
. INSERTION FORCE: 35 N MAX.
. WITHDRAWAL FORCE: 15 N MIN.
. DURABILITY: 200 CYCLES.

4. ENVIRONMENTAL
. TEMPERATURE RANGE: -55°C TO +85°C.

USB3 ICC A Pin Assignment and Description

Pin No.	Signal	Description
1	Vbus	Power
2	IntA_P1_SSRX-	USB3 ICC Port1 SuperSpeed Rx-
3	IntA_P1_SSRX+	USB3 ICC Port1 SuperSpeed Rx+
4	GND	GND
5	IntA_P1_SSTX-	USB3 ICC Port1 SuperSpeed Tx-
6	IntA_P1_SSTX+	USB3 ICC Port1 SuperSpeed Tx+
7	GND	GND
8	IntA_P1_D-	USB3 ICC Port1 D- (USB2 Signal D-)
9	IntA_P1_D+	USB3 ICC Port1 D+ (USB2 Signal D+)
10	ID	Over Current Protection
11	IntA_P2_D+	USB3 ICC Port2 D+ (USB2 Signal D+)
12	IntA_P2_D-	USB3 ICC Port2 D- (USB2 Signal D-)
13	GND	GND
14	IntA_P2_SSTX+	USB3 ICC Port2 SuperSpeed Tx+
15	IntA_P2_SSTX-	USB3 ICC Port2 SuperSpeed Tx-
16	GND	GND
17	IntA_P2_SSRX+	USB3 ICC Port2 SuperSpeed Rx+
18	IntA_P2_SSRX-	USB3 ICC Port2 SuperSpeed Rx-
19	Vbus	Power

開發部
2023.07.03
發行
旺矽科技股份有限公司

3FM01900210(F0286)

NO.	PART NAME	QTY	MATERIAL	REMARK
②	HOUSING	1	PA6T, UL94-V0	COLOR:BLUE
①	CONTACT	20	COPPER ALLOY	0.6u" GOLD/TIN PLATED

TEKCON® ELECTRONICS

TITLE	USB 3.0 IDC 20PIN FEMALE R/A DIP TYPE
DWG.NO.	1140-025-20R-E
(A4)	
APPD.	
CHR.	
DR.	
UNIT:mm[inch]	
TOLERANCE UNLESS OTHERWISE SPECIFIED	
LINEAR	0.0 ±0.38 [.00 ±.015]
	0.00±0.25 [.000±.010]
ANGLES	± 3°
DWG.PATH: RD\55\1140X2520RE-1	SCALE 1:1 SHEET 1 OF 1 REV: 1

TEKCON ELECTRONICS CORP.

成品包裝規範 PACKING SPECIFICATION			主題 Title	USB 3.0 IDC 20PIN FEMALE R/A DIP TYPE 包裝規範 USB 3.0 IDC 20PIN FEMALE R/A DIP TYPE PACKING SPECIFICATION		
文件編號 Document No.	TES-02-1134	文件版本 Document Rev.	1	生效日期 Effective Date		共 2 頁 第 1 頁 Page 1 of 2

一、概述**:** Description:

本規範說明 **USB 3.0 IDC 20PIN FEMALE R/A DIP TYPE** 成品之包裝材料和作業方法。

This specification is define the packaging materials & methods for **USB 3.0 IDC 20PIN FEMALE R/A DIP TYPE.**

二、材料 Material:

項次 S/No.	品名 Part Name	數量/箱 Q'TY / Carton	產品料號 Connector Part No.	數量/ TRAY Q'TY/ TRAY	TRAY/ 外箱 TRAY/ Carton	數量/ 外箱 Q'TY/ Carton
1	TRAY	10	1140-X25-20R-E	90 PCS	10 PCS	900 PCS
2	TOP COVER	10				
3	外箱 Carton	1				

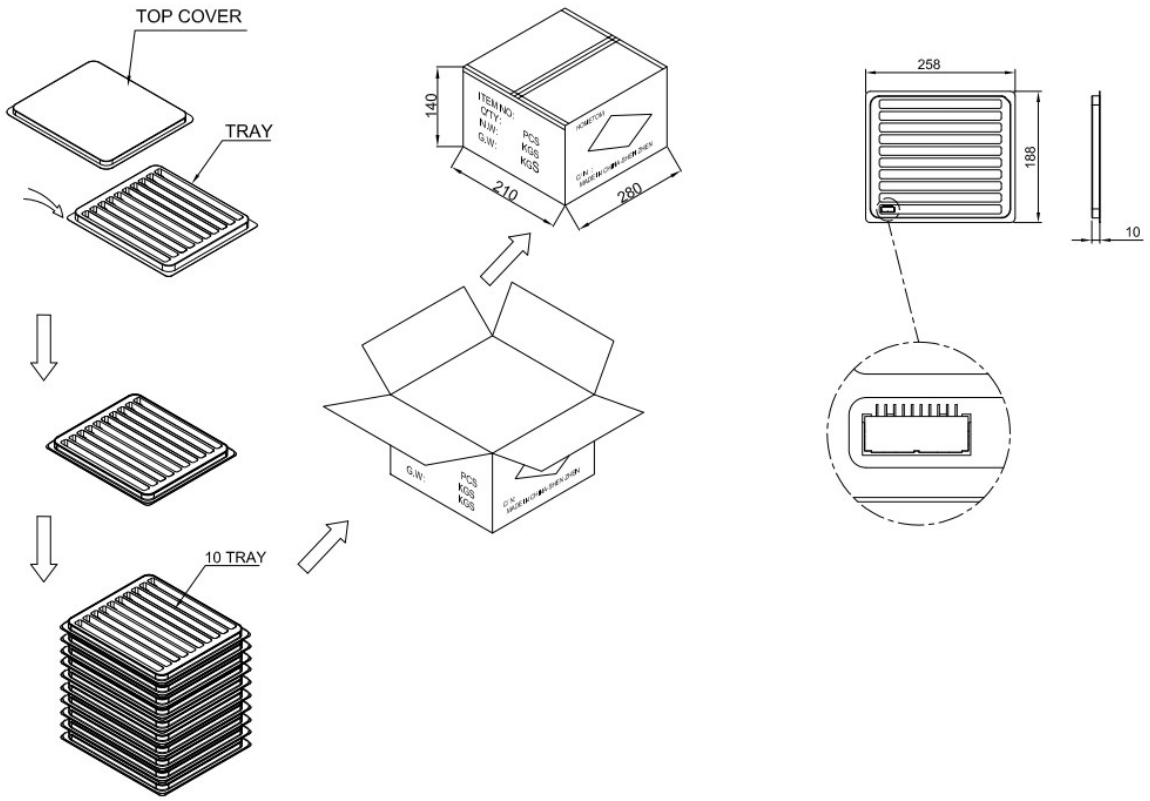
Dimension of Carton（外箱尺寸）:
L X W X H = 280mm x 210mm x 140mm

Weight（重量）:
NET（淨重）= 2.6 KG　GROSS（毛重）=4.1 KG

*.出貨時，每箱淨、毛重應以實測重量為准。While producing the goods, the net weight and gross weight of each carton are subject to actual weight.

TEKCON ELECTRONICS CORP.

成品包裝規範 PACKING SPECIFICATION			主題 Title	USB 3.0 IDC 20PIN FEMALE R/A DIP TYPE 包裝規範 USB 3.0 IDC 20PIN FEMALE R/A DIP TYPE PACKING SPECIFICATION		
文件編號 Document No.	TES-02-1134	文件版本 Document Rev.	1	生效日期 Effective Date		共 2 頁 第 2 頁 Page 2 of 2

三. 包裝作業圖示說明. Packaging Operation Diagram And Instruction.	備 註(Remark)
	1. 客戶特殊需求之包材上標籤請參閱”TES-02-314”。 Label that Customer's special request please accord with”TES-02-314”.

检测报告

报告编号 A22203813851010O1C　　第 1 页　共 7 页

报告抬头公司名称 深圳市唯美塑胶颜料有限公司

地　　址 深圳市龙华区观澜街道牛湖社区裕新路305号

以下测试之样品及样品信息由申请者提供并确认

样品名称	塑胶颜料混合物
样品型号	138萤光红，115大红，169紫红，212油化橙，305萤光黄，330钛黄，503酞青蓝，508群青，601紫，R69钛白粉，001增白剂，HD锌白粉，UV粉，188扩散粉，189扩散剂，701碳黑，716油化黑，718苯胺黑混合
样品颜色	棕色
样品接收日期	2022.08.29
样品检测日期	2022.08.29-2022.09.01
检测要求	根据客户要求，对所提交样品中的铅(Pb)，镉(Cd)，汞(Hg)，六价铬(Cr(VI))，多溴联苯(PBBs)，多溴二苯醚(PBDEs)，邻苯二甲酸酯(DBP，BBP，DEHP，DIBP)进行测试。
检测依据	请参见下页。
检测结果	请参见下页。

****

结论

测试样品	依据标准/指令	结果
提交样品	欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863	符合

****

符合表示检测结果满足欧盟RoHS指令2011/65/EU及其修订指令(EU) 2015/863要求的限值。

检　　张绍祥

批　　准　郑晴涛

郑晴涛

技术经理

审　　核　刘琳慧

日　　期　2022.09.01

No. R393381578

检测报告

检测依据

测试项目	测试方法	测试仪器
铅(Pb)	IEC 62321-5:2013	ICP-OES
镉(Cd)	IEC 62321-5:2013	ICP-OES
汞(Hg)	IEC 62321-4:2013+AMD1:2017 CSV	ICP-OES
六价铬(Cr(VI))	IEC 62321-7-2:2017和/或IEC 62321-5:2013测试总铬含量	UV-Vis/ICP-OES
多溴联苯(PBBs)	IEC 62321-6:2015	GC-MS
多溴二苯醚(PBDEs)	IEC 62321-6:2015	GC-MS
邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)	IEC 62321-8:2017	GC-MS

检测报告

检测结果

测试项目	结果	方法检出限	限值
铅(Pb)	N.D.	2 mg/kg	1000 mg/kg
镉(Cd)	N.D.	2 mg/kg	100 mg/kg
汞(Hg)	N.D.	2 mg/kg	1000 mg/kg
六价铬(Cr(VI))	N.D.	8 mg/kg	1000 mg/kg

测试项目	结果	方法检出限	限值
多溴联苯(PBBs)			
一溴联苯	N.D.	5 mg/kg	1000 mg/kg
二溴联苯	N.D.	5 mg/kg	
三溴联苯	N.D.	5 mg/kg	
四溴联苯	N.D.	5 mg/kg	
五溴联苯	N.D.	5 mg/kg	
六溴联苯	N.D.	5 mg/kg	
七溴联苯	N.D.	5 mg/kg	
八溴联苯	N.D.	5 mg/kg	
九溴联苯	N.D.	5 mg/kg	
十溴联苯	N.D.	5 mg/kg	

测试项目	结果	方法检出限	限值
多溴二苯醚(PBDEs)			
一溴二苯醚	N.D.	5 mg/kg	1000 mg/kg
二溴二苯醚	N.D.	5 mg/kg	
三溴二苯醚	N.D.	5 mg/kg	
四溴二苯醚	N.D.	5 mg/kg	
五溴二苯醚	N.D.	5 mg/kg	
六溴二苯醚	N.D.	5 mg/kg	
七溴二苯醚	N.D.	5 mg/kg	
八溴二苯醚	N.D.	5 mg/kg	
九溴二苯醚	N.D.	5 mg/kg	
十溴二苯醚	N.D.	5 mg/kg	

检测报告

检测结果

测试项目	结果	方法检出限	限值
邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)			
邻苯二甲酸二丁酯(DBP) CAS#:84-74-2	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸丁基苄基酯(BBP) CAS#:85-68-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二(2-乙基)己酯(DEHP) CAS#:117-81-7	N.D.	50 mg/kg	1000 mg/kg
邻苯二甲酸二异丁酯(DIBP) CAS#:84-69-5	N.D.	50 mg/kg	1000 mg/kg

样品/部位描述 棕色粉末

备注： **对于检测铅，镉，汞之样品已消解完全。**

-N.D. = 未检出 (小于方法检出限)

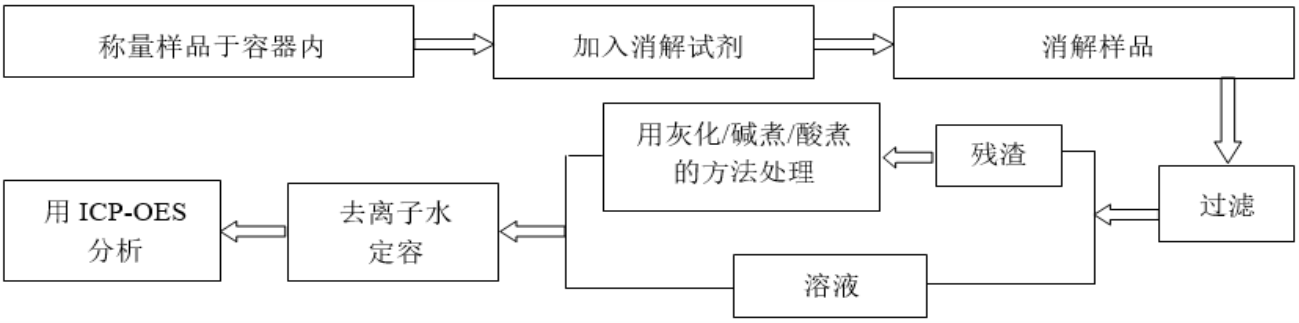
-mg/kg = ppm = 百万分之一

-1000 mg/kg = 0.1%

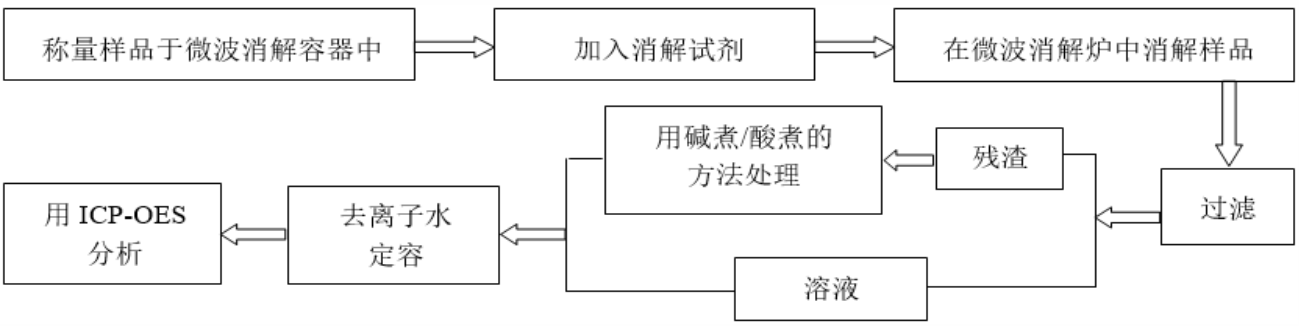
检测报告

检测流程

1. 铅(Pb)，镉(Cd)，铬(Cr)



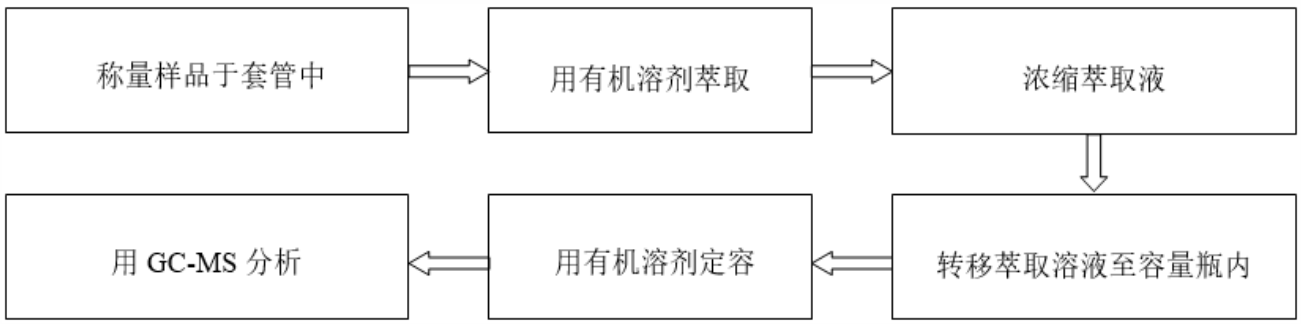
2. 汞(Hg)



3. 六价铬(Cr(VI))



4. 多溴联苯(PBBs)， 多溴二苯醚(PBDEs)



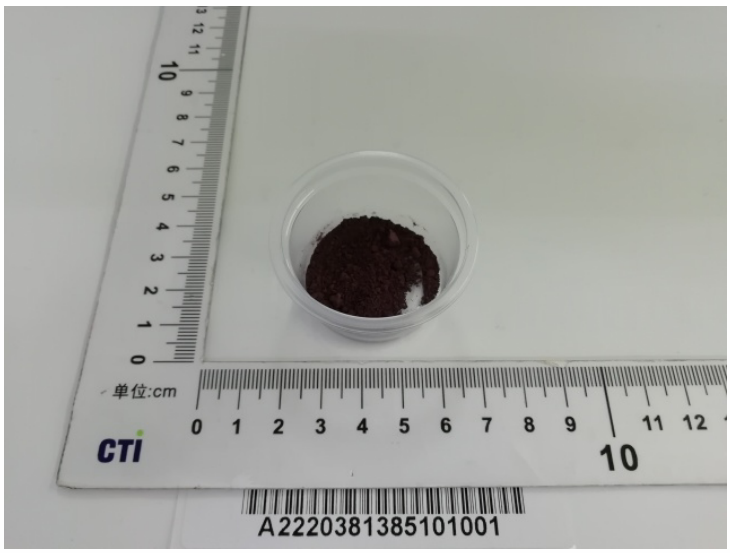
检测报告

5. 邻苯二甲酸酯(DBP, BBP, DEHP, DIBP)



检测报告

样品图片



声明：

1. 检测报告无批准人签字、“专用章”及报告骑缝章无效；
2. 报告抬头公司名称及地址、样品及样品信息由申请者提供，申请者应对其真实性负责，CTI未核实其真实性；
3. 本报告检测结果仅对受测样品负责；
4. 未经CTI书面同意，不得部分复制本报告。

*** 报告结束 ***

Test Report

No.: CANEC23002609901 **Date:** May 11, 2023

Client Name: DONGGUAN CITY DINGRONG MATERIAL CO.,LTD

Client Address: BUILDING B,NIGU ROAD,SHA AO INDUSTRIAL ZONE,SHUTIAN COMMUNITY,HUMEN TOWN,DONGGUAN CITY

Sample Name: C2680

The above sample(s) and information were provided by the client.

SGS Job No.: GZP23-001204

Sample Receiving Date: May 06, 2023

Testing Period: May 06, 2023 ~ May 11, 2023

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

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

Test Result(s): Please refer to next page(s).

Test Requirement	Conclusion
EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)	Pass

Signed for and on behalf of
SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch

Jessie Li

Jessie-JX Li
Approved Signatory

scan to see the report

4080C401

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 t (86–20) 82155555 www.sgsgroup.com.cn
中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 sgs.china@sgs.com

Member of the SGS Group (SGS SA)

Test Result(s):

Test Part Description：

SN ID	Sample No.	SGS Sample ID	Description
SN1	A1	CAN23-0026099-0001.C001	Brassy metal sheet

Remarks:

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

EU RoHS Directive (EU) 2015/863 amending Annex II to Directive 2011/65/EU- Lead, Mercury, Cadmium, Hexavalent chromium, Polybrominated biphenyls (PBBs), Polybrominated diphenyl ethers (PBDEs), Bis(2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP), Dibutyl phthalate (DBP) and Diisobutyl phthalate (DIBP)

Test Method: With reference to IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC 62321-6:2015 and IEC62321-8:2017, analysis was performed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit(s)	MDL	A1
Cadmium(Cd)	100	mg/kg	2	ND
Lead(Pb)	1000	mg/kg	2	65
Mercury(Hg)	1000	mg/kg	2	ND
Hexavalent Chromium (Cr(VI))▼	-	μg/cm²	0.10	ND
Polybromobiphenyl (PBBs)	1000	mg/kg	-	ND
Monobromobiphenyl (MonoBB)	-	mg/kg	5	ND
Dibromobiphenyl (DiBB)	-	mg/kg	5	ND
Tribromobiphenyl (TriBB)	-	mg/kg	5	ND
Tetrabromobiphenyl (TetraBB)	-	mg/kg	5	ND
Pentabromobiphenyl (PentaBB)	-	mg/kg	5	ND
Hexabromobiphenyl (HexaBB)	-	mg/kg	5	ND
Heptabromobiphenyl (HeptaBB)	-	mg/kg	5	ND
Octabromobiphenyl (OctaBB)	-	mg/kg	5	ND
Nonabromobiphenyl (NonaBB)	-	mg/kg	5	ND
Decabromobiphenyl (DecaBB)	-	mg/kg	5	ND
Polybromodiphenyl ether(PBDEs)	1000	mg/kg	-	ND
Monobromodiphenylether (MonoBDE)	-	mg/kg	5	ND
Dibromodiphenylether (DiBDE)	-	mg/kg	5	ND
Tribromodiphenylether (TriBDE)	-	mg/kg	5	ND
Tetrabromodiphenylether (TetraBDE)	-	mg/kg	5	ND
Pentabromodiphenylether (PentaBDE)	-	mg/kg	5	ND
Hexabromodiphenylether (HexaBDE)	-	mg/kg	5	ND
Heptabromodiphenylether (HeptaBDE)	-	mg/kg	5	ND
Octabromodiphenylether (OctaBDE)	-	mg/kg	5	ND
Nonabromodiphenylether (NonaBDE)	-	mg/kg	5	ND
Decabromodiphenylether (DecaBDE)	-	mg/kg	5	ND
Dibutyl Phthalate(DBP)	1000	mg/kg	50	ND
Benzyl Butyl Phthalate(BBP)	1000	mg/kg	50	ND

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Technical Services Co., Ltd. Chemical Laboratory
检验检测专用章 Inspection & Testing Services

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 t (86–20) 82155555 www.sgsgroup.com.cn
中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 sgs.china@sgs.com

Test Item(s)	Limit	Unit(s)	MDL	A1
Bis-(2-ethylhexyl) Phthalate(DEHP)	1000	mg/kg	50	ND
Diisobutyl Phthalate(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.

(3) ▼ = a. The sample is positive for Cr(VI) if the Cr(VI) concentration is greater than 0.13 μg/cm^2. The sample coating is considered to contain Cr(VI)
b. The sample is negative for Cr(VI) if Cr(VI) is ND (concentration less than 0.10 μg/cm^2). The coating is considered a non-Cr(VI) based coating
c. The result between 0.10 μg/cm^2 and 0.13 μg/cm^2 is considered to be inconclusive - unavoidable coating variations may influence the determination

Information on storage conditions and production date of the tested sample is unavailable and thus Cr(VI) results represent status of the sample at the time of testing.

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (*w*=0) stated in ILAC-G8:09/2019.

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Technical Services Co., Ltd. Chemical Laboratory.
检验检测专用章 Inspection & Testing Services

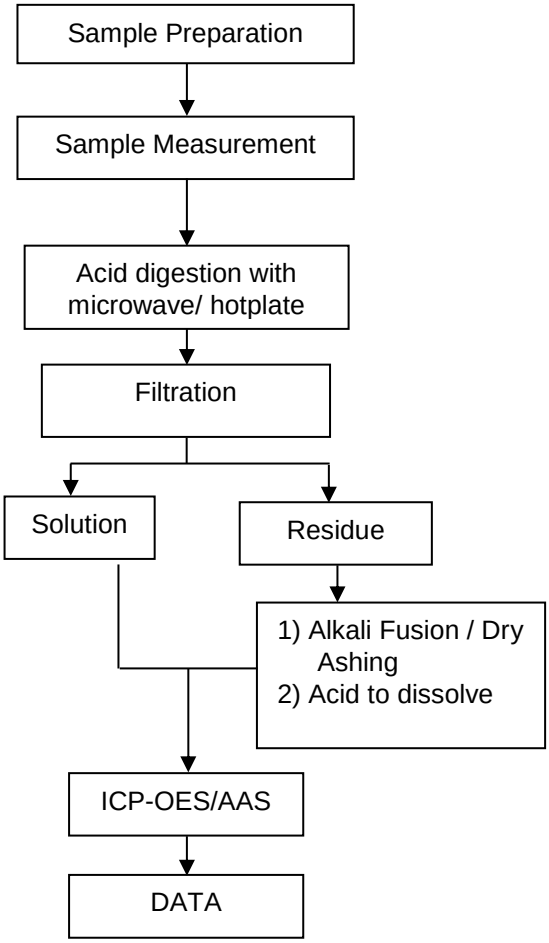
Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 t (86–20) 82155555 www.sgsgroup.com.cn
中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 sgs.china@sgs.com

ATTACHMENTS

Elements Testing Flow Chart

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

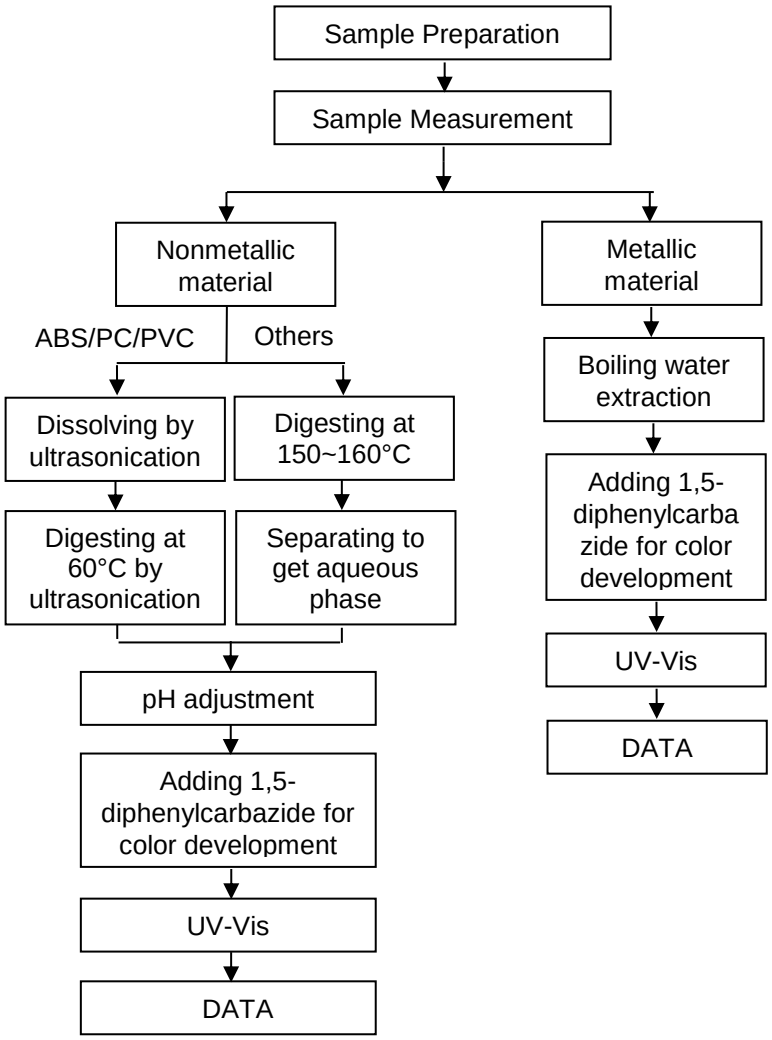


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Technical Services Co., Ltd. Chemical Laboratory.
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 t (86-20) 82155555 www.sgsgroup.com.cn
中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 sgs.china@sgs.com
Member of the SGS Group (SGS SA)

ATTACHMENTS

Hexavalent Chromium (Cr(VI)) Testing Flow Chart

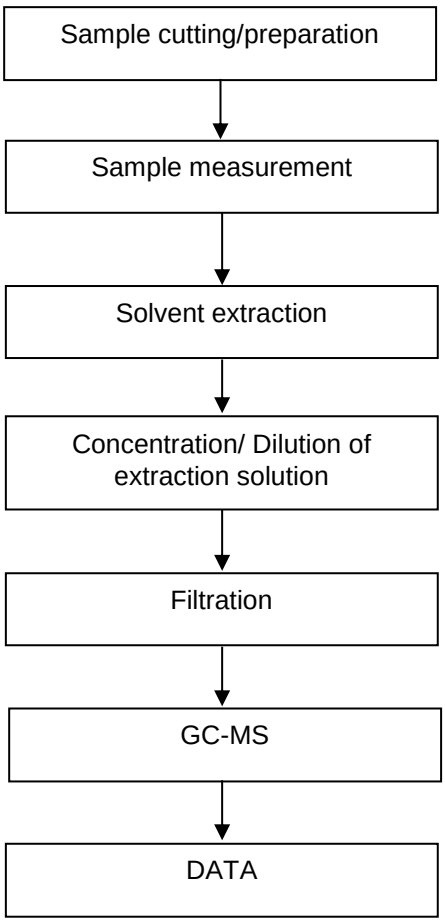


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Technical Services Co., Ltd. Chemical Laboratory
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 t (86-20) 82155555 www.sgsgroup.com.cn
中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 sgs.china@sgs.com
Member of the SGS Group (SGS SA)

ATTACHMENTS

PBBs/PBDEs Testing Flow Chart

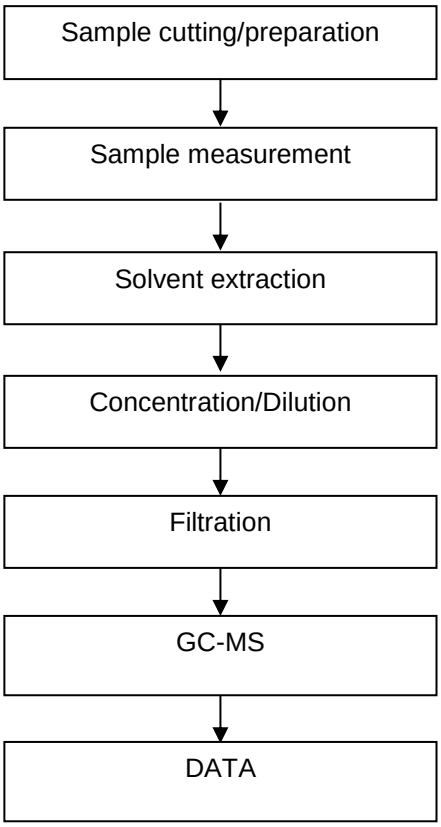


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Technical Services Co., Ltd. Chemical Laboratory
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 t (86-20) 82155555 www.sgsgroup.com.cn
中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 sgs.china@sgs.com

ATTACHMENTS

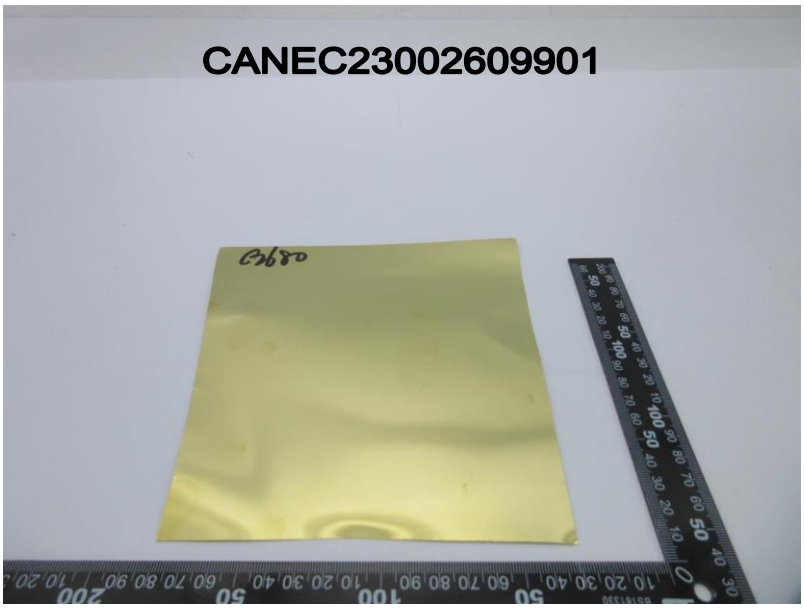
Phthalates Testing Flow Chart



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Testing Center
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 t (86-20) 82155555 www.sgsgroup.com.cn
中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86-20) 82155555 sgs.china@sgs.com

Sample Photo:



CAN23-0026099-0001.C001

SGS authenticate the photo on original report only

*** End of Report ***

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at https://www.sgs.com/en/Terms-and-Conditions. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services Co., Ltd. Guangzhou Branch Technical Services Co., Ltd. Chemical Laboratory.
No.198, Kezhu Road, Science City, Economic & Technological Development Area, Guangzhou, Guangdong, China 510663 t (86–20) 82155555 www.sgsgroup.com.cn
中国·广东·广州高新技术产业开发区科学城科珠路198号 邮编: 510663 t (86–20) 82155555 sgs.china@sgs.com

Member of the SGS Group (SGS SA)

Test Report

Client Name : Mitsui Chemicals Inc.

Client Address : Shiodome City Center 1-5-2,Higashi-Shimbashi,Minato-ku,Tokyo 105-7117,Japan

Sample Name : Arlen

Material and Mark : E630N-CHINA

The above sample(s) and information were provided by the client.

SGS Job No. : SHPL2212007221PC - SH

Date of Sample Received : 13 Dec 2022

Testing Period : 13 Dec 2022 - 28 Dec 2022

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

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

Test Result(s) : Please refer to next page(s).

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

scan to see the report

SHAMLP2217245723

Steve Zheng

Steve Zheng
Approved Signatory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

Test Result(s) :

Test Part Description :

Specimen No.	SGS Sample ID	Description
SN1	SHA22-172457.023	White solid particles

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 62321-4:2013+AMD1:2017, IEC62321-5:2013, IEC62321-7-2:2017, IEC 62321-6:2015 and IEC62321-8:2017, analyzed by ICP-OES, UV-Vis and GC-MS.

Test Item(s)	Limit	Unit	MDL	*023*
Cadmium (Cd)	100	mg/kg	2	ND
Lead (Pb)	1000	mg/kg	2	6
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

检验检测专用章 Inspection & Testing Services

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. Testing Center-Chemical Laboratory

3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

Test Item(s)	Limit	Unit	MDL	*023*
Pentabromodiphenyl ether	-	mg/kg	5	ND
Hexabromodiphenyl ether	-	mg/kg	5	ND
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. IEC 62321 series is equivalent to EN 62321 series

(2) 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 IC.

Test Item(s)	Unit	MDL	*023*
Fluorine (F)	mg/kg	50	179
Chlorine (Cl)	mg/kg	50	ND
Bromine (Br)	mg/kg	50	>100000
Iodine (I)	mg/kg	50	ND

Hexabromocyclododecane (HBCDD/HBCD)

Test Method : With reference to US EPA 3550C: 2007, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	*023*
Hexabromocyclododecane (HBCDD/HBCD)	25637-99-4/ 3194-55-6	mg/kg	10	ND

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested .
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

Perfluorooctanesulfonate (PFOS) and its derivatives and Perfluorooctanoic Acid (PFOA)

Test Method : With reference to US EPA 3550C: 2007, analysis was performed by HPLC-MS.

Test Item(s)	CAS NO.	Unit	MDL	023
Perfluorooctanesulfonate (PFOS) ^	1763-23-1	mg/kg	10	ND
Perfluorooctanoic Acid (PFOA) and its salts+		mg/kg	10	ND

Notes :

(1) + PFOA refer to its salts including PFOA-Na (CAS No.: 335-95-5), PFOA-K (CAS No.: 2395-00-8), PFOA-Ag (CAS No.: 335-93-3), PFOA-F (CAS No.: 335-66-0) and APFO (CAS No.: 3825-26-1);
(2) ^ PFOS including PFOS-K (CAS No.: 2795-39-3), PFOS-Li (CAS No.: 29457-72-5), $PFOS\text{-}NH_4$ (CAS No.: 29081-56-9), $PFOS\text{-}NH(OH)_2$ (CAS No.: 70225-14-8), $PFOS\text{-}N(C_2H_5)_4$ (CAS No.: 56773-42-3), PFOS-DDA(CAS No.:251099-16-8) and POSF (CAS No.: 307-35-7)

Phthalates Content

Test Method : With reference to EN 14372:2004, analysis was performed by GC-MS.

Test Item(s)	CAS NO.	Unit	MDL	023
Diisononyl Phthalate (DINP)	28553-12-0 /68515-48-0	%	0.01	ND
Diisodecyl Phthalate (DIDP)	26761-40-0 /68515-49-1	%	0.01	ND
Di-n-octyl Phthalate (DNOP)	117-84-0	%	0.003	ND
Di-n-hexyl Phthalate (DnHP)	84-75-3	%	0.003	ND
Di-n-pentyl Phthalates (DnPP)	131-18-0	%	0.003	ND

Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule (w=0) stated in ILAC-G8:09/2019.

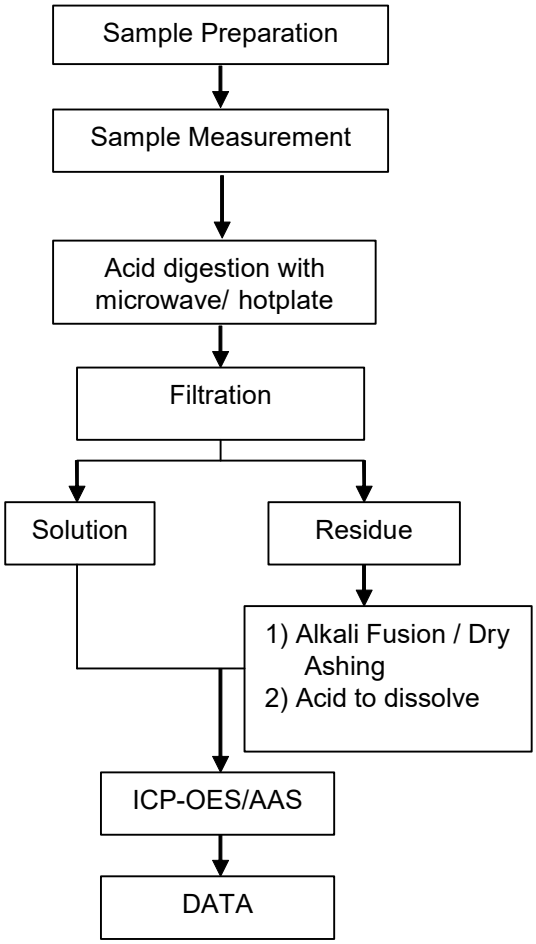
检验检测专用章 Inspection & Testing Services
SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. Testing Center-Chemical Laboratory

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested .
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com
Member of the SGS Group (SGS SA)

ATTACHMENTS

Elements (IEC62321) Testing Flow Chart

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

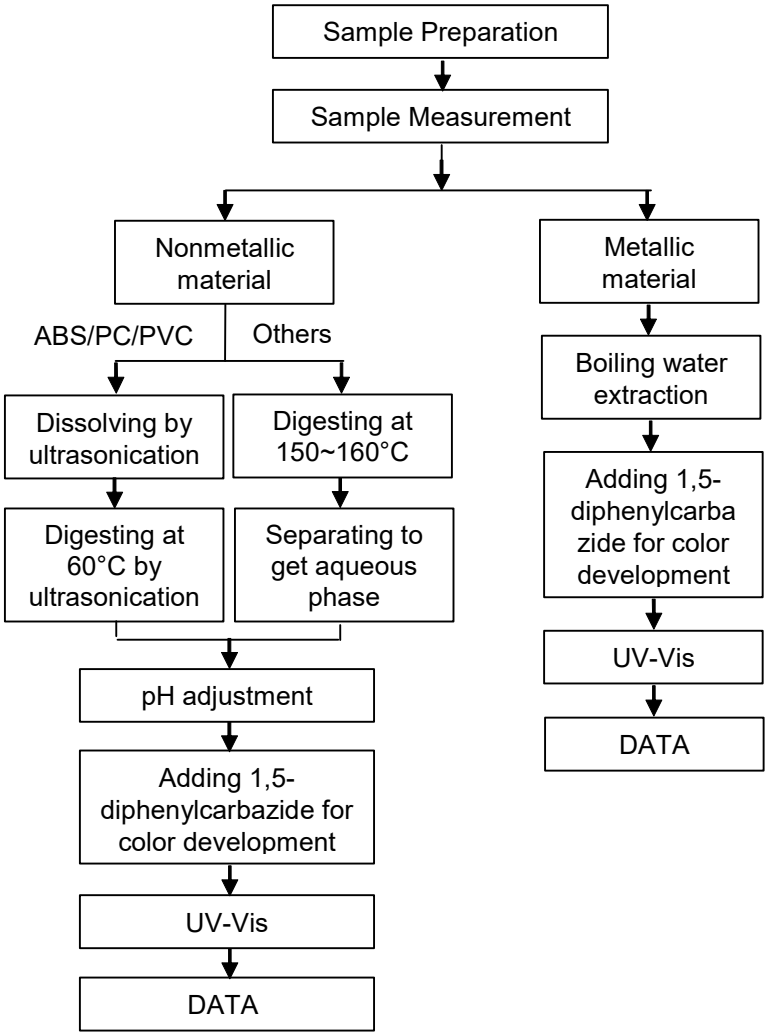


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

ATTACHMENTS

Hexavalent Chromium (Cr(VI)) Testing Flow Chart

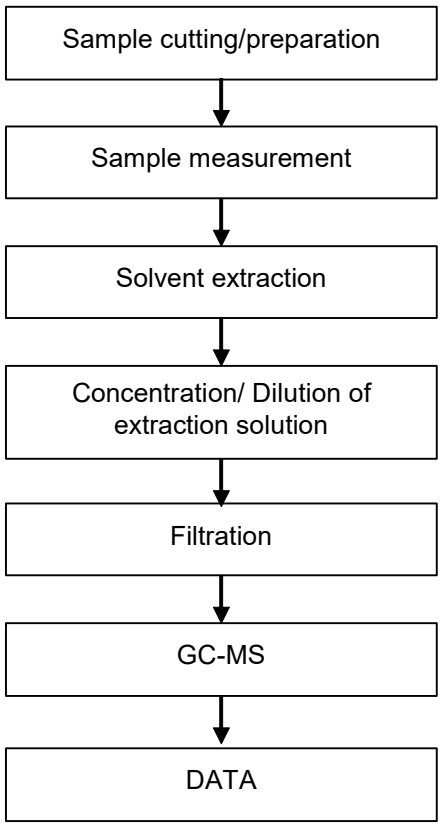


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. Testing Center-Chemical Laboratory
3/F Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

ATTACHMENTS

PBBs/PBDEs Testing Flow Chart

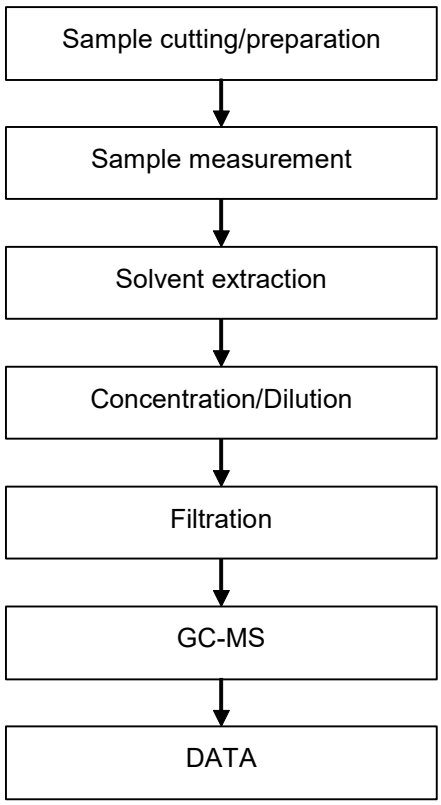


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. Testing Center-Chemical Laboratory
3/F,Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

ATTACHMENTS

Phthalates Testing Flow Chart

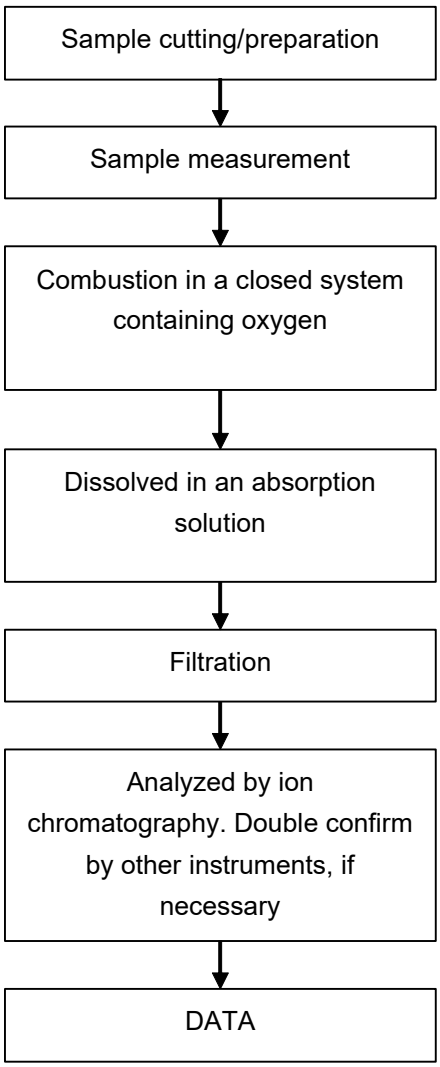


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. Testing Center-Chemical Laboratory
3/F Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

ATTACHMENTS

Halogen Testing Flow Chart

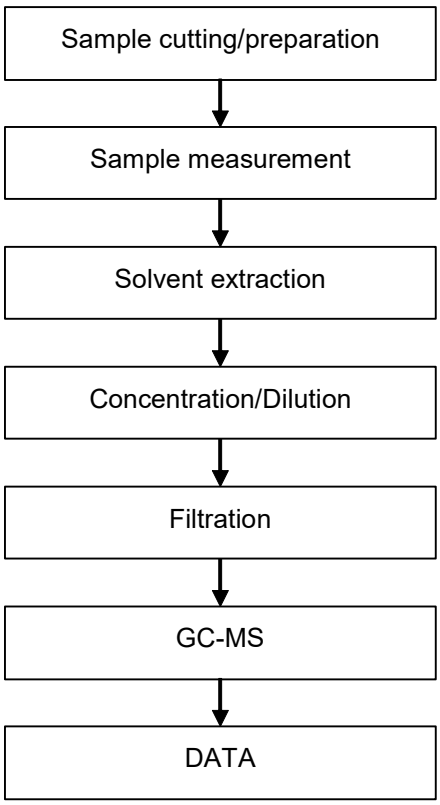


Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

SGS-CSTC Standards Technical Services (Shanghai) Co., Ltd. Testing Center-Chemical Laboratory
3/F,Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

ATTACHMENTS

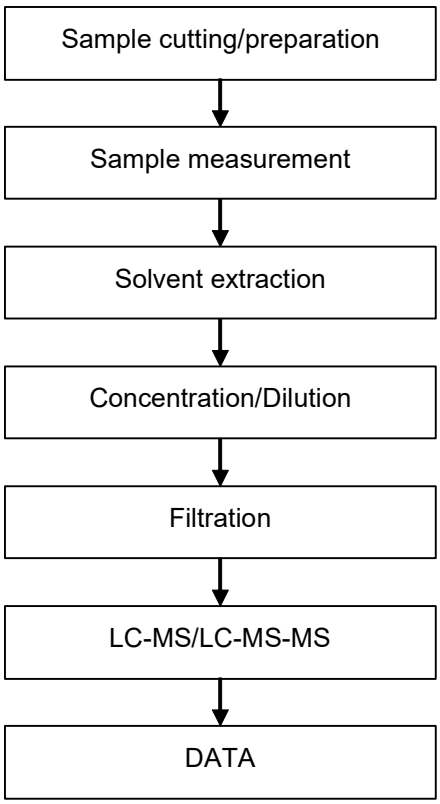
HBCDD Testing Flow Chart



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
3rd Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com
Member of the SGS Group (SGS SA)

ATTACHMENTS

PFASs/ PFOS/PFOA Testing Flow Chart



Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com
3/F,Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com
Member of the SGS Group (SGS SA)

Sample photo:



SHA22-172457.023

SGS authenticate the photo on original report only

*** End of Report ***

Unless otherwise agreed in writing, this document is issued by the Company subject to its General Conditions of Service printed overleaf, available on request or accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx and, for electronic format documents, subject to Terms and Conditions for Electronic Documents at http://www.sgs.com/en/Terms-and-Conditions/Terms-e-Document.aspx. Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents. This document cannot be reproduced except in full, without prior written approval of the Company. Any unauthorized alteration, forgery or falsification of the content or appearance of this document is unlawful and offenders may be prosecuted to the fullest extent of the law. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
Attention: To check the authenticity of testing /inspection report & certificate, please contact us at telephone: (86-755) 8307 1443, or email: CN.Doccheck@sgs.com

3/F,Building,No.889 Yishan Road Xuhui District,Shanghai China 200233 t E&E (86-21) 61402553 f E&E (86-21)64953679 www.sgsgroup.com.cn
中国·上海·徐汇区宜山路889号3号楼 邮编: 200233 t HL (86-21) 61402594 f HL (86-21)61156899 e sgs.china@sgs.com

物质安全资料表（MSDS）

一、物品与厂商资料（Identification of the substance/preparation and company）

物品名称（Product information）：蓝色色粉					
物品编号（Product number）：					
制造商或供应商名称、地址及电话：深圳市唯美塑胶颜料有限公司					
紧急联各电话/传真电话（Emergency phone/Fax）：0755-27993260/0755-27993010					
制表单位（Mage Unit）	公司名称（Name）：深圳市唯美塑胶颜料有限公司				
	地址/电话（Addresses/Phone）：深圳市宝安区观澜街道松元村海神工业区				
制表人(Make Pcople）	职称（Professional Post）：文员				
	姓名（Name）：龚青艳				
制表日期(Make Date)	2015/08/20				
文件编号(Dosument NO）	WM1508010	版次（Version）	1	文件类别（Doc Type）	MSDS 资料

二、成分辨别资料（Composition/Information on Ingredients）

纯物质（Single）：蓝色染料
中英文名称（English Name）：蓝色染料
同义名称（Synonyms）：/
化学文摘登记号码（Chemical Abstracts Number[CAS NO]：
混合物质成分百分比（Percentage for Chemical Ingredient）：≤0.5%

混合物（Mixing）

化学性质（Chemical Character）：环保染料 HSF Dyes			
成分之中英文名称（Components Name）	浓度或浓度范围（成分百分比）（Concentration/Percentage）	化学结构（Chemical Structrue）	化学文摘登记号码（CAS NO）
群青蓝颜料 Blue Dyes	55%	无	57455-37-5
酞菁蓝颜料 Blue Dyes	25%	$C_{32}H_{16}CuN_8$	147-14-8
聚乙烯蜡 Polyyethylene	20%	$(C_2H_4)n$	9002-88-4

三、危害辨识资料（Hazard Identification）

最重要危害效应（Major Hazard Effect）
*健康危害效应（Hazard Warning for Health）：此物质对人无害 Non-hazard Warning for Health
*环境影响（Hazard Warnings for Environment）：没有 NO
*物理性化学姓危害（Physical and Chemical Dangerous）：没有 NO
物品危害分类（Hazard Category）：没有 NO

四、急救措施（First Aid Measures）：

不同暴露途径之急救方法（Emergency and First Aid Procedures）： * 吸入（Inhalation）：将患者移到空气清新处 Take the suffer to the place with fresh air. * 皮肤接触（Skin Contact）：以肥皂水冲洗 Wash with a gear deal of suds * 眼睛接触（Eye Contact）：以大量清水冲洗再送医治疗 Wash with a gear deal of suds and then send to hospital. * 食入（Ingestion）：避免催吐并送医治疗 Avoid spit and send to hospital for cure.

五、灭火措施（Fire Fighting Measure）

适用灭火器（Suitable Extinguishing Media）：泡沫、粉沫灭火器 Bubble，Powder Fire Extinguishing
灭火时可能遭遇之特殊危害： （Special Exposure Hazards）：没有 No
特殊灭火程序（Special Extinguish Procedure）：没有 No
消防人员之特殊防护设备（Special Protection Equipment）：戴防护口罩 Wear shield

六、泄露处理方法（Accidental Release Measures）

个人注意方法（Personal Protection）：避免无任何防护措施直接接触，避免大量食入 Avoid direct contact without any safeguard，and avoid heavy inhalation.
环境注意事项（Environmental Protection）：避免引起尘埃 Avoid raising dust
清理方法（Methods for Cleaning UP）：用沙土掩埋后清理 Clean up after bury with sand or soil.

七、安全处置与储存方法（Handing and Storage）

处置（Handing）：工作区域保持通风良好 Keep good aeration at working area.
储存（Storage）：容器必须紧闭，并处放于 5-60°C Keep container lock at the 5-60°C

八、暴露预防措施（Exposure Control/Personal Protection）

工程控制（Engineering Control）：
个人防护设备（Personal Protection Equipment） * 呼吸防护（Respiratory Protection）：戴防护口罩 Wear Shield * 手部防护（Band Protection）：戴手套 Wear glove * 眼睛防护（Eye Protection）：戴防护面具 Wear defend-mask * 皮肤及身体防护（Skin & Body Protection）：穿防护衣 Wear exposure suit
卫生措施（Hygiene Procedures）：一般防护措施，衣物被污染立即更换，工作后洗手 General safeguard，if clothing is stained，change it at once；wash after working.

九、物理及化学性质（Physical and Chemical Properties）

物质状态 （Appearances）	固体 Solid	形状 （Form）	粉状 Powder
颜色 （Color）	蓝色塑胶染料 Blue Plastics Dyes	气味 （Odor）	少许 Slight
PH 值 （PH value）	PH scale 5-10	沸点/沸点范围 （Boiling Poing/Boiling）	不适用 Not applicable
分解温度 （Decomposition Temperature）	不适用 Not applicable	闪火点（Flash Point）：	不适用 Not applicable
		测试方法 （Test Method）	开杯■（Open Cup） 闭杯□（Close Cup）

自然温度 （Spontaneous）	不适用 Not applicable	爆炸界限 （Exposure Limits）：	不适用 Not applicable
蒸汽压 （Vapor Pressure）	不适用 Not applicable	蒸汽密度 （Vapor Density）	不适用 Not applicable
密度 （Specific Gravity）		溶解度 （Solubility in water）	不溶于水 Non-solubility in water

十、安定性及反应性（Stability and Reactivity）

安定性（Stability）：密封保质期两年 Keeping hermetic，two years’useful-life
特殊状况下可能之危害反应（Special Conditions of Hazardous Reaction）：尚无所知 No data available
应避免状况（Conditions to Avoid）：尚无所知 No data available
应避免之物质（Incompatibility）：尚无所知 No data available
危害分解物（Hazardous Decomposition）：尚无所知 No data available

十一、毒性资料（Toxicological Information）

急毒性（Acute Toxicity）：无 None
局部效应（Local Effects）：无局部效应 Non sensitizer.
致敏感性（Sensitive）：尚无所知 No data available
慢毒性或长期毒性（Chronic）：研究老鼠终生吸入空中的悬浮粒子，显示颗粒浓度在导致尘肺病等条件下，可能会导致肺水肿瘤的产生 Tumors produced in rats on inhalation of very high concentrations are believed to be the result of prolonged“lung overload’and are not considered relevant to man.
特殊效应（Exceptional Effect）：尚无所知 No data available

十二、生态资料（Ecological Information）

可能之环境影响/环境流布（possibility of Environment Impact/Move）：这产品没有生物降解能力 This substance is not biodegradable

十三、废弃物处理方法（Disposal Information）

废弃物处置方式（Disposal Information）：依照国家或地区环境条例和限制处理 Dispose of in compliance with all applicable national and local environment laws and regulations.

十四、运送资料（Transport Information）

国际运送规定（International Transport Regulation）：不受下列条例限制 UN，IMDG，ADR，RID，ICAO/IATA or EEC Directive 95/45/EC Not regulated under UN,IMDG,ADR,RID,ICAO/IATA or EEC Directive 95/45/EC
国内运送规定（Internal Transport Regulation）：服从国家法规 Follow all regulations in your country.

十五、法规资料（Regulation Information）

适合法规（Regulation）：危险分类部分 311，312 SARA Title III 311，312

十六、其他资料（Other Information）

参考文献（Reference）：制造商或供应商的 MSDS Producer/Supplier MSDS

物质安全资料表
MATERIAL SAFETY DATA SHEET(MSDS)

1 供应商资料

物 品 名 称：C2680
供应商名称：东莞市鼎荣金属材料有限公司
地　　址：广东省东莞市虎门镇怀德怀雅大道73号B座
电　　话：0769-85220060
紧急联络人：陈建荣　　电话：13794827207　　传真：0769-85220061

2 成份辨识资料

中英文名称：

主要危害物质成份			化学文摘社登记号码CAS NO：	浓度或浓度范围（成份百分比）			危害物质分类及图示
成份名称	化学式	含量（%）		时量平均容许浓度TWA	短时间时量平均容许浓度STEL	最高容许浓度CEILIN	
Copper	Cu	63.5-66%	7440-50-8				
Zinc	Zn	34-36.5%	7440-66-6				
铅	Pb	<100ppm	7439-92-1			< 1000ppm	
镉	Cd	<10ppm	7440-43-9			< 100ppm	
汞	Hg	<10ppm	7439-97-6			< 10ppm	

3 危害辨识资料与急救措施

最重要危害效应

健康危害效应：不可食品
环境影响：可出售或回收再利用
物理性及化学与危害：固体常温性质稳定不会发生物理或化学反应
特殊危害：无
主要症状：无
物品危害分类：无

4 急救措施

急救措施

不同暴露途径之急救方法：吸入：不含化学刺激性气体无伤害
眼睛接触：不会对眼睛产生化学刺激
食入：立即就医

最重要危害效应：/无
对急救人员防护：/无
对医师之提示：/无

5 灭火措施

适用灭火器：水 二氧化碳灭火器　干粉灭火器
灭火时可能遭遇特殊危害：无
特殊灭火程序：无
消防人员之特殊防护设备：

6 泄露处理方法

个人应注意事项：此产品材料较峰利注意割伤
环境注意事项：切勿让其进入下水道/水面或地下水
清理方法：出售或再次利用

7 安全处置与储存方法

处置：防止磕碰，避免变形
储存：防潮、防酸避免氧化。

8	暴露预防措施	工程控制：避免受水、油类物质的影响，密封包装		
		参数控制：无		
		个人防护设备：一般保护和卫生措施		
		呼吸防护：不适用		
		手部防护：戴手套		眼睛防护：不适用
		卫生措施：不能乱丢		皮肤及身体防护：穿戴劳保衣服
9	物理及化学性质	物质状态：固体		形状：固体
		颜色：金黄色		气味：无味
		PH值：不适用		沸点/沸点范围：未有提供
		分解温度：无		闪火点：未有提供
				测试方法：未有提供
		自然温度：无		爆炸界限：未有提供
		蒸气压：无		蒸气密度：未有提供
		密度：8.43g/cm3		溶解度：未有提供
10	安定性及反应性	安定性：正常情况下安定性好		
		特殊状况下可能危害反应：无		
		应避免状况：避免受水、油类物质的影响		
		应避免之物质：酸、碱		
		危害分解物：无		
11	毒性资料	急毒性：无	致敏感性：无	
		局部效应：无		
		慢毒性或长期毒性：无		
		特殊效应：无		
12	生态资料	可能环境影响/环境流佈：无		
13	废弃处置方法	废弃处置方法：出售或回收再利用		
14	运送资料	国际运送规定：无		
		联合国编号：无		
		国内运送规定：无		
		特殊方法及注意事项：避免水源		
15	法规资料	适用法规：无		
16	其它	参考文献：		
		制表单位：东莞市鼎荣金属材料有限公司	名称：物质安全资料表	
		制表人：林和	地址/电话：东莞市虎门镇怀德怀雅大道73号B座 0769-85220060	
			职称：	
		制表日期：2018-1-1	公元：	

MATERIAL SAFETY DATA SHEET

Date June 5, 2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: **ARLEN (GF-reinforced flame-proof grades containing CB)**

COMPANY IDENTIFICATION:
Performance Compound Division
Mitsui Chemicals, Inc.
Shiodome City Center
1-5-2, Higashi-Shimbashi, Minato-ku
Tokyo 105-7117, Japan
Telephone: +81-3-6253-3494 Telefax: +81-3-6253-4219

2. HAZARDS IDENTIFICATION

GHS CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

PHYSICAL HAZARDS

Explosives	: Not applicable.
Flammable gases	: Not applicable.
Flammable aerosols	: Not applicable.
Oxidizing gases	: Not applicable.
Gases under pressure	: Not applicable.
Flammable liquids	: Not applicable.
Flammable solids	: Classification not possible.
Self-reactive substances and mixtures	: Not applicable.
Pyrophoric liquids	: Not applicable.
Pyrophoric solids	: Classification not possible.
Self-heating substances and mixtures	: Classification not possible.
Substances and mixtures, which in contact with water, emit flammable gases	: Classification not possible.
Oxidizing liquids	: Not applicable.
Oxidizing solids	: Classification nod possible.
Organic peroxides	: Not applicable.
Corrosive to metals	: Classification not possible.

HEALTH HAZARDS

Acute toxicity: oral	: Not classified.
Acute toxicity: skin	: Not classified.
Acute toxicity: inhalation (gas)	: Not applicable.
Acute toxicity: inhalation (vapor)	: Not applicable.
Acute toxicity: inhalation (dust)	: Classification not possible.
Acute toxicity: inhalation (mist)	: Not applicable.
Skin corrosion/irritation	: Classification not possible.
Serious eye damage/eye irritation	: Category 2
Respiratory sensitization	: Classification not possible.
Skin sensitization	: Classification not possible.
Germ cell mutagenicity	: Classification not possible.
Carcinogenicity	: Category 2
Toxic to reproduction	: Classification not possible.
Specific target organ toxicity (single exposure)	: Category 3 (respiratory irritation)
Specific target organ toxicity (repeated exposure)	: Category 2 (lung, cardiovascular system)
Aspiration hazard	: Classification not possible.

ENVIRONMENTAL HAZARDS

Hazardous to the aquatic environment (acute)	: Classification not possible.
Hazardous to the aquatic environment (chronic)	: Classification not possible.

GHS LABEL ELEMENTS:

PICTOGRAMS:



SIGNAL WORD: WARNING

HAZARD STATEMENTS:
Causes serious eye irritation.
Suspected of causing cancer.
May cause respiratory irritation.
May cause damage to lung and cardiovascular system through prolonged or repeated exposure.

PRECAUTIONARY STATEMENTS:
Prevention:
Obtain special instructions before use, and DO NOT handle until all safety precautions have been read and understood.
Use only outdoors or in a well-ventilated area and DO NOT breathe dust/fume.
Use personal protective equipment; protective helmet/eye protection/face protection/respirator/protective gloves/protective clothing/safety shoes as required.
Wash hands, face, and other necessary parts thoroughly, and gargle the throat after handling.
Avoid release to the environment.

Response:
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
IF exposed or concerned, or if you feel unwell: Get medical advice/attention.

Storage:
Keep container tightly closed. Store in cool/well ventilated area. Store locked up.

Disposal:
Dispose of contents/container in accordance with local/regional/national/international regulations.
Do not reuse the container for any other purpose. Dispose of in accordance with applicable laws and regulations.

OTHER HAZARDS WHICH DO NOT RESULT IN CLASSIFICATION:
Slippery, can cause falls if walked on.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	%	CAS No.
Compound 1 *	-	-
Glass fiber	-	-
Bromine compound	-	-
Antimony compound	1.8 – 5.8	-
Carbon black	0.1 – 0.3	1333-86-4

* Polycondensation product of Hexamethylenediamine and Terephthalic acid as main components.

4. FIRST AID MEASURES

INHALATION:
If exposed to excessive levels of fumes, remove to fresh air. Get medical attention if cough or other symptoms develop. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep the affected person warm and at rest.

EYE CONTACT:
Immediately flush eyes with plenty of water for several minutes and get medical attention.
Part eyelids with fingers to assure complete flushing.
Check for and remove contact lenses if easily possible.

SKIN CONTACT:
Immediately remove contaminated clothing and shoes. Flush skin with large amounts of water, clean off with soap and water. Get medical attention if symptoms develop.
If molten polymer contacts the skin, cool immediately with cold water. Do not attempt to peel polymer from the skin. Get medical attention for thermal burn.

INGESTION:
Do NOT induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Keep the affected person warm and at rest. Get medical attention immediately.

MOST IMPORTANT SYMPTOMS/EFFECTS, ACUTE AND DELAYED:
Fumes from heated molten polymer may cause irritation to eye and respiratory system. Dust may cause irritation to eye and skin.

SPECIAL PROTECTIVE ACTIONS FOR FIRST-AIDERS:
Wear appropriate personal protective equipment such as respirator, goggles, protective gloves, etc.

NOTE TO PHYSICIAN:
Treat symptomatically.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Water jet, water fog, dry chemical, CO_2, alcohol foam.
Initial fire: dry chemical or CO_2.
Large fire: water or foam.
UNSUITABLE EXTINGUISHING MEDIA: Not specified.

SPECIAL HAZARDS:
Emits toxic fumes under fire conditions.

FIRE FIGHTING INSTRUCTIONS:
Keep unnecessary and unprotected personnel away. Shut off supply if possible. Remove containers to safe place if possible. Keep surrounding areas cool by spraying water. Fight fire from an upwind position.

FIRE FIGHTING EQUIPMENT:
Respiratory and eye protection required for fire-fighting personnel. Full protective equipment and self-contained breathing apparatus (SCBA) should be used for all indoor fires and any significant outdoor fires.

HAZARDOUS COMBUSTION PRODUCTS:
Nitrogen oxides, hydrogen bromide, antimony oxides, carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:
Evacuate immediate area. Warn personnel of health hazard. Keep unnecessary and unprotected personnel away. Wear appropriate personal protective equipment as specified in Section 8. Keep upwind, evacuate downwind.

ENVIRONMENTAL PRECAUTIONS:
Product is non-biodegradable; may cause long-term adverse effects in the aquatic environment.
Do not let this chemical enter the environment. Do not flush

into sewer, river or any body of water.

CONTAINMENT/CLEAN-UP METHODS:
Vacuum or sweep up material and place in a disposal container. Use non-sparking tools and equipment.

7. HANDLING AND STORAGE

HANDLING
Technical Measures:
Use only in well-ventilated area. Keep away from heat, sparks, and flame. Use explosion-proof electrical equipment. Take precautions against build-up of electrostatic charges.
Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Wear appropriate personal protective equipment. Provide hand and eye wash station near work area. Wash thoroughly after handling.

Ventilation:
Use only under local exhaust or general ventilation.

Safe Handling Advice:
Do not handle until all safety precautions have been read and understood. Take precautions against build-up of electrostatic charges. Avoid dust formation. Do not breathe dust.

STORAGE
Storage Conditions:
Protect from direct sunlight. Store in dark and well-ventilated area. Keep away from heat, flame, and all sources of ignition. Ground and bond containers and equipment to prevent build-up of electrostatic charges. Store locked up. Store in a segregated and approved area.

Packaging Material:
Product is hygroscopic. Use aluminum-lined paper bags.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS :
< Glass fiber >
ACGIH-TLV: 1 fibers/cm^3(TWA)
5 mg/m^3(TWA) Inhalation fraction
OSHA-PEL : Not established.

< Carbon black >
ACGIH-TLV: 3 mg/m^3(TWA) Inhalable fraction
OSHA-PEL : 3.5 mg/m^3(TWA)

< Antimony compound >
ACGIH-TLV: 0.5 mg/m^3(TWA) as Sb
OSHA-PEL : 0.5 mg/m^3(TWA) as Sb

ENGINEERING CONTROLS:
Provide general ventilation. Use closed system or local exhaust ventilation. Provide safety shower and eye wash station near work area.

PERSONAL PROTECTIVE EQUIPMENT
Respiratory protection : Dust respirator.
Hand protection : Protective gloves.
Eye protection : Safety glasses, goggles.
Skin and body protection : Safety helmet, protective clothing, safety shoes.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE	: Solid.
APPEARANCE	: Black Pellet.
ODOR	: Characteristic odor.
pH	: Not available.
BOILING POINT	: Not available.
MELTING POINT	: 310 - 320 ^oC (See Appendix)[1)]
FLASH POINT	: > 200 ^oC [1)]
AUTOIGNITION TEMPERATURE	: Not available.
FLAMMABLE LIMITS	: Not available.
VAPOR PRESSURE	: Not available.
VAPOR DENSITY	: Not available
SPECIFIC GRAVITY	: 1.30 – 1.80 (at 4 ^oC)[1)]
SOLUBILITY	: Insoluble in water.[1)]
Log Pow	: Not available.
DECOMPOSITION TEMPERATURE	: Not available.
KINEMATIC VISCOSITY	: Not available.

10. STABILITY AND REACTIVITY

STABILITY : Stable for normal storage and handling.
HAZARDOUS REACTIONS : Not available.
CONDITIONS TO AVOID : Heat, air, sunlight, moisture.
MATERIALS TO AVOID : Not available.
HAZARDOUS DECOMPOSITION PRODUCTS :
Nitrogen oxides, hydrogen bromide,

antimony oxides, carbon oxides.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:
Oral LD_{50} >5000 mg/kg (Calculated value for the mixture) [Not classified][1),2),3),4)]
Skin LD_{50} >5000 mg/kg (Calculated value for the mixture) [Not classified][1),2),3),4)]
Inhalation Not available.[Classification not possible]

SKIN CORROSION/IRRITATION:
Not available. [Classification not possible]

SERIOUS EYE DAMAGE/EYE IRRITATION:
Causes serious eye irritation. [Category 2][1),2),3),4)]

RESPIRATORY SENSITIZATION:
Not available. [Classification not possible]

SKIN SENSITIZATION:
Not available. [Classification not possible]

GERM CELL MUTAGENICITY:
Not available. [Classification not possible]

CARCINOGENICITY:
Suspected of causing cancer. [Category 2][1),2),3),4)]

REPRODUCTIVE TOXICITY:
Not available. [Classification not possible]

SPECIFIC TARGET ORGAN TOXICITY:
Single Exposure : [Category 3] (respiratory irritation)[1),2),3),4)]
Repeated Exposure : [Category 2](lung, cardiovascular system)[1),2),3),4)]

ASPIRATION HAZARD:
Not available. [Classification not possible]

The following information is for the components of this product.
As for ANTIMONY COMPOUND and CARBON BLACK, see “GHS Classifications of Regulated Chemicals” for further information.
(http://www.safe.nite.go.jp/english/ghs_index.html)

< Glass fiber >
SKIN CORROSION/IRRITATION: Mild [3)]

SERIOUS EYE DAMAGE/EYE IRRITATION: Mild [3)]

CARCINOGENICITY: Classified in group 3 by IARC.

SPECIFIC TARGET ORGAN TOXICITY (Single Exposure):
Irritating to skin, eye and nose and may cause difficult breathing.[3)]

< Bromine compound >
ACUTE TOXICITY:
Oral rat LD_{50} >5000 mg/kg [4)]
Skin rat LD_{50} >15000 mg/kg [4)]

SKIN CORROSION/IRRITATION:
Rabbit Mild.[4)]

SERIOUS EYE DAMAGE/EYE IRRITATION:
Rabbit Mild to moderate.[4)]

12. ECOLOGICAL INFORMATION

HAZARDOUS TO THE AQUATIC ENVIRONMENT (ACUTE):
Not available. [Classification not possible]

HAZARDOUS TO THE AQUATIC ENVIRONMENT (CHRONIC):
Not available. [Classification not possible]

As for ANTIMONY COMPOUND and CARBON BLACK, see “GHS Classifications of Regulated Chemicals” for further information.
(http://www.safe.nite.go.jp/english/ghs_index.html)

13. DISPOSAL CONSIDERATIONS

WASTE FROM RESIDUES :
Whatever cannot be saved for recovery may be burned in an approved incinerator or disposed in approved waste facility. Ensure compliance with local, state, federal and national regulations.

CONTAMINATED PACKAGING :
Empty the container completely before disposal.

14. TRANSPORT INFORMATION

UN number : None.
UN class : Not regulated.

15. REGULATORY INFORMATION

INVENTORY STATUS: See Appendix.

16. OTHER INFORMATION

References:
1) In-house data
2) GHS Classifications of Regulated Chemicals (National Institute of Technology and Evaluation, Japan, 2007)
3) NIOSH Pocket Guide (2007)
4) NICNAS Priority Existing Chemical Assessment Report No.20 (2001)

To the best of our knowledge, the information contained herein is accurate.
However, we cannot assume any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Appendix

This Material Safety Data Sheet covers these products:

Grade name	Appearance	Melting Point	Inventory Status
CH230NK	Black pellet	310 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC
C215NK	Black pellet	310 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC, AICS
C430NK	Black pellet	310 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC
C630NK	Black pellet	310 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC
E430NK	Black pellet	320 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC
E430NK(T5)	Black pellet	320 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC
E430NKS	Black pellet	320 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC,
E430NKS(J)	Black pellet	320 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC
E440NK	Black pellet	320 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC
E630NK	Black pellet	320 °C	TSCA, EINECS, DSL, IECSC, ENCS, KECI, NZIoC

Component - Plastics

E52579

MITSUI CHEMICALS INC

SHIODOME CITY CENTER, #1-5-2, HIGASHI-SHINBASHI, MINATO-KU, TOKYO 105-7117 JP

E630N(e)

Polyamide (PA), "Arlen", furnished as pellets

Color	Min Thk (mm)	Flame Class	HWI	HAI	RTI Elec	RTI Imp	RTI Str
ALL	0.75	V-0	-	-	120	110	110
	1.5	V-0	-	-	120	120	120
	3.0	V-0	-	-	120	120	120

Comparative Tracking Index (CTI): 1

Dielectric Strength (kV/mm): -

High-Voltage Arc Tracking Rate (HVTR): -

Dimensional Stability (%): -

Inclined Plane Tracking (IPT): -

Volume Resistivity (10^x ohm-cm) : -

High Volt, Low Current Arc Resis (D495): -

(e) - with or without one or two letters A-ZZ incl except N. For grade CH230N(e)(r), letter H should also be excepted and for grade C230(e)(r) and C240(e), letter NK should also be excepted.

ANSI/UL 94 small-scale test data does not pertain to building materials, furnishings and related contents. ANSI/UL 94 small-scale test data is intended solely for determining the flammability of plastic materials used in the components and parts of end-product devices and appliances, where the acceptability of the combination is determined by UL.

Report Date: 2005-10-26

Last Revised: 2008-12-01

© 2013 UL LLC

IEC and ISO Test Methods

Test Name	Test Method	Units	Thickness Tested (mm)	Value
Flammability	IEC 60695-11-10	Class (color)	0.75	V-0 (ALL)
			1.5	V-0 (ALL)
			3.0	V-0 (ALL)
Glow-Wire Flammability (GWFI)	IEC 60695-2-12	C	-	-
Glow-Wire Ignition (GWIT)	IEC 60695-2-13	C	-	-
IEC Comparative Tracking Index	IEC 60112	Volts (Max)	-	-
IEC Ball Pressure	IEC 60695-10-2	C	-	-
ISO Heat Deflection (1.80 MPa)	ISO 75-2	C	-	-
ISO Tensile Strength	ISO 527-2	MPa	-	-
ISO Flexural Strength	ISO 178	MPa	-	-
ISO Tensile Impact	ISO 8256	kJ/m^2	-	-
ISO Izod Impact	ISO 180	kJ/m^2	-	-
ISO Charpy Impact	ISO 179-2	kJ/m^2	-	-

© 2013 UL LLC