

Test Report

No. CRSSA/10805/18
CRS Ref. CRSSA/18/2022/Hitachi

Date : 07/08/2018

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HITACHI CHEMICAL (SELANGOR) SDN. BHD.
NO. 2, PERSIARAN BUDIMAN, SEKSYEN 23,
40300 SHAH ALAM, SELANGOR DARUL EHSAN

The following merchandise was (were) submitted and identified by the client as:

Sample Description	:	EPOXY MOLDING COMPOUND
Style/Item No.	:	GE-200 series
Sample Receiving Date	:	01/08/2018
Testing Period	:	01/08/2018 to 07/08/2018

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).
Analyst	:	Ling Yii Ming

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Test result:

Test Part Description :

Sample Description : EPOXY MOLDING COMPOUND
Style/Item No. : GE-200 series

Optional: RoHS Directive 2011/65/EU, priority substances

Test Item (s):	Unit	Method	Result	MDL
Hexabromocyclododecane (HBCDD) (Cas#25637-99-4 & 3194-55-6)	mg/kg	In-house method with reference to IEC 62321-6: 2015. Analysis was performed by GC-MS	N.D.	5

Note:

- (a) Reference Information: Directive 2011/65/EU recasting RoHS directive 2002/95/EC: Hexabromocyclododecane (HBCDD), Bis (2-ethylhexyl) phthalate (DEHP), Butyl benzyl phthalate (BBP) and Dibutyl phthalate (DBP) are considered as a priority for risk evaluation and substance restriction.
- (b) - = not regulated
- (c) N.D. = Not Detected
- (d) Testing based on original basis

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Test result:

Test Part Description :

Sample Description : EPOXY MOLDING COMPOUND
Style/Item No. : GE-200 series

RoHS Directive 2011/65/EU Annex II (amended by Directive (EU) 2015/863)

Test Item(s):	Unit	Test Method	Results	MDL	Limit
Bis (2-ethylhexyl) phthalate (DEHP) (CAS No. 117-81-7)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	N.D.	50	1000
Butyl benzyl phthalate (BBP) (CAS No. 85-68-7)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	N.D.	50	1000
Dibutyl phthalate (DBP) (CAS No. 84-74-2)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	N.D.	50	1000
Diisobutyl phthalate (DIBP) (CAS No. 84-69-5)	mg/kg	With reference to IEC 62321-8:2017. Analysis was performed by GC/MS.	N.D.	50	1000

Note : (a) mg/kg = ppm ; (0.1wt% = 1000ppm)

(b) N.D. = Not Detected

(c) MDL = Method Detection Limit

(d) - = Not regulated

(e) On 4 June 2015, [Commission Directive \(EU\) 2015/863](#) was published in the Official Journal of the European Union (OJEU) to include the phthalates BBP, DBP, DEHP and DIBP into ANNEX II of the Rohs Recast Directive. The new law restricts each phthalate to no more than 0.1% in each homogeneous material of an electrical product.

(f) 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.

(g) The restriction of DEHP, BBP, DBP and DIBP shall not apply to cables or spare parts for the repair, the reuse, the updating of functionalities or upgrading of capacity of EEE placed on the market before 22 July 2019, and of medical devices, including in vitro medical devices, and monitoring and control instruments, including industrial monitoring and control instruments, placed on the market before 22 July 2021.

(h) The restriction of DEHP, BBP and DBP shall not apply to toys which are already subject to the restriction of DEHP, BBP and DBP through entry 51 of Annex XVII to Regulation (EC) No 1907/2006.

(i) Testing based on original basis

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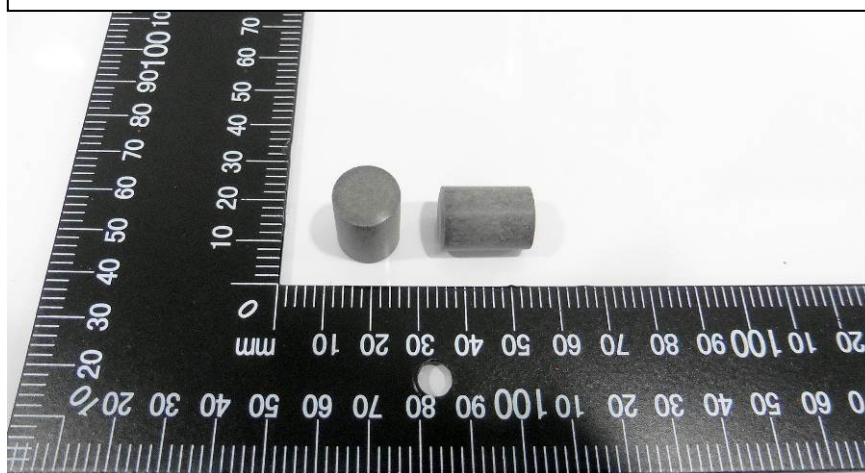
Date : 07/08/2018

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Test Part Description :

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CRSSA/10805/18



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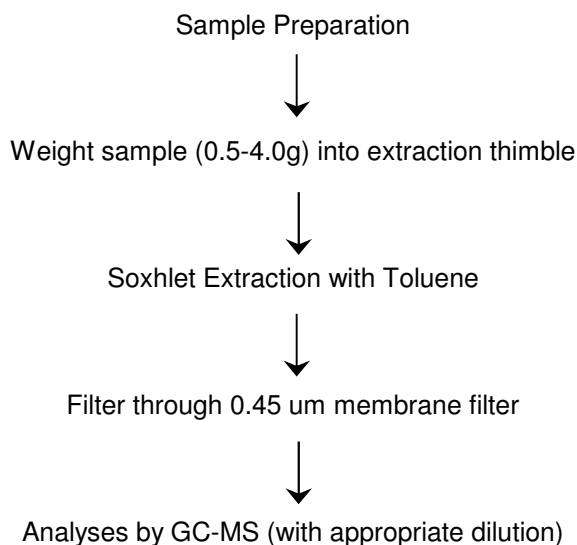
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DETERMINATION OF HBCDD CONTENT



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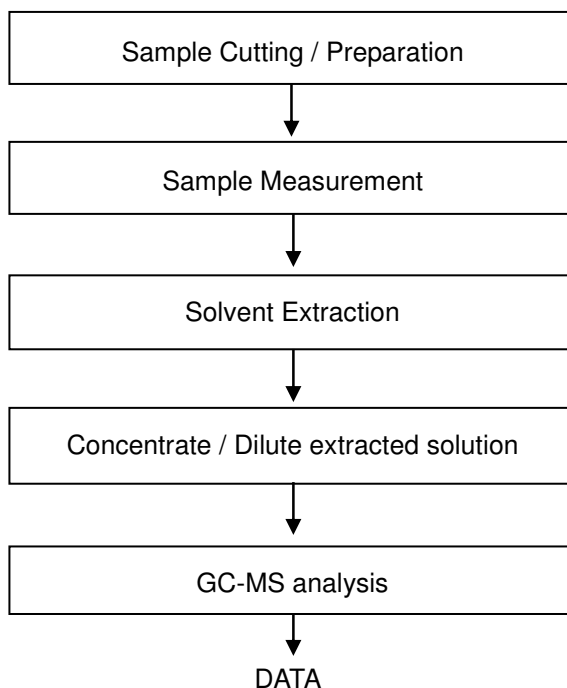
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Flowchart for Phthalates Measurement

Method: IEC62321



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