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Date: 2018/05/21

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MITSUBISHI GAS CHEMICAL CO., INC. ELECTRONICS MATERIAL DIVISION 5-2, MARUNOUCHI 2-CHOME, CHIYODA-KU, TOKYO 100-8324, JAPAN

The following sample(s) was/were submitted and identified by/on behalf of the applicant as:

Sample Submitted By

: MITSUBISHI GAS CHEMICAL CO., INC. ELECTRONICS MATERIAL DIVISION

Sample Description

: COPPER CLAD LAMINATES & PREPREGS

: CCL-HL830NX(TYPE-A)(WITHOUT COPPER FOIL), Style/Item No.

CCL-HL832NX(TYPE-A)(WITHOUT COPPER FOIL),

GHPL-830NX(TYPE-A), GHPL-832NX(TYPE-A)

Buyer/Order No.

: MGC 2018-041

Sample Receiving Date

: 2018/05/11

Testing Period

: 2018/05/11 TO 2018/05/21

Test Requested

: As specified by client, to test Halogen-Fluorine, Chlorine, Bromine, Iodine in the

submitted sample(s).

Test Method

: Please refer to following pages.

Test Result(s)

: Please refer to following pages.



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Test Result(s)

PART NAME No.1 : BLACK SHEET

Test Item(s)	Unit	Method	MDL	Result
	Onit			No.1
Halogen				
Halogen-Fluorine (F) (CAS No.: 14762-94-8)	mg/kg	With reference to BS EN 14582 (2016). Analysis was performed by IC.	50	1240
Halogen-Chlorine (CI) (CAS No.: 22537-15-1)	mg/kg		50	90.8
Halogen-Bromine (Br) (CAS No.: 10097-32-2)	mg/kg		50	n.d.
Halogen-lodine (I) (CAS No.: 14362-44-8)	mg/kg		50	n.d.

Note:

1. mg/kg = ppm; 0.1wt% = 1000ppm

2. n.d. = Not Detected

3. MDL = Method Detection Limit



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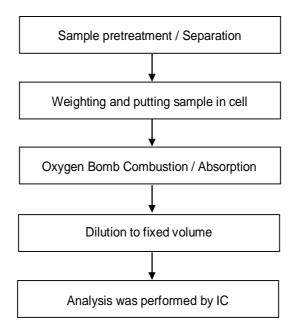
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MITSUBISHI GAS CHEMICAL CO., INC. ELECTRONICS MATERIAL DIVISION 5-2, MARUNOUCHI 2-CHOME, CHIYODA-KU, TOKYO 100-8324, JAPAN

Analytical flow chart - Halogen

Technician: Rita Chen Supervisor: Troy Chang



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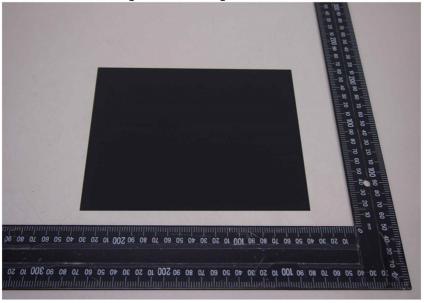
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* The tested sample / part is marked by an arrow if it's shown on the photo. *

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** End of Report **

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