



Test Report

No.: ETR22C01124

Date: 14-Dec-2022

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SHOWA DENKO MATERIALS CO., LTD.
1500 OGAWA, CHIKUSEI-SHI IBARAKI, 308-8521, JAPAN

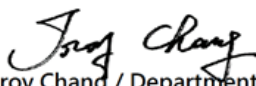
The following sample(s) was/were submitted and identified by the applicant as:

Sample Submitted By : SHOWA DENKO MATERIALS CO., LTD.
 Sample Name : COPPER CLAD LAMINATES WITHOUT COPPER (PLASTIC PART OF MCL) / GLASS EPOXY PREPREG
 Style/Item No. : MCL-E-679FGB(R) PLASTIC PART / MCL-E-679FG(R) PLASTIC PART / MCL-E-679FG(RM) PLASTIC PART / MCL-E-679FGB PLASTIC PART / MCL-E-679FG PLASTIC PART / GEA-679FG(R) / GEA-679FG

=====
 Sample Receiving Date : 07-Dec-2022
 Testing Period : 07-Dec-2022 to 14-Dec-2022

Test Requested : Testing item(s) is/are specified by client. Please refer to result table for testing item(s).

Test Results : Please refer to following pages.


 Troy Chang / Department Manager
 Signed for and on behalf of
 SGS TAIWAN LTD.
 Chemical Laboratory - Taipei



PIN CODE: 24310B8E

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Test Part Description

No.1 : BLACK SHEET

Test Result(s)

Test Item(s)	Method	Unit	MDL	Result
				No.1
Fluorine (F) (CAS No.: 14762-94-8)	With reference to BS EN 14582: 2016, analysis was performed by IC.	mg/kg	50	1100
Chlorine (Cl) (CAS No.: 22537-15-1)		mg/kg	50	167
Bromine (Br) (CAS No.: 10097-32-2)		mg/kg	50	n.d.
Iodine (I) (CAS No.: 14362-44-8)		mg/kg	50	n.d.
Antimony (Sb) (CAS No.: 7440-36-0)	With reference to US EPA 3052: 1996, analysis was performed by ICP-OES.	mg/kg	2	n.d.

Note :

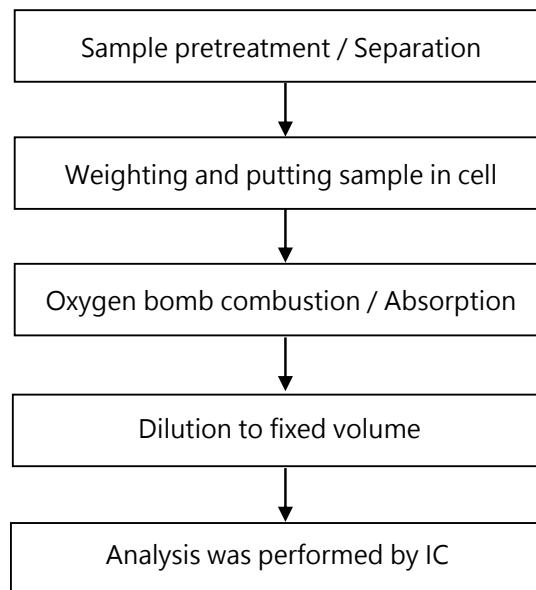
1. mg/kg = ppm ; 0.1wt% = 0.1% = 1000ppm
2. MDL = Method Detection Limit
3. n.d. = Not Detected (Less than MDL)

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Analytical flow chart - Halogen



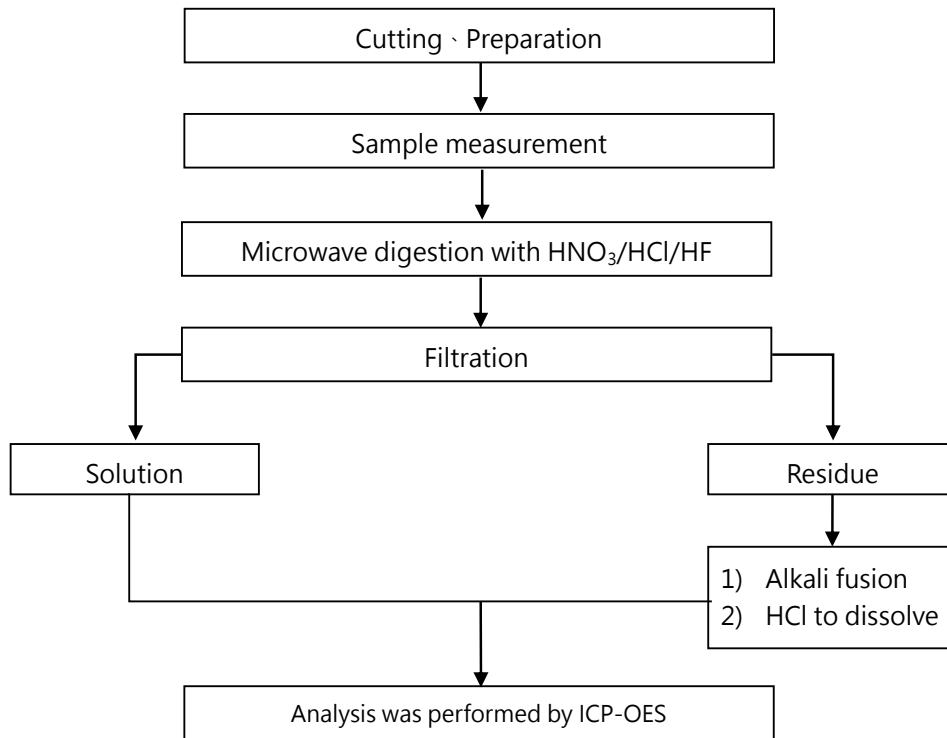
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Analytical flow chart of elements (Heavy metal included)

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

【Reference method : US EPA 3051A · US EPA 3052】



* US EPA 3051A method does not add HF.

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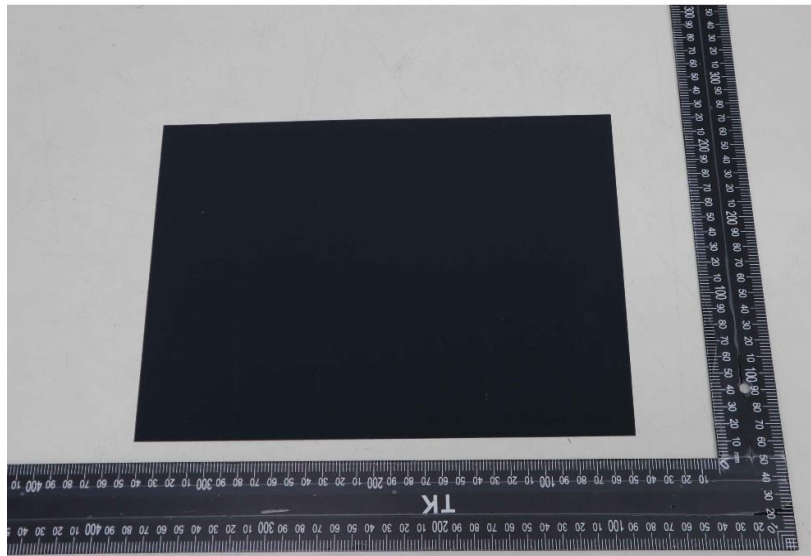
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* The tested sample / part is marked by an arrow if it's shown on the photo. *

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** End of Report **

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