　　　　　　　　　　　 　　　　　 　　　Date(mm/dd/yy) :

To : MEKTEC CORPORATION

**Survey Sheet of Cleanliness Substances（Ver.5.11）**

1. **Product Information**

|  |  |
| --- | --- |
| Product name |  |
| Product code number |  |
| Product mass (per unit) | g/piece, mm2( other unit:　　　　　　　　) |

1. **Information of cleanliness substances**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Target  cleanliness substances | | Analysis data | | Detection limit | | Control value | | Analysis  method |
| ng/cm2 | ng/g | ng/cm2 | ng/g | ng/cm2 | ng/g |
| 1 | Organic silicone | |  |  |  |  | Not  detected | Not  detected |  |
| 2 | Anion | Chloride |  |  |  |  | <100 | <1000 |  |
| Bromide |  |  |  |  | <100 | <1000 |  |
| Fluoride |  |  |  |  | <100 | <1000 |  |
| Nitrate |  |  |  |  | <100 | <1000 |  |
| Nitrite |  |  |  |  | <100 | <1000 |  |
| Sulfate |  |  |  |  | <100 | <1000 |  |
| Phosphate |  |  |  |  | <100 | <1000 |  |
| Total |  |  |  |  | <200 | <2000 |  |
| 3 | Cation | Ammonium salts |  |  |  |  | <200 | <2000 |  |

We warrant that analysis data of target cleanliness substances in product is

in the the table above.

Company

seal

Company name　：

Department　：

A representative　：

**Analysis Method**

【**Analysis method**】

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Target cleanliness  substances | Pre-treatment | Analysis equipment |
| 1 | Organic silicone | Hexane extraction at normal temperature and  heated evaporative concentration | FTIR-ATR |
| 2 | Anion | Hot water extraction with ultra-pure water at 85 degree×1hr | Ion chromatography |
| 3 | Cation | Hot water extraction with ultra-pure water at 85 degree×1hr | Ion chromatography |

**【Pre-treatment condition】**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Target  cleanliness  substances | Surface  area  （cm２） | Quantity of hexane  （ml） | Number of  sample  （piece） | Extraction time  （min） | Evaporation condition | |
| Temperature | Time |
| No.1 | ＞50 | 20 | 1 | ・Ultrasonic wave condition:  40kHz×1min  ・Equipment: not designated  ・Electricity:100～150W | Temperatureof no  Scattering of solvent on  hot plate :70 degree(ref) | Till evaporation  and dry by  visual check |
| 20～50 | 10 | 1 |
| ＜20 | 10 | N（remark） |
| No.2-3 | ・ Quality level of ultra pure water:18.2MΩ・cm（25 degree）  ・ Put 5or6 pieces of sample(about 30mm×30 mm/piece into beaker and extract cleanliness  substances by ultrapure water(ml) equal to total surface area(cm2) of sample for sheet sample. | | | | | |

Remark: N is the sample number that satisfies total surface area 20(cm2)

**【Quantitative analysis by FT-IR】**

|  |  |  |
| --- | --- | --- |
| Preparation method of standard sample | Silicone standard | Polydimethylsiloxane  （Shin-Etsu chemical Co.,Ltd./KF-96-500CS） |
| Absorbing spectrum peak applicable  to quantitative analysis | Silicone | 800±10(cm-1) |

**【Reference analysis laboratory】**

|  |  |  |  |
| --- | --- | --- | --- |
| No | Analysis laboratory | Address | Contact（TEL/E-mail） |
| 1 | ANALYTICAL LABORATORIES  (SINGAPORE) PTE LTD | No.8. Kaki Bukit Place,  Singapore 416186 | ● TEL：(65) 6746 0886  ● E-mail：sales@analabs.com.sg |
| 2 | Chemitox,Inc | 1-14-18 Kamiikedai, Ohta-ku,  Tokyo 145-0063, Japan | ● TEL：03(3786)7800  ● E-mail：t-muto@chemitox.co.jp |

Please fill out Analysis laboratory that supplier request product analysis below.

**Analysis laboratory name：**

**Manual of Survey Reply**

1. **【Purpose of survey request】**

Customer regulates target cleanliness substances attached to the surface of product (flexible printed circuit). At the point of green procurement for customer’s request of this regulation, we need to manage target cleanliness substances of component materials of product, secondary materials or tools that have possibility of attachment to product directly or indirectly in production process before mass production use. Please cooperate with our survey request.

**2. 【Product information】**

(1)　Product name :

Please fill out “product name”.

(2) Product code number :

Please fill out “product model number”.

(3) Product mass（per unit） :

Please fill out “product mass (g)” and select proper unit of denominator among piece, mm2.

If vendors have no selection among above, we request them to fill out other unit In column ( ) .

**3. 【Information of cleanliness substances】**

(1) Cleanliness substances :

Please reply for target 10 cleanliness substances (including total anion).

(2) Items of survey reply :

　a. Analysis data :

　　　 Please fill out analysis data with significant figure of two upper digits, regardless of compliance/no-

compliance to control value in proper unit column (ng/cm2 or ng/g) according to properties/shape

of product.

b. Detection limit :

　　 　Please fill out detection limit of analysis device in proper unit column (ng/cm2 or ng/g) according

to properties/shape of product.

c. Control value :

Please refer to control value unit according to unit of analysis data and detection limit.

d. Analysis method :

Please fill out analysis method if it is different from that of NIPPON MEKTRON, LTD.

**4. 【Analysis method】**

(1) Refer to **【Reference analysis laboratory】** on page20 when vendors request analysis for

external laboratories.

(2) Please fill out “Analysis laboratory name” on page20, regardless of internal or external analysis

laboratories.

(3) Please fill out “Analysis　data”, ”Detection limit” and ”Control value” on page19 and attach the original

analysis data as evidence to this survey sheet, regardless of internal or external an**a**lysis laboratory.

TC12-A02/06-1

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