

## 環境關理 物質 不使用 證明書

會社名 : 히로세코리아(주)

部 署 : 품질보증팀

責任者 : 차 재환 차장



貴社에 販賣하는 製品 및 製品의 使用材料, 包裝材, 製造工程에 含有되는 添加劑 等に 對하여 貴社가 要求하는 管理水準 (使用禁止對象)의 物質을 使用하고 있지 않음을 證明합니다. 當社의 製品 및 製品의 使用材料, 包裝材, 製造工程에 含有되는 添加劑 等に 對하여 以下の 成分으로 構成되어 있음을 報告 합니다.

### (1) 製品 使用素材

NO	제품명	부품명	원자재명	원자재 MAKER	ICP	MSDS	비 고
1	DF20A-30DS-1C	Crimping Case	PA(AG-20/10 V0)	EMS-CHEMIE (Japan)	 3	 2	

(2) 測定可能物質의 ICP Data는 別紙 參照 要望

(3) 測定可能物質의 成分 分析 Data는 別紙 參照 要望

以上

## Test Report

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HIROSE ELECTRIC CO., LTD.  
7-3-13, KIKUNA, KOHOKU-KU, YOKOHAMA 222-8566, JAPAN



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

Sample Description : RESIN  
Style/Item No. : AG-20/10 V0  
EMS-CHEMIE (JAPAN)  
Color type : BEIGE(NATURAL)  
Sample Receiving Date : 2010/09/17  
Testing Period : 2010/09/17 TO 2010/09/23

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

  
  
Chenyu Kung / Operation Manager  
Signed for and on behalf of  
SGS TAIWAN LTD.  
Chemical Laboratory – Taipei

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## Test Result(s)

PART NAME No.1 : WHITE PLASTIC PELLETS

Test Item (s):	Unit	Method	MDL	Result
				No.1
Cadmium (Cd)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Lead (Pb)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	23
Mercury (Hg)	mg/kg	With reference to IEC 62321: 2008 and performed by ICP-AES.	2	n.d.
Hexavalent Chromium Cr(VI) by alkaline extraction	mg/kg	With reference to IEC 62321: 2008 and performed by UV-VIS.	2	n.d.
<b>Sum of PBBs</b>	mg/kg	With reference to IEC 62321: 2008 and performed by GC/MS.	-	n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl			5	n.d.
Pentabromobiphenyl			5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl			5	n.d.
Octabromobiphenyl			5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl			5	n.d.
<b>Sum of PBDEs</b>			-	n.d.
Monobromodiphenyl ether			5	n.d.
Dibromodiphenyl ether			5	n.d.
Tribromodiphenyl ether			5	n.d.
Tetrabromodiphenyl ether			5	n.d.
Pentabromodiphenyl ether			5	n.d.
Hexabromodiphenyl ether			5	n.d.
Heptabromodiphenyl ether			5	n.d.
Octabromodiphenyl ether			5	n.d.
Nonabromodiphenyl ether	5	n.d.		
Decabromodiphenyl ether	5	n.d.		

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Test Item (s):	Unit	Method	MDL	Result
				No.1
<b>Halogen</b>				
Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	842
Halogen-Chlorine (Cl) (CAS No.: 022537-15-1)			50	n.d.
Halogen-Bromine (Br) (CAS No.: 010097-32-2)			50	102000
Halogen-Iodine (I) (CAS No.: 014362-44-8)			50	n.d.

**Note :**

1. mg/kg = ppm ; 0.1wt% = 1000ppm
2. n.d. = Not Detected
3. MDL = Method Detection Limit
4. " - " = Not Regulated

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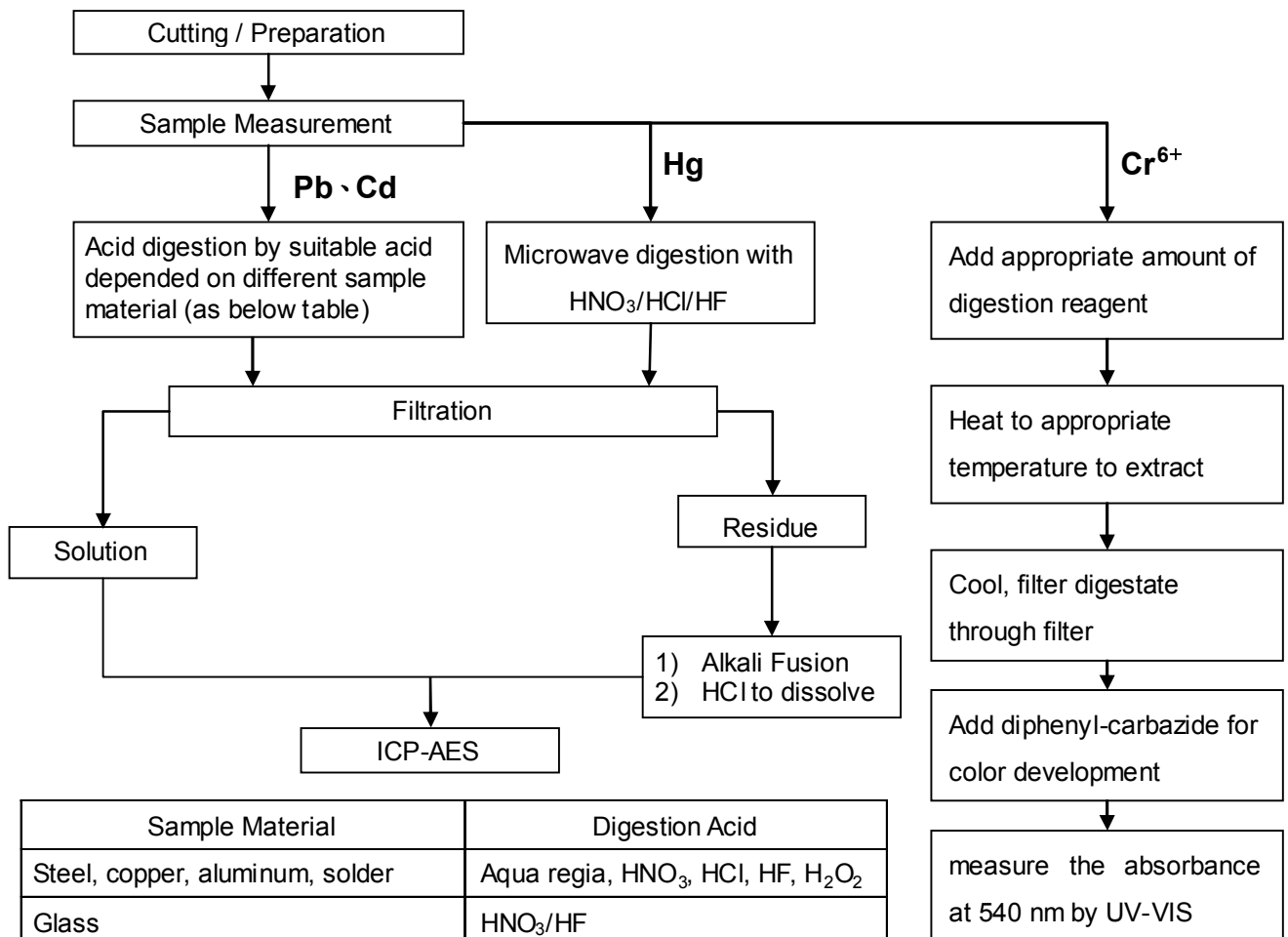
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- 1) These samples were dissolved totally by pre-conditioning method according to below flow chart.  
(Cr<sup>6+</sup> test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



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## Test Report

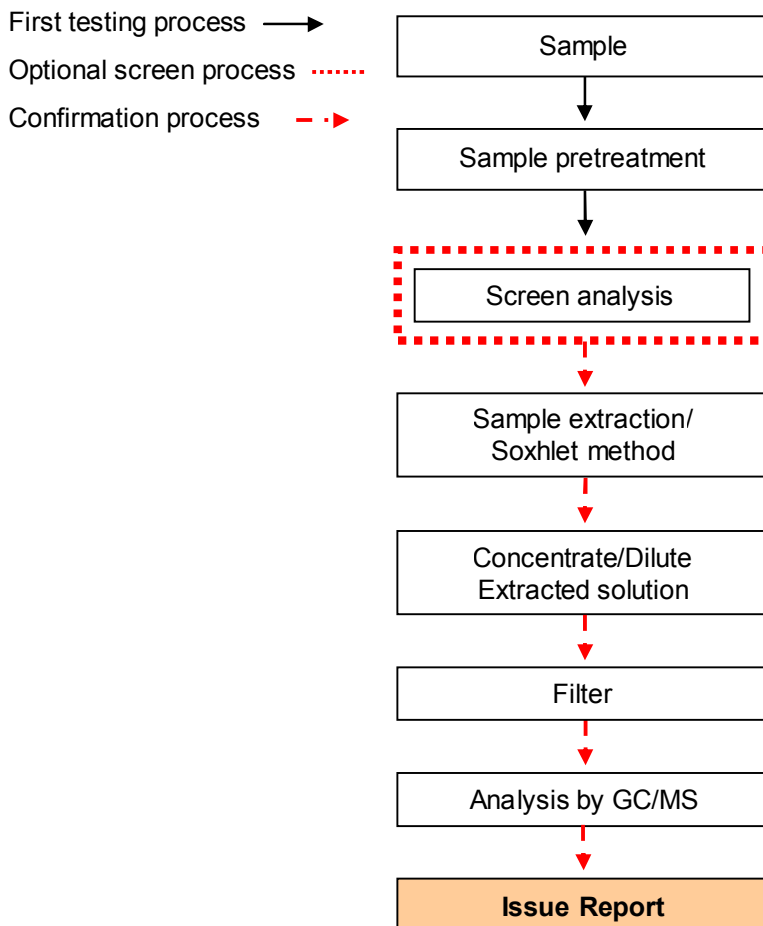
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### PBB/PBDE analytical FLOW CHART

- 1) Name of the person who made measurement: Roman Wong
- 2) Name of the person in charge of measurement: Troy Chang



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## Test Report

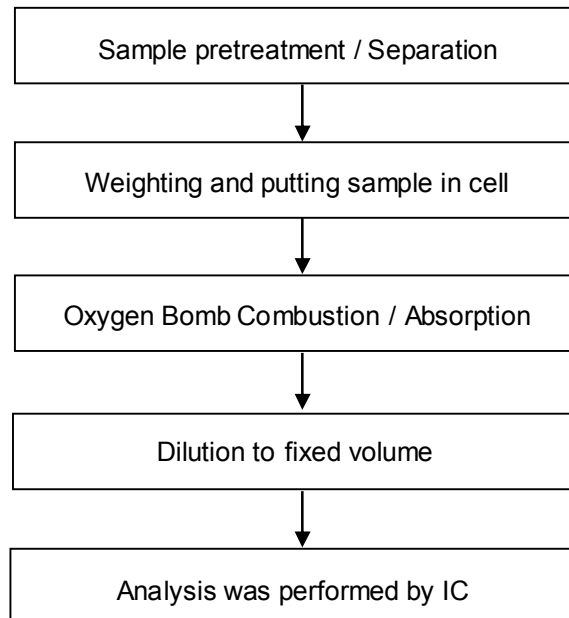
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### Analytical flow chart of halogen content

- 1) Name of the person who made measurement: Rita Chen
- 2) Name of the person in charge of measurement: Troy Chang



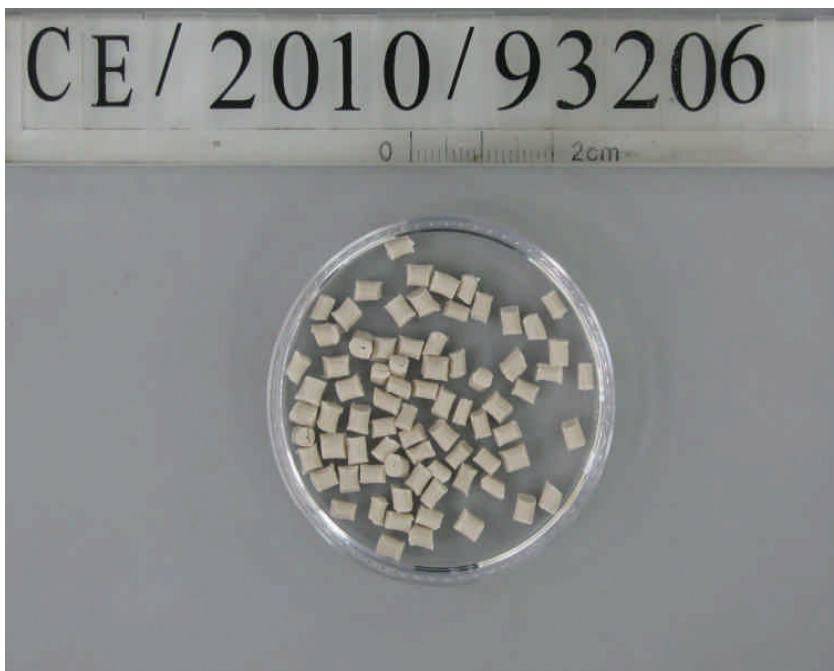
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\*\* End of Report \*\*

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EMS-GRIVORY

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## MATERIAL SAFETY DATA SHEET

No. S-034E

Date : Jun. 20, 2006

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### 1. INFORMATION ON PRODUCTS & COMPANY

Company & Address : EMS-CHEMIE (Japan) Ltd.

2-11-20 Higashi-koujiya, Ota-ku, Tokyo 144-0033 Japan

Tel No : +81 3 5735 0611 Fax No : +81 3 5735 0614

Responsible Division : Engineering Plastics

Emergency : Technical Center., EMS-CHEMIE (Japan) Ltd.

Tel No : +81 3 5735 0612 Fax No : +81 3 5735 0615

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**Product Name: Grilon<sup>®</sup> AG-20/10VO natural(Systemer<sup>®</sup> A31V20-1)  
Grilon<sup>®</sup> AG-20/10VO blue J4001 (Systemer<sup>®</sup> A31V20-A)**

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

Single Product/mixture classification: Mixture

Chemical name: Flame-retardant Polyamide66

Composition and Content: Polyamide66 40-60 wt%  
Poly dibromo phenylene oxide 15-25 wt%  
Glass fiber 20 wt%  
Antimony trioxide 5-15 wt%

Chemical formula: Polyamide66 [ - NH(CH<sub>2</sub>)<sub>6</sub>NHCO(CH<sub>2</sub>)<sub>4</sub>CO - ]<sub>n</sub>

Publication Number in Official Gazette: Polyamide66:(7)-382

Antimony trioxide:(1)-543

CAS No.: Polyamide66 32131-17-2

Poly dibromo phenylene oxide 69882-11-7

Fiber glass 65997-17-3

Antimony trioxide 1309-64-4

UN Classification and Number : Not applicable

Other ingredients: One grade contains color pigment.

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### 3. HAZARDS IDENTIFICATION:

Classification: Not applicable

Danger : No problem if direct sunshine or high temperature is avoided.

Harmfulness: The product may generate an irritant gas at high temperature.

Influence on environment: --

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### 4. FIRST-AID MEASURES:

Eye contact: Flush eyes with clean running water for at least 15 minutes.

If you have contact lenses, put off them in case of not to be solidified,  
and take medical examination from a physician.

Skin contact:	If melt attaches on the skin, don't remove, but wash affected area with clean water for at least 15 minutes. Don't try to remove solid resin attached on the skin. If skin is burned, take medical examination from a physician.
Inhalation:	In case of abnormality, remove person to fresh air, and call a physician.
Ingestion:	Induce person to vomit as much as possible, and call a physician.

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#### 5. FIRE-FIGHTING MEASURES:

Fire extinguishing method: Pour water. Wear gas mask while extinguishing fire since noxious gases(CO,H<sub>2</sub>CN,NH<sub>3</sub>,andCO<sub>2</sub>) may generate.  
 Fire extinguisher : Use water-spray, powder, foam and carbon-dioxide fire-extinguishers

#### 6. ACCIDENTAL RELEASE MEASURES:

- 1) Remove released material and clean the area to avoid risks such as slipping.
- 2) In case of release into water including a drainage system, the released material should be fully recovered to avoid adverse affect on birds and fish.

#### 7. HANDLING AND STORAGE:

Handling: Wear appropriate protectors when working. Do not directly touch hot resin  
 under processing. Do not keep resin at high temperature for a long time. Do not inhale gases generating during processing.

Storage: Store in a dry and cool place with good ventilation. Do not store near heat or ignition sources. Use all granules after opening bags. if not so, keep granules dry.

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#### 8. EXPLOSURE CONTRILS/PERSONAL PROTECTION

Control concentration : Not specified  
 Permissible concentration: Not specified  
 Facility : In case smoking occurs as the material is used at high temperature, Install local ventilation equipment.  
 Protective equipment :As occasion demands, wear protective goggles, protective gloves protective clothes and gas mask.

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#### 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pellets  
 Volatility: None  
 Melting point: 255 - 265 (polyamide 66),  
 Density: 1.4 ~ 1.6 g/cm<sup>3</sup>  
 Solubility: Insoluble in water

**10. STABILITY AND REACTIVITY:**

Explosion limit: ---

Combustibility: Combustible

Ignition: May ignite at 400 °C or higher.

Oxidization: None

Reactivity & explosiveness: Stable under normal handling conditions.

Dust explosiveness:---

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**11. TOXICOLOGICAL INFORMATION**

Corrosive action on skin : Not known

Irritant action on skin and eyes : Gases generating during processing and melt irritate skin and eyes.

Acute toxicity : Not known

Chronic toxicity : Not known

Mutagenicity : Not known

Carcinogenicity : Not known

Teratogenicity : Not known

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**12. ECOLOGICAL INFORMATION**

Degradability: Not known

Accumulation: Not known

Toxicity to fish: Not known

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**13. DISPOSAL CONSIDERATIONS**

The material should be treated/disposed of in accordance with pertinent laws such as the Waste Disposal and Public cleaning Law, or entrusted to licensed companies for disposal. When the material is to be incinerated, use an incinerator and treat the material in advance according to the provisions of pertinent laws including the Air Pollution Control Law.

**14. TRANSPORT INFORMATION**

To avoid breakage of packaging, handle it carefully and keep it dry.

In case packaging breaks and granules are scattered, do not slip and fall.

When transporting the product outside Japan, conform to applied laws and regulations in that country or territory.

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**15. REGULATORY INFORMATION:**

Antimony trioxide is designated under the Poisonous and Deleterious Substances Control Law as deleterious material.

This material is subject to control under the Waste Disposal and Public Cleaning Law.

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**16. OTHER INFORMATION**

Figures contained herein this MSDS are not guaranteed values. The information in this MSDS was obtained from sources which we believe are reliable, but no warranty or representation as to its accuracy or completeness is hereby given.

This is a translation of the original Material Safety Data Sheet in Japanese.