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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.

: SUPPLIER: Not to declare

PRODUCT NAME: Not to declare

Color Type

: NATURAL

Sample Receiving Date

: 2011/02/22

Testing Period

: 2011/02/22 TO 2011/03/01

Test Result(s)

: Please refer to next page(s).



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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	n.d.
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.
Sum of PBBs				n.d.
Monobromobiphenyl			5	n.d.
Dibromobiphenyl			5	n.d.
Tribromobiphenyl			5	n.d.
Tetrabromobiphenyl	1		5	n.d.
Pentabromobiphenyl	1		5	n.d.
Hexabromobiphenyl			5	n.d.
Heptabromobiphenyl	1		5	n.d.
Octabromobiphenyl		I F	5	n.d.
Nonabromobiphenyl			5	n.d.
Decabromobiphenyl]	With reference to IEC 62321: 2008 and	5	n.d.
Sum of PBDEs	mg/kg	performed by GC/MS.	-	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]	į	5	n.d.
Heptabromodiphenyl ether]		5	n.d.
Octabromodiphenyl ether		I F	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
Halogen				
Halogen-Fluorine (F) (CAS No.: 014762-94-8)	mg/kg	With reference to BS EN 14582:2007. Analysis was performed by IC.	50	n.d.
Halogen-Chlorine (CI) (CAS No.: 022537-15-1)			50	n.d.
Halogen-Bromine (Br) (CAS No.: 010097-32-2)			50	n.d.
Halogen-lodine (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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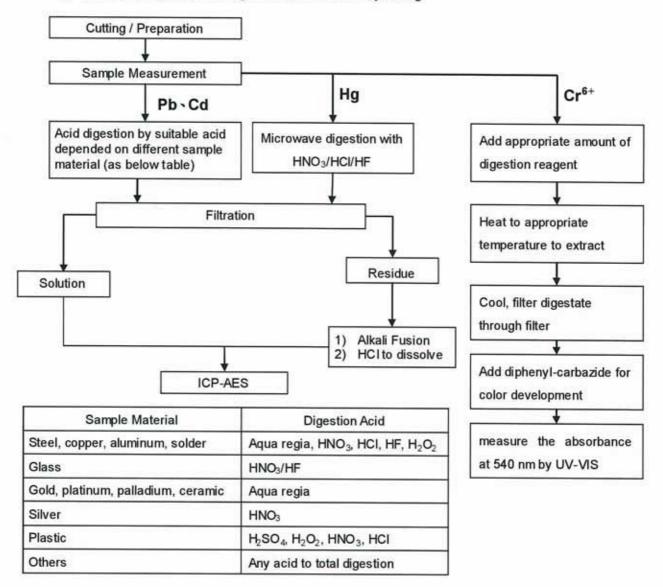


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- These samples were dissolved totally by pre-conditioning method according to below flow chart. (Cr⁶⁺ test method excluded)
- 2) Name of the person who made measurement: Climbgreat Yang
- 3) Name of the person in charge of measurement: Troy Chang



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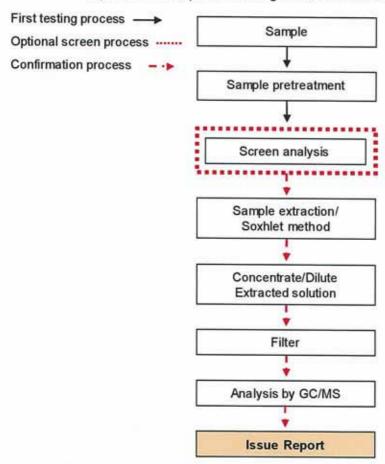
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PBB/PBDE analytical FLOW CHART

- 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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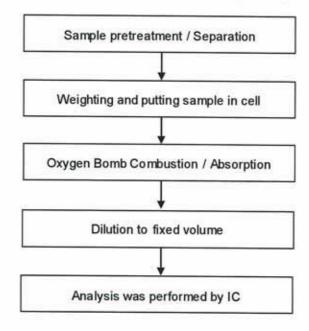
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Analytical flow chart of halogen content

- 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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This SDS adheres to the standards and regulatory requirements of Japan and may not meet the regulatory requirements in other countries.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : Not to declare

Supplier : Not to declare Street address : Not to declare

Responsible Department : Performance Polymers

Telephone : Not to declare
Telefax : Not to declare
Emergency telephone : Not to declare

number

Recommended use of the chemical and restriction on use

No information available.

Document no. : 130000023213

2. HAZARDS IDENTIFICATION

GHS-Classification

Not applicable to classification standard.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Pure substance/mixture : Mixture

Common Name

Components

Chemical Name	CAS-No.	Concentration	ENCS/ISHL number
Nylon 66	32131-17-2	>85%	(7)-382
Non-halogenated flame retardant	Not disclosed	<15%	Not disclosed
Lubricants, stabilizers	Not disclosed	<2%	Not disclosed

4. FIRST AID MEASURES

Eye contact : In case of contact, immediately flush eyes with plenty of water for at least 15

minutes. Call a physician.

Skin contact : The material is not likely to be hazardous by skin contact, but cleansing the skin

after use is advisable. Cool skin rapidly with cold water after contact with molten material. Do not peel polymer from the skin. Obtain medical treatment for

thermal burn.

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Inhalation : Move to fresh air in case of accidental inhalation of fumes from overheating or

combustion. If not breathing, give artificial respiration. If breathing is difficult,

give oxygen. Call a physician.

Ingestion : No specific intervention is indicated. Consult a physician if necessary.

Most important symptoms : No information available.

Protection of first-aiders : No information available.

Notes to physician : No information available.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing

media

: Water, Foam, Dry chemical, Carbon dioxide (CO2)

Extinguishing media which shall not be used for safety

reasons

: No information available.

Specific hazards : Combustible . Large molten masses may ignite spontaneously in air. Water

quenching is good practice. Minimize the generation and accumulation of dust. Failure or malfunction of temperature control systems on processing equipment, such as extruders, may create explosion hazards. Hazardous combustion

products may include: (see also section 10)

Carbon monoxide, Carbon dioxide

Specific methods : Evacuate personnel and keep upwind of fire.

Special protective

equipment for fire-fighters

Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Spilled material is a slipping hazard.

Environmental precautions : Do not discharge to streams, ponds, lakes or sewers.

Methods and materials for containment and cleaning

qu

Sweep up to prevent slipping hazard.

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Prevention of secondary

hazards

: No information available.

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7. HANDLING AND STORAGE

Handling

Technical measures/Precautions Wash hands thoroughly after handling. Minimize the generation and accumulation of dust. Do not breathe dust. Provide appropriate exhaust

ventilation at dryers, machinery and at places where dust or volatiles can be

generated.

Local exhaust ventilation

/ adequate ventilation

: No information available.

Precautions No information available.

Precautions for safe

handling

: No information available.

Storage

Suitable storage conditions

: Store in a cool, dry place. Keep container closed to prevent contamination. Keep

in an area equipped with sprinklers.

Suitable container and packaging materials for

safe storage

: No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering measures General mechanical ventilation is normally adequate but use local exhaust

where necessary to maintain exposures below acceptable limits. Use local exhaust to completely remove vapors and fumes liberated during hot processing from the work area. See Bulletin "Proper Use of Local Exhaust

Ventilation During Processing of Plastics".

Occupational Exposure Limits ISHL (Japan) - Occupational Exposure Limits

Chemical Name	Occupation	onal Exposure Limits	Regulation	
Dust (inhalable and respirable fraction)	TWA	10 mg/m3 (Inhalable particles.)	US. ACGIH Threshold Limit Values (2009)	
	TWA	3 mg/m3 (Respirable particles.)	US. ACGIH Threshold Limit Values (2009)	
	TWA	2 mg/m3 (Respirable dust.)	Japanese Society of Occupational Health OEL (04 2007)	
	TWA	8 mg/m3 (Total dust.)	Japanese Society of Occupational Health OEL (04 2007)	

Personal protective equipment

Respiratory protection : A respiratory protection program that meets country requirements must be followed whenever workplace conditions warrant respirator use. Consult the

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respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer. Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist

cartridge.

Hand protection : Wear leather or cotton gloves when grinding, sawing, routing, drilling or

sanding

When handling hot material, use heat resistant gloves.

Eye protection : Wear safety glasses with side shields.

Wear tightly fitting chemical splash goggles and face shield when possibility exists for eye and face contact due to spattering or splashing of molten

material.

A full-face mask respirator provides protection from eye irritation.

Skin and body protection : If there is a potential for contact with hot/molten material wear heat resistant

clothing and footwear.

Hygiene measures : No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (Physical state, form, colour, etc.)

Physical state : solid

Form : pellets

Colour : natural

Odour : none

Odour Threshold : no data available

pH : no data available

Melting point/freezing point

Melting point/range : > 200 ℃

Boiling point, initial boiling point and boiling range

no data available

Flash point : not applicable

Autoignition temperature : no data available

Evaporation rate : no data available

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Explosive properties

Upper explosion limit : no data available

Lower explosion limit : no data available

Vapour pressure : no data available

Vapour density : no data available

Relative density :>1

Density : no data available

Solubility(ies)

Water solubility : insoluble

Solubility in other solvents : no data available

Partition coefficient: n-

octanol/water

: no data available

Decomposition temperature : no data available

10. STABILITY AND REACTIVITY

Stability : Stable at normal temperatures and storage conditions.

Possibility of hazardous

reactions

Polymerization will not occur.

Conditions to avoid : Temperature : > 340 °C

Materials to avoid : Incompatible with strong acids and oxidizing agents.

Hazardous decomposition

products

Hazardous thermal decomposition products:, Aldehydes

Ammonia, anhydrous, Carbon monoxide, Carbon dioxide, Cyclopentanone

Other : No information available.

11. TOXICOLOGICAL INFORMATION

Acute toxicity : Nylon 66:

Oral: LD50/rat: > 7,500 mg/kg

Skin corrosion/irritation : Nylon 66:

Species: human non-irritant

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Serious eye damage/eye

irritation

: no data available

Respiratory sensitization /

Skin sensitization

: Nylon 66:

Species: human Not a skin sensitizer.

Mutagenicity : no data available

Carcinogenicity : no data available

Reproductive toxicity : no data available

Target Organs : no data available

Aspiration toxicity : no data available

Other : nylon resin:

No data is available on the product itself.

For additional toxicity data, write to the company address or call the non-

emergency number shown in Section 1.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Toxicity to fish : no data available

Persistence and degradability Bioaccumulation

no data available

Mobility in soil : no data available

Other adverse effects : nylon resin:

No data is available on the product itself. Toxicity is expected to be low based

on insolubility in water.

13. DISPOSAL CONSIDERATIONS

Disposal regulatory

information

Dispose in accordance with the Waste Disposal and Public Cleaning Law (Enforcement Ordinance, Section 6). When consigning for disposal, do so after signing a contract with a (specially controlled) industrial waste disposer

approved by the local authority.

Waste disposal methods

Preferred options for disposal are recycling, incineration with energy recovery, and landfill. The high fuel value of this product makes incineration very desirable for material that cannot be recycled. Treatment, storage, transportation, and

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disposal must be in accordance with applicable federal, state/provincial, and

local regulations.

Contaminated packaging : When disposing of empty containers, completely remove the content, and

dispose of it in accordance with the Waste Disposal and Public Cleaning Law (Enforcement Ordinance, Section 6) in the same manner as with residual

wastes.

14. TRANSPORT INFORMATION

International transport : Not classified as dangerous in the meaning of transport regulations.

regulations

UN DG classification : not applicable UN number : not applicable Domestic transport : not applicable

regulations

Additional regulations : No information available.

Matters needing attention : No information available.

for transportation Emergency Response Guidebook Number

No information available.

15. REGULATORY INFORMATION

The product is not regulated under PDSCL, PRTR or ISHL.

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16. OTHER INFORMATION

Sources of key data used to compile the Safety Data Sheet

: US MSDS No.: ZYT088A

Contact department/person for :

inquiry

Not to declare

Other	: The	Oval Logo is a registered trademark of	de Nemours
	and Compa	ny Read the product information datasheet	for this product or

the molding guide for this resin family.

Do not use materials in medical applications involving implantation in the human body or contact with internal body fluids or tissues unless the material has been provided from under a written contract that is consistent with policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your representative. You may also request a copy of the POLICY Regarding Medical Applications and CAUTION

Regarding Medical Applications

Significant change from previous version is denoted with a double bar.

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