

2008年 08月 05日

環境關理 物質 不使用 證明書

會社名：히로세코리아(주)

部 署：품질경영팀

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	비 고
1	FX8-140P-SV1(92)	HOUSING	PPS 1140A64	POLY PLASTICS	
		CONTACT	C5191R	NIHON MINING&METALS	

(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

July 28, 2008

To whom it may concern :

Material Certification

We do not presently test for PBBs (polybromobiphenyls) or PBDEs (polybrominated diphenyl ethers) in our products. This is because we have judged that there is no possibility of their contamination for the following reasons:

- (1) PBBs and PBDEs are not natural substances.
- (2) Our plants presently do not use any PBBs or PBDEs, therefore, there is no possibility that these substances have contaminated our products.
- (3) We have conducted an investigation for the manufacturer of raw materials on whether PBBs or PBDEs are contained in the raw material we use, and confirmed that none of these substances are used.

For the reasons stated above, you can be rest assured that there is no fear of contamination from PBBs or PBDEs that may be the RoHS *1. (To be more specific, we judge that such substances exceeding 100 ppm are not contained.)

On this account, we respond to this matter by issuing a certificate of non-use.

*1: The RoHS (restriction of use of certain hazardous substances) Directive prohibits electrical appliances parts containing PBBs and PBDEs respectively exceeding 1000 ppm.

Polyplastics Co., Ltd.



K. Sasaki
Manager
Quality Assurance Department

MATERIAL SAFETY DATA SHEET (MSDS)

Issued: Mar 12, 2002

Revised: Mar 22, 2002

File No. 3002-1

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

CHEMICAL PRODUCT NAME : FORTRON 1140A64
 NAME OF COMPANY : Polyplastics Co.,Ltd.
 SECTION IN CHARGE : Quality Assurance Dept.
 ADDRESS : 3-2-5 Kasumigaseki, Chiyoda-ku, Tokyo
 TELEPHONE NUMBER : 03-3593-2280
 FACSIMILE NUMBER : 03-3593-2189

2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE/PREPARATION : Preparation RATION
 COMMON CHEMICAL NAME : Polyphenylene sulfide
 SYNONYMS : Polyphenylene sulfide(PPS)
 INGREDIENTS AND COMPOSITION : PPS \geq 58%, Glass fiber 40%, others \leq 2%
 CHEMICAL FORMULA : $[\text{C}_6\text{H}_4\text{S}]_n$
 SERIAL No IN OFFICIAL GAZETTE : 7-1143(base resin)
 (Law Concerning Examination and Regulation of Manufacture, etc., of Chemical Substances)
 CAS No : 26125-40-6(base resin)

3. HAZARDS IDENTIFICATION

PHYSICAL AND CHEMICAL HAZARDS : Not applicable
 HUMAN HEALTH EFFECTS : Not applicable
 ENVIRONMENTAL EFFECTS : Not applicable
 PHYSICAL AND CHEMICAL HAZARDS : It is inflammable substance and combustible if an igniting source is existent. Neither dangerous reaction, fire nor explosion can be caused under normal conditions.
 THE CLASSIFICATION : Not applicable

4. FIRST-AID MEASURES

INGESTION : Help to vomit as much as possible. If sick feeling continues, ask a physician for advice.
 INHALATION : When a gas generated from the molten polymer, especially fume generated during combustion or heat, has been inhaled, remove fresh air without delay and wait until the victim is recovered. If sick feeling continues, ask a physician for advice.
 SKIN CONTACT : Cool the contacted skin with clean water without delay, if a contact with the polymer in a molten form. Do not force to remove the solid resin on the skin. If any burns are observed on the skin, ask a physician for advice.

EYE CONTACT : Cool and rinse the eye with clean water for at least 15 minutes when the eyes had contact with molten polymer. In case of wearing contact lenses, remove the lenses as soon as possible, and ask a physician for advice. When the eye had contact with the polymer in an ordinary solid form, rinse the eye with clean water without delay. If the discomfort persists, ask a physician for advice.

5. FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA : Water, foam fire-extinguishing agent, powder fire-extinguishing agent, and carbon dioxide gas.

SPECIFIC METHODS : Extinguish the fire with water. A method of extinguishing an ordinary fire may be applied. Do not apply water directly to processing machines.

SPECIFIC HAZARDS : Incomplete combustion leads to generation of toxic gases such as carbon monoxide or sulfur compound gas, in addition to carbonic acid gas and water.

SPECIAL EQUIPMENT FOR THE PROTECTION OF FIREFIGHTERS : In case the fire gained force, use a gas mask or other protective equipment.

6. ACCIDENTAL LEAKAGE MEASURES

PERSONAL PRECAUTIONS : When pellets were spilled on the road or floor, wipe them off with a broom or cleaner not to cause slipping.

ENVIRONMENTAL PRECAUTION : Handle the spillage in accordance with provisions given in the "Resin pellet spillage preventive manual", in order to prevent intakes by marine animals and birds.

7. HANDLING AND STORAGE

HANDLING : PPS resin in a pellet form will neither ignite nor explode at room temperatures.

HANDLING 2 : For molding work, effective means for local exhaust are required to discharge gases generated by melt processing.

HANDLING 3 : Avoid inhaling of gases generated in moulding work. Do not directly touch resin of high temperature.

HANDLING 4 : Avoid retaining hot resin in the processing machines for many hours.

HANDLING 5 : This pellets spilled on the floor are likely to cause slipping. Remove such spillage at any times.

STORAGE : Keep the substance away from any fire or heat sources for the sake of safe storage.

RECOMMENDED PACKAGING MATERIALS : No information.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

CONTROL CONCENTRATION : None at present

PERMISSIBLE CONCENTRATION : OSHA PEL/1985
Max. permissible concentration of inactive powder 15mg/m³
- ditto - (Aspiration) 5 mg/m³
ACGIH TLV/1992 1993
Exposure limit of the powder TWA 10 mg/m³

ENGINEERING MEASURE : When handling dust: Use totally enclosed containers resisting dust explosion.
When heat melted in molding: Effective local ventilation must be provided.

PERSONAL PROTECTIVE EQUIPMENT	:	
RESPIRATORY PROTECTION	:	Wear a dust-proof mask.
EYE PROTECTION	:	Wear protective glasses or goggles.
HAND PROTECTION	:	Wear heat-resisting gloves against burns, when handling molten polymer.
SKIN & BODY PROTECTION	:	Wear long sleeve clothes against burns, when handling molten polymer.

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE etc.	:	Pellet
BOILING POINT	:	Not applicable
VAPOUR PRESSURE	:	Not applicable
VOLATILITY	:	Not applicable
SUBLIMATION	:	None
MELTING POINT	:	275°C~285°C
DENSITY	:	1.66
SOLUBILITY	:	Insoluble in water
FLASH POINT	:	500°C or higher
IGNITION POINT	:	480°C or higher
EXPLOSION PROPERTY	:	Not applicable
INFLAMMABILITY	:	None
REACTIVITY WITH WATER	:	None
OXIDIZABILITY	:	None
SELF-REACTIVITY	:	None
DUST EXPLOSIVENESS	:	Upper explosion limit : Not applicable. Lower explosion limit : 35g/m ³

10. STABILITY AND REACTIVITY

STABILITY AND REACTIVITY	:	Stable for normal storage or handling.
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11. TOXICOLOGICAL INFORMATION

SKIN CORROSIVE PROPERTIES	:	No finding.
SENSITIZING & IRRITANT EFFECTS	:	Gas generated in drying or melting is irritating eyes and skins.
ACUTE TOXICITY(INCLUDING LD50)	:	No finding.
SUBACUTE TOXICITY	:	No finding.
CHRONIC TOXICITY	:	No finding.

- CARCINOGENECITY : No finding.
- MUTAGENECITY(Mi : No finding.
cro
organisms,chromoso
mal aberration)
- REPRODUCTIVE : No finding.
TOXICITY
- TERATOGENICITY : No finding.
- OTHERS(Including : No finding in this report means that there will be no hazard in
generation of general,but no proving data available at the time of reporting.
hazardous gases by
reaction with
water,for ezample)
- OTHER CAUTIONS : With regard to dust,the maximum permissible concentration and limits
are fixed by OSHA and ACGIH.
- OTHER CAUTIONS : Information on hazards of glass fibers as filler.
2 <Effects on Human Bodies>
(1) Effects on skin
Stimulation to the skin with glass fibers may be caused when glass
fibers diameter is larger than 4.5~5 μ m. They give mechanical
stimulation followed by itchiness to the skin, but further continuous
exposure reportedly results in extinction of stimulation. It may
sometimes leads to irritable dermatitis complicated with urticaria or
eczema-like reaction. It is, however reported that such dermatitis is not
so serious in general and does not last too long. Therefore, skin
stimulation can be prevented by proper use of glass fibers.
- (2) Effects on Tumor
Investigations made on glass fibers till today reveal that there is
neither increase in mortality of glass fiber production workers due to
lung cancer or mesothelioma nor such cases reported.
<Animal Test Report>
It is suggested that carcinogenicity of mineral fibers is dependent on
their shapes rather than on their constituents. According to a report on
experiments using 17 kinds of artificial mineral fibers in various sizes
prepared by Dr.Stanton of National Cancer Institute, in USA, statistical
studies on corelations between the diameter and length of fibers and the
coincidence of mesothelioma have revealed that mineral fibers having a
diameter smaller than 0.25 μ m and a length larger than 8 μ m are closely
related to the coincidence of cancers. Since these experiments were
performed by artificially dosing the subject animals with a large quantity
of glass fibers and consequently they are quite different from the actual
exposures to human bodies, it is told to be problematic to make a
conclusion that mineral fibers are hazardous to human health, basing on
the results obtained from these experiments. Upto the present time,
there is no result obtainable to demonstrate a mechanism of glass fibers
causing lung cancers in spite of experiment by long exposure to glass
fibers with high concentration.

12. ECOLOGICAL INFORMATION

- BIODEGRADABILITY : No finding.
- BIOACCUMULATION : No finding.
- FISH TOXICITY : No finding.

13. DISPOSAL CONSIDERATION

- WASTE FROM : This is designated as waste plastics among industrial wastes by the
RESIDUES Wastes Disposal Law. Disposal waste pellets through licensed wastes
handlers or local autonomous bodies if they are handling wastes
disposal.

WASTE FROM RESIDUES 2 : When disposed by incineration, use the well controlled incinerators in accordance with the Wastes Disposal Law, Air Pollution Control Law and Water Pollution Prevention Law.

14. TRANSPORT CONSIDERATION

UN CLASSIFICATION NUMBER : Not applicable

OTHER CAUTIONS : Handle with care so as not to give damages to containers or not to be subjected to wetting.

OTHER CAUTIONS : Secure the containers firmly so as not to cause collapsing.
2

15. REGULATORY INFORMATION

WASTE DISPOSAL LAW : Waste plastics among industrial wastes.

16. OTHER INFORMATION

HANDLING OF THE DETAILS GIVEN ABOVE : This MSDS is the English version translated from the Japanese MSDS which is prepared for domestic use. Details given above are based on references, information and data available at this moment, but no warranty can be made on exactness of these details. They are also prepared on the assumption that the product will be handled in a normal way. For special handling, adequate safety and environmental measures should be taken in respect to its applications. Our products are not specifically intended for implants for medical and dental applications, and therefore they are not recommended for such applications. "No finding" in this report means that there will be no hazard in general, but no proving data is available at the time of reporting.

WHERE TO CALL FOR FURTHER INFORMATION : Polyplastics Co., Ltd. Quality Assurance Dept.
Tel. No 03-3593-2280



TEST REPORT

REPORT NO. JP/2008/050912
DATE: June 19, 2008
PAGE: 1 OF 1

CLIENT : NIPPON MINING & METALS CO., LTD. KURAMI WORKS
SAMPLE DESCRIPTION : C5191R (NIPPON MINING & METALS CO.,LTD.)
CLIENT REF.NO :
TESTING DATE : 2008/05/19 TO 2008/05/26
SAMPLE RECEIVED : 2008/05/16

WE HAVE TESTED THE SAMPLE(S) SUBMITTED AS REQUESTED AND THE FOLLOWING RESULTS WERE OBTAINED.

TEST ITEM(S)	UNIT	RESULT	METHOD	INSTRUMENT	R.L.
CADMIUM(Cd)	ppm	N.D.	EPA3051A	ICP-OES	1
LEAD(Pb)	ppm	12	EPA3051A	ICP-OES	10
MERCURY(Hg)	ppm	N.D.	EPA3051A	ICP-OES	5
CHROMIUM VI(Cr(VI))	ppm	N.D.	EPA3060A, EPA7196A	UV/VIS	2

NOTES : R.L. = reporting limit N.D. = not detected

Test process and/or expression of test result for Cr(VI) have been specified by client.

The content of Cr(VI) has been calculated with regard to the sample weight as specified by client.

<END>

後藤 邦之



Kuniyuki Goto / Laboratory Manager
SGS Far East Ltd., Green Testing Center

JP 825809

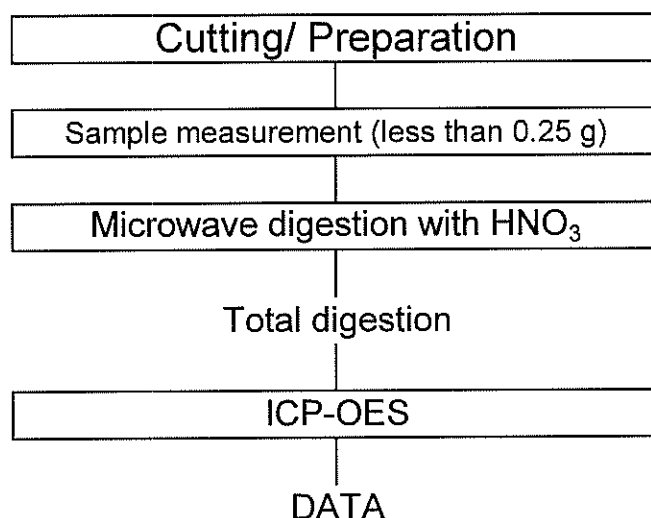
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Green Testing Center | t +81(0) 45 330 1100 f +81(0) 45 330 1108 | URL: www.jp.sgs.com/rohs

REPORT NO. JP/2008/050912

Flow chart of digestion
(EPA 3051A)



The samples were dissolved totally by pre-conditioning method according to above flow chart.

Section Chief Yukihiro Ouchi

The flowchart can be applied for Cd, Pb testing.

JP 825810

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Attn: Mash from Kelvin (NMS)
MSDS for C5191R (pg 1/2)

MATERIAL SAFETY DATA SHEET

MSDS FILE No. (KURAMI WORKS) : 05-1287

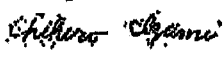
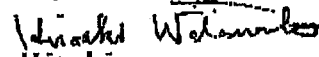
(based on Form OSHA-174)

IDENTITY (As Used on Label and List)

Product Class : Phosphor Bronze Strip
Trade Name : JIS.H3110, C5191R. (Equivalent to ASTM.B103, C51900),
CAS No : (Copper 7440-50-8, Tin 7440-31-5, Phosphorus 7723-14-0)
Chemical Composition

	Content (wt%)	CAS No.
Tin (Sn)	5.5~7.0	7440-31-5
Phosphor (P)	0.03~0.35	7723-14-0
Copper (Cu)	Balance	7440-50-8
Sn, P, Cu	99.5%	-

Section I

Manufacturer's Name NIKKO METAL MANUFACTURING CO., LTD. KURAMI WORKS	Date Prepared August 26th, 2005
	Signature of Person in Charge  IZUMI, Chitro Senior Technical Supervisor, Quality Assurance
Address 3 Kurami Samukawa-cho Kouza-gun Kanagawa prefecture 253-0101 JAPAN	Signature of Person Responsible  WATANABE, Hitaki Manager, Quality Assurance Section
Telephone Number for Information (Quality Assurance) +81-467-75-7285	
Facsimile Number for Information (Quality Assurance) +81-467-74-6971	

Section II Hazardous Ingredients / Identity Information

Hazardous Components (Specific Chemical Identity - Names OSHA Fed ACGIH TLV)

Nothing for ordinary service condition

Section III Physical / Chemical Characteristics

Boiling Point 2630 °C for Copper 2275 °C for Tin	Specific Gravity (H₂O = 1) 8.83
Vapor Pressure (mmHg) N/A	Melting Point 1045 deg. cent. for C5191 Phosphor Bronze
Vapor Density (Air = 1) N/A	Evaporation Rate (Butyl Acetate - 1) N/A
Solubility in Water N/A	
Appearance and Odor Brown - Red (solid) : Odor - None	

Section IV Fire and Explosion Hazard Data

Flash Point (Method Used) N/A	Flammable Limits N/A	LEL N/A	UEL N/A
Extinguishing Media N/A (stable, nonflammable substance)			
Special Fire Fighting Procedures Not specified			
Unusual Fire and Explosion Hazards Metal products do not present fire or explosion hazards under normal conditions.			

MSDS C5191R

17 1/2

Section V Reactivity Data			
Stability	Unstable		Conditions to Avoid
	Stable	X	
Incompatibility (Materials to Avoid)			
Nothing			
Hazardous Decomposition or Byproducts			
Nothing			
Hazardous Polymerization	May Occur		Conditions to Avoid
	Will Not Occur	X	
Section VI Health Hazard Data			
Route(s) of Entry :	Inhalation ?	Skin ?	Ingestion ?
	N/A	N/A	N/A
Health Hazardous (Acute and Chronic)			
	N/A		
Carcinogenicity :	NTP ?	IARC Monographs ?	OSHA Regulated ?
	N/A	N/A	N/A
Signs and Symptoms of Exposure			
	N/A		
Medical Conditions			
Generally Aggravated by Exposure			
	N/A		
Emergency and First Aid Procedures			
	N/A		
Section VII Precautions for Safe Handling and Use			
Steps to Be Taken in Case Material is Released or Spilled			
	N/A		
Where Disposal Method			
	Collect scrap for remelting.		
Precautions to Be Taken in Handling and storing			
<u>For Handling</u>			
<ul style="list-style-type: none"> Put safety gloves on to protect your hands from edges of coils which might cut your hands. Wear safety glasses when metal powders or chips are expected to be generated in the work. Put safety shoes on when handling heavy coils. 			
<u>For Storing</u>			
<ul style="list-style-type: none"> The environment of stocking area should be free from acid, alkali, chloride, sulfide and other corrosive chemicals to prevent from rusting or corrosion. 			
Other Precautions			
	No special requirements.		
Section VIII Control Measures			
Respiratory Protection (Specify Type)			
Wearing a mask be recommended in the work such as abrasion and buffing which generates metal powders or chips.			
Ventilation	Local Exhaust	Special	
	None	None	
	Mechanical (General)	Other	
	None	None	
Protective Gloves			
Put safety gloves on to protect your hands from edges of coils which might cut your hands.			
Eye Protection			
Wear safety glasses when metal powder is expected to be generated in the work.			
Other Protective Clothing or Equipment			
Put safety shoes on when handling heavy coils.			
Work / Hygiene Practices			
	None		
Influence to environments	Fish on toxicity : TLm 48 hr. on CuSO4 Salmonid aenert : 0.038 ~ 0.8 ppm Oryzias Latipes : 2.1 ~ 24ppm		