

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
1	KN30-4S-1.25C	HOUSING	PBT GP1006-FD NP	LG화학
2	KN30-7S-1.25C	HOUSING	PBT GP1006-FD NP	LG화학
3	KN30-7S-1.25C(001)	HOUSING	PBT GP1006-FD EK27	LG화학
4	KN30-10S-1.25C	HOUSING	PBT GP1006-FD EK27	LG화학
5	KN30-5S-1.25C	HOUSING	PBT GP1006-FD EK27	LG화학
6	KN30-2630SCF	PIN	C5210R	풍산

(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 No. F690501/LF-CTSAYAA08-19881

Issued Date: July 09, 2008

Page 1 of 3

To: LG CHEM, LTD.
LG twin tower 23
Yeouido-dong
Yeongdeungpo-gu
SEOUL
Korea

The following merchandise was submitted and identified by the client as :

Product Name : LUPOX GP1006FD-NP
SGS File No. : AYAA08-19881
Received Date : July 03, 2008
Test Performing Date : July 04, 2008
Test Performed : SGS Testing Korea tested the sample(s) selected by applicant with following results
Test Results : For further details, please refer to following page(s)

SGS Testing Korea Co. Ltd.

Jeff Jang / Chemical Lab Mgr

Pluto Kim
Monet Jeong
Billy Oh / Testing Person



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Issued Date: July 09, 2008

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Sample No. : AYAA08-19881.001

Sample Description : LUPOX GP1006FD-NP

Item No./Part No. : N/A

Heavy Metals

Test Items	Unit	Test Method	MDL	Results
Cadmium (Cd)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996), ICP	0.5	N.D.
Lead (Pb)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996), ICP	5	N.D.
Mercury (Hg)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996), ICP	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	US EPA 3060A(1996), US EPA 7196A(1992), UV	1	N.D.

Flame Retardants-PBBs/PBDEs

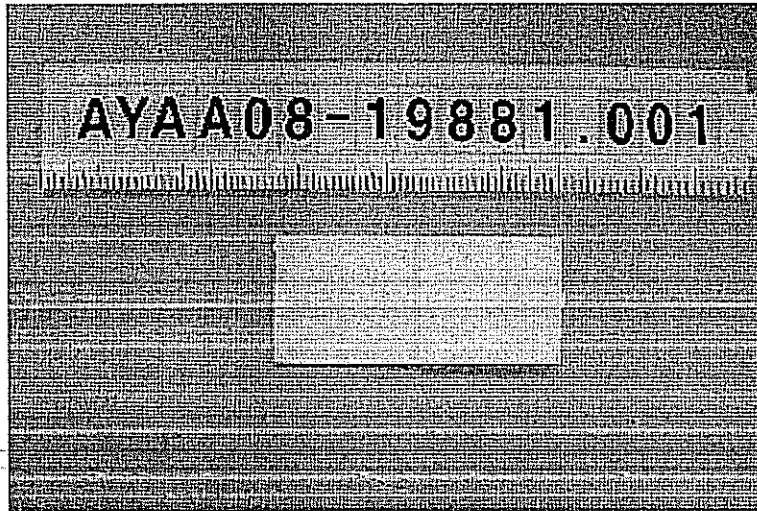
Test Items	Unit	Test Method	MDL	Results
Monobromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Monobromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Dibromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tribromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tetrabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Pentabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Hexabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Heptabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Octabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Nonabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Decabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.

- NOTE:
- (1) N.D. = Not detected (<MDL)
 - (2) mg/kg = ppm
 - (3) MDL = Method Detection Limit
 - (4) - = No regulation
 - (5) ** = Qualitative analysis (No Unit)
 - (6) Negative = Undetectable / Positive = Detectable

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Picture of Sample as Received:

Sample Color : Natural



*** End ***

- NOTE:
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Test Report No. F690501/LF-CTSAYAA08-19879

Issued Date: July 09, 2008

Page 1 of 3

To: LG CHEM, LTD.
LG twin tower 23
Yeouido-dong
Yeongdeungpo-gu
SEOUL
Korea

The following merchandise was submitted and identified by the client as :

Product Name : LUPOX GP1006FD-EK27
SGS File No. : AYAA08-19879
Received Date : July 03, 2008
Test Performing Date : July 04, 2008
Test Performed : SGS Testing Korea tested the sample(s) selected by applicant with following results
Test Results : For further details, please refer to following page(s)

Pluto Kim
Monet Jeong
Billy Oh / Testing Person

SGS Testing Korea Co. Ltd.

Jeff Jang / Chemical Lab Mgr

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**Test Report No. F690501/LF-CTSAYAA08-19879**

Issued Date: July 09, 2008

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Sample No. : AYAA08-19879.001
Sample Description : LUPOX GP1006FD-EK27
Item No./Part No. : N/A

Heavy Metals

Test Items	Unit	Test Method	MDL	Results
Cadmium (Cd)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996), ICP	0.5	N.D.
Lead (Pb)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996), ICP	5	N.D.
Mercury (Hg)	mg/kg	US EPA 3052(1996), US EPA 6010B(1996), ICP	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	US EPA 3060A(1996), US EPA 7196A(1992), UV	1	N.D.

Flame Retardants-PBBs/PBDEs

Test Items	Unit	Test Method	MDL	Results
Monobromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Dibromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tribromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tetrabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Pentabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Hexabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Heptabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Octabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Nonabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Decabromobiphenyl	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Monobromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Dibromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tribromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Tetrabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Pentabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Hexabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Heptabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Octabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Nonabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.
Decabromodiphenyl ether	mg/kg	US EPA 3540C, GC/MS	5	N.D.

- NOTE: (1) N.D. = Not detected (<MDL)
(2) mg/kg = ppm
(3) MDL = Method Detection Limit
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(5) ** = Qualitative analysis (No Unit)
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Picture of Sample as Received:


Sample Color :

Grey



*** End ***

- NOTE:
- (1) N.D. = Not detected.(<MDL)
 - (2) mg/kg = ppm
 - (3) MDL = Method Detection Limit
 - (4) - = No regulation
 - (5) ** = Qualitative analysis (No Unit)
 - (6) Negative = Undetectable / Positive = Detectable

 LG Chemical LG Twin Tower/ East Wing, 20, Yoido-dong, Youngdungpo-gu Seoul 150- 721, Korea Tel : 82-2-3773-7743 Fax : 82-2-3773-7660	M S D S (Material Safety Data Sheet)	Reg. No.	XGP1006FD
		Issue Date	2003.03.03
	PBT Compound	Version	2.0
	LUPOX GP1006FD	Revision Date	2005.09.26
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1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

Product Name : LUPOX GP1006FD
 Product Type : PBT Compound
 Ext. Appearance : Pellet type plastic solid
 Purpose / Use : May be used to produce molded or extruded particles or as a component of other industrial products.
 Manufacture : LG Chemical Ltd. Iksan Plant
 599, Yongjei-dong, Iksan-city, Chunbuk-do, 570-350, Korea
 Tel) 082-063-830-4121, Fax) 082-063-830-4036
 Supplier : LG Chemical Ltd. / 20, Yoido-dong, Yongdungpo-gu, Seoul, 150-721, Korea
 Tel) 082-02-3773-1114, Fax) 082-02-3773-7766, 7111

2. COMPOSITION / INFORMATION ON INGREDIENTS

<u>Chemical Name</u>	<u>Common Name</u>	<u>CAS Number</u>	<u>Content (%)</u>
Polybutylene Terephthalate	PBT	30965-26-5	-
Thermoplastic Polyester Elastomer	Keyflex BT	155123-66-3	-
Brominated Epoxy Resin	Br-Epoxy (Flame retardant)	68928-70-1	-
Antimony Trioxide	SB2O3	1309-64-4	3 ~ 8
Others	Additives	-	-

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4) : HEALTH=1 FIRE=1 REACTIVITY=0

EC CLASSIFICATION (CALCULATED) : No classification assigned.

EMERGENCY OVERVIEWS :

Solid pellets with slight or no odor. Spilled pellets create slipping hazard.

Can burn in a fire creating dense toxic smoke. Molten plastic can cause severe thermal burns.

Fumes produced during melt processing may cause eye, skin and respiratory tract irritation.

Secondary operations, such as grinding, sanding or sawing, can produce dust which may present an explosion or respiratory hazard.

POTENTIAL HEALTH EFFECTS :

EYE : Product may cause irritation or injury due to mechanical action.

SKIN : Pellets not likely to cause skin irritation.

INGESTION : Not acutely toxic.

INHALATION : Pellet inhalation unlikely due to physical form.


CHRONIC / CARCINOGENICITY :

NTP : Not Tested

OSHA : Not Regulated

IARC : Not Listed

Antimony and its compounds were reported as potential carcinogenic substance.

 LG Chemical	PBT Compound	Reg. No.	XGP1006FD
	LUPOX GP1006FD	Version	2.0
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4. FIRST AID MEASURES

MEDICAL RESTRICTIONS :

EYE : Remove contact lenses at once. Immediately flush eyes well with copious quantities of water or normal saline for at least 15-20 minutes. If irritation persists, seek medical attention.

SKIN : seek medical attention if rash or burn occurs.

INGESTION : Not probable. If a large amount is swallowed, seek medical attention.

INHALATION : Not Likely to be inhaled due to physical form.

MELT PROCESSING :

For molten plastic skin contact, cool rapidly flush water and immediately seek medical attention.

Do not attempt removal of plastic without medical assistance. Do not use solvent for removal.

For processing fume inhalation irritation, leave contaminated area and breathe fresh air. If coughing, difficult breathing or any other symptoms develop seek medical attention at once, even if symptoms develop at a later time.

For skin contact with fume condensate, immediately wash thoroughly with soap and water. If irritation develops seek medical attention.

5. FIRE FIGHTING MEASURES

FIRE FIGHTING :

Approved pressure demand breathing apparatus and protective clothing should be used for all fires. Water spray is the preferred extinguishing medium. This product will melt but will not be carried on the surface for water.

EXTINGUISHING MEDIA :

Water spray and foam, Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition.

HAZARDOUS COMBUSTION PRODUCTS :

Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide, oxides of phosphorus, hydrogen cyanide, hydrocarbon fragments, hydrogen fluoride, carbonyl fluoride and fluorocarbon fragments.

FLASH POINT : Not Applicable

LOWER FLAMMABLE LIMIT : Not Established

UPPER FLAMMABLE LIMIT : Not Established


AUTOIGNITION : Not Established

FLAMMABILITY CONDITIONS : Requires a continuous flame source to ignite and sustain combustion.

EXPLOSION DATA : Not Established

IMPACT SENSITIVITY : Not sensitive to mechanical impact.

STATIC DISCHARGE : Not sensitive to static discharge. (See Section 7)

 LG Chemical	PBT Compound LUPOX GP1006FD	Reg. No.	XGP1006FD
		Version	2.0
		Page	3 / 5

6. ACCIDENTAL RELEASE MEASURES

GENERAL :

Sweep or gather up material and place in proper container for disposal or recovery. (See Section 13)

7. HANDLING AND STORAGE

HANDLING :

Follow recommendations on label and in processing guide. Prevent contact with skin and eyes. Use good industrial hygiene practices. Provide adequate ventilation. Secondary operations such as grinding, sanding or sawing may produce a dust explosion hazard. Use aggressive housekeeping activities to prevent dust accumulation; employ bonding, grounding, venting and explosion relief provisions in accordance with accepted engineering practices.

STORAGE :

Store in a dry place away from moisture, excessive heat and sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

ENGINEERING CONTROLS :

A continuous supply of fresh air to the workplace together with removal of processing fumes through exhaust systems is recommended. Processing fume condensate may be a fire hazard and toxic; remove periodically from exhaust hoods, duct work and other surfaces using appropriate personal protection. For powders and residual dusts refer to Section 7.


PERSONAL PROTECTION :

EYE/FACE : Wear safety glasses with side shields or chemical goggles. In addition, use full face shield when cleaning processing fume condensates from hoods, ducts and other surfaces.

RESPIRATORY : When handling fumes are not adequately controlled, use respirator approved for protection from organic vapors and acid gases. When dust or powder from secondary operations, such as grinding, sanding or sawing, are not adequately controlled use respirator approved for protection from dust.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE : Solid
COLOR AND APPEARANCE : Plastic pellet with slight odor
BOILING POINT : Not Applicable
MELTING POINT () : 220 ~ 230
VAPOR PRESSURE (mmHg) : Negligible
VAPOR DENSITY (Air=1) : Not Applicable
SPECIFIC GRAVITY : 1.35 ~ 1.45
WATER SOLUBILITY : Insoluble

 LG Chemical	PBT Compound LUPOX GP1006FD	Reg. No.	XGP1006FD
		Version	2.0
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9. PHYSICAL AND CHEMICAL PROPERTIES *(continued)*

SOLVENT SOLUBILITY : Slightly soluble in strong polar solvent or chlorinated solvents
 % VOLATILES : Negligible
 pH : Not Applicable
 ODOR THRESHOLD : Not Established
 EVAPORATION RATE : Negligible
 COEFFICIENT WATER / OIL DISTRIBUTION : Not Established
 COMMENT : This product does not exhibit a sharp melting point, but softens gradually over a wide temperature range.

10. STABILITY AND REACTIVITY

STABILITY : Stable under recommended conditions of Section 7
REACTIVITY : Not reactive under recommended conditions of handling, storage, processing and use.
CONDITIONS TO AVOID :
 Do not exceed melt temperature recommendations in product literature.
 In order to avoid autoignition/hazardous decomposition of hot thick masses of plastic, purgings should be collected in small, flat shapes or thin strands to allow for rapid cooling and quenching in water.
 Do not allow product to remain in barrel at elevated temperatures for extended periods of time ;
 purge with a general purpose resin. (See Section 8 for respiratory protection advice)
HAZARDOUS DECOMPOSITION :
 Major decomposition gases are oxidized hydrocarbons (probably carbon monoxide) and steam.
 Minor components in decomposition gas may be phenolic compounds, hydrogen bromide, THF, etc.

11. TOXICOLOGICAL INFORMATION

Not Available

12. ECOLOGICAL INFORMATION

Not expected to present any significant ecological problems.

13. DISPOSAL CONSIDERATIONS

RCRA HAZARDOUS WASTE :
 Products is not a RCRA hazardous waste.
WASTE DISPOSAL :
 Recycling is encouraged. Landfill or incinerate in accordance with federal, state and local requirements. Collected processing fume condensates and incinerator ash should be tested to determine waste classification.

 LG Chemical	PBT Compound LUPOX GP1006FD	Reg. No.	XGP1006FD
		Version	2.0
		Page	5 / 5

14. TRANSPORT INFORMATION

DOT HAZARD CLASS : Not Regulated
 PROPER SHIPPING NAME : Not Regulated
 IDENTIFICATION NUMBER : Not Listed
 TDGA : Not Listed

15. REGULATORY INFORMATION

Listed below are chemical substances subject to supplier notification requirements.

U.S. REGULATIONS :

TSCA INVENTORY STATUS : This product complies with the Chemical Substance Inventory requirements of the US EPA TSCA.

CERCLA SECTION 103 (40CFR302 : Not Listed

SARA SECTION 313 (40CFR372.65: Not Listed

SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21)

ACUTE : Not Listed

CHRONIC : Not Listed

FIRE : Not Listed

REACTIVE : Not Listed

SUDDEN RELEASE : Not Listed

STATE REGULATIONS :

California Proposition 65 : Not Listed

EUROPEAN REGULATIONS :

EC NUMBER : Not assigned

16. OTHER INFORMATION

The information submitted in this MSDS is based on our current knowledge and experience.

Because it is not possible to anticipate all conditions of use additional safety precautions may be required, we make no warranty.

ABBREVIATIONS :

ACGIH : American Conference of Governmental Industrial Hygienist

DOT : Department of Transportation

EC : European Communities

EPA : Environmental Protection Agency

IARC : International Agency for Research on Cancer

NOISH : National Institute for Occupational Safety and Health

NTP : National Toxicology Program

OSHA : Occupational Safety and Health Administration

RTECS : Registry of Toxic Effects of Chemical Substances

CAS # : Chemical Abstracts Service Number

RCRA : Resource Conservation and Recovery Act



Test Report No. F690501/LF-CTSAYAU08-09731C

Issued Date: December 02, 2008 Page 2 of 3

Sample No. : AYAU08-09731C.001

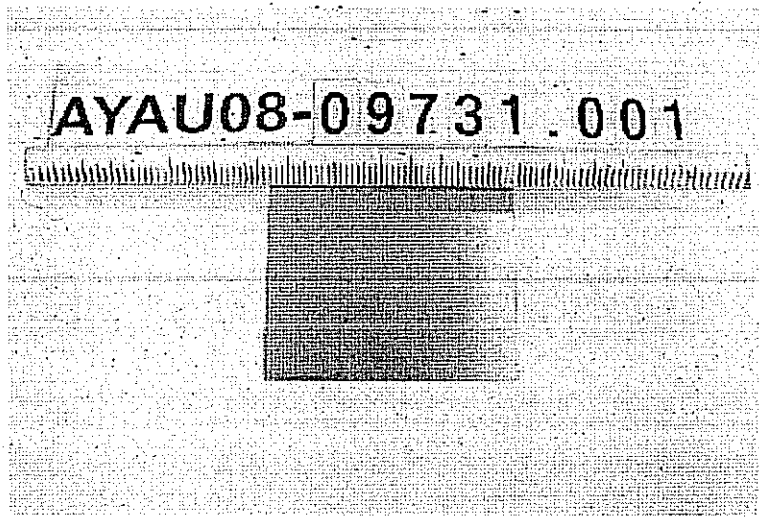
Sample Description : C5210

Item No./Part No. : PBS

Heavy Metals

Test Items	Unit	Test Method	MDL	Results
Cadmium (Cd), IEC 62321	mg/kg	With reference to IEC 62321 Ed.1, ICP-OES	1	N.D.
Lead (Pb), IEC 62321	mg/kg	With reference to IEC 62321 Ed.1, ICP-OES	5	40.0
Mercury (Hg), IEC 62321	mg/kg	With reference to IEC 62321 Ed.1, ICP-OES	2	N.D.
Hexavalent Chromium (Cr VI) By boiling water extraction	**	With reference to IEC 62321 Ed.1	-	Negative

Picture of Sample as Received:



- NOTE:
- (1) N.D. = Not detected.(<MDL)
 - (2) mg/kg = ppm
 - (3) MDL = Method Detection Limit
 - (4) - = No regulation
 - (5) ** = Qualitative analysis (No Unit)
 - (6) Negative = Undetectable / Positive = Detectable

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SGS S.p.A. Via S. Felice 100 - 20138 Milano - Italy
Tel: +39 02 509 9991 Fax: +39 02 509 9992 Email: sgs@sgs.com Web: www.sgs.com

POONGSAN

주식회사 풍산 온산공장

물질안전보건자료

(Material Safety Data Sheet)

물질명:인청동대(Phosphor bronze)	Page
Cas No :	1/3
발행일자	2006.4.17
개정일자	2007.9.3

1. 제품 및 제조회사 정보

- ① 물질명 : 인청동대 (Phosphor bronze Strip C5102R,C5191R,C5212R,C5210R)
- ② 용도 : 전기부품 외
- ③ 유해성분류 (노동부고시기준) : 자료없음
- ④ 화학적 일반 특성 : 고체
- ⑤ 제조자 주소 / 정보 : (주)풍산 온산공장
주소 : 울산광역시 울주군 온산읍 대정리 611번지
- ⑥ 공급자 주소 / 정보 : (주)풍산
주소 : 서울특별시 중구 충무로 3가 60-1

2. 구성성분 명칭 및 조성

명칭	이명	CAS No	함유량(%)
① Copper	Cu	7440 - 50 - 8	90.8%-96.5%
② Tin	Sn	7440 - 31 - 5	3.5-9.0%
③ Phosphorus	P	7723 - 14 - 0	0.03-0.2%

3. 위험유해성

- ① 유해성분류
CERCLA 지수 : 보건=(0) 화재=(3) 폭발=(1)
- ② 급성영향 : 금속열, 설사, 복통, 현기증, 신경손상, 쇼크, 구토증상, 피부염을 유발할 수 있음
- ③ 만성영향 : 급성영향과 동일하며 탈모, 두통, 폐질환을 병행할 수 있음
- ④ 인체침입경로 : 호흡기, 소화기

4. 응급조치요령

- ① 피부 : 오염된 의복과 신을 벗긴 후 다량의 물로 씻을 것
- ② 눈 : 다량의 물로 씻을 것
- ③ 흡입 : 신선한 공기가 있는 곳으로 옮긴 후 필요에 따라 인공호흡을 시킬 것
- ④ 섭취 : 구토를 하면 흡입을 위해 기도를 확보하고 식염수로 위세척을 할 것
- ⑤ 의사정보 : 즉시 의학적인 조치를 받을 것

5. 화재 및 폭발시 대처방법

- ① 인화점/발화점 : 자료없음
- ② 폭발 : 용융된 상태의 경우 물과 격렬히 반응할 수 있음.
- ③ 소화제 종류 : 분말소화제, 소다 회, 석회 또는 모래를 사용할 것
- ④ 진화방법 : 타는 물질에 물을 뿌리지 말고 모래등을 사용할 것
- ⑤ 유해연소생성물 : 자료없음

6. 누출사고시 대처방법

- ① 개인 보호 조치 : 유출된 물질을 만지지 말고 감독자의 지시를 따를 것
- ② 환경 보호 조치 : 누출된 물질을 회수하여 분리수거 후 재활용할 것
- ③ 사고 후 조치 : 전문가의 지시에 따라 조치할 것

7. 노출 방지 및 개인 보호구

- ① 허용농도
TWA : 10mg / m³ (총분진으로 OSHA 기준)
- ② 공학적인 조치 : 방폭구조로 된 국소 배기장치 및 전체 환기장치를 설치할 것
- ③ 개인보호구 : 보안경, 보호의, 보호장갑, 방진마스크, 기타

8. 취급 및 저장방법

- ① 취급시 주의사항 : 산, 할로겐 화합물, 탄화수소와 격리할 것
용융액에 물유입시 폭발가능성 있음
동분취급 작업시 방진 마스크, 보안경, 보호의 착용
- ② 저장시 주의사항 : 수분방지 대책이 된 건조하고 환기가 잘되는 곳에 보관할 것

9. 안전성 및 반응성

- ① 안정성 : 상온상압에서 안정함
- ② 반응성 : 산 또는 물과 반응하여 인화성이 강한 수소를 발생함
- ③ 피해야 할 조건 : 화합물질과의 혼합(합성)시에는 전문가의 지시를 따를 것
- ④ 피해야 할 물질 : 화학반응시 급격한 분해 또는 폭발가능성 있음

10. 물리 화학적 특성

- ① 외관 : 고체
- ② 냄새 : 무취
- ③ PH : 적용안됨
- ④ 용해도 : 적용안됨
- ⑤ 비점 : 자료없음
- ⑥ 융점 : 1,020℃
- ⑦ 폭발성 : 자료없음
- ⑧ 산화성 : 자료없음
- ⑨ 비중 : 8.80
- ⑩ 증기압 : 적용안됨

11. 독성에 관한 정보

- ① LD50 : 자료없음
- ② LC50 : 자료없음
- ③ 발암성 : 없음

12. 환경에 미치는 영향

- ① 수생 및 생태독성 : 자료없음
- ② 토양이동성 : 자료없음
- ③ 잔류성 및 분해성 : 자료없음
- ④ 동생물의 생체내 축적 가능성 : 자료없음

13. 폐기 시 주의사항

- ① 폐기물관리법상 규제현황 : 미규정
- ② 폐기방법 : 관련규정을 준수하여 폐기할 것
- ③ 폐기 시 주의사항 : 특이사항 없음

14. 운송에 필요한 정보

- ① 선박안전법 위험물선박운송 및 저장규칙에 의한 분류 및 규제 : 자료없음
- ② 운송 시 주의사항 : 자료없음
- ③ 기타 외국의 운송관련 규정에 의한 분류 및 규제 : 자료없음

15. 관련법규에 관한 정보

- ① 산업안전 보건법 : MSDS 작성대상 물질
- ② 환경관리법 : 해당없음
- ③ 소방법 : 해당없음

16. 기타 참고사항

- ① 관련 근거 : 산업안전보건법 제41조 [물질안전보건자료의 작성, 비치 등]
- ② 참고 자료 : 화학물질 및 물리적인자의 노출기준 (노동부 고시 제97-65호)

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