



NO					
				ICP DATA	MSDS
1	HIF3BA - **PA - 2.54DSA	MOLD	1550GN30	1	2
		PIN	C2680	2	3
2	HIF3BA - **DA - 2.54R	CASE PROTECTOR	1550GN30	1	2
		PIN	C5210	4	5



SGS Testing Korea Co., Ltd.

#18-34, Sanbon-dong, Gunpo-city, Kyunggi-do, Korea 435-040
Tel : 031) 428-5765~6, Fax: 031) 427-2374, InterNet>http://www.sgslab.co.kr

Test Report

No. F690101/LF-CTS014091

Date : March 10, 2004

Page 1 of 2

SAMYANG CORP
407, Palbok-dong, 3-Ka, Jeonju-city
Cheonbuk, Korea

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

Type of Product : Tribit 1550GN30 BK (H)
SGS File No. : G-49/2004-2156/4
Country of Origin : Korea
Sample Receiving Date : Mar. 02, 2004
Test Performing Date : Mar. 03, 2004
Test Performed : SGS Testing Korea tested the sample which was selected by applicant with following result.
Test Results : For further details, please refer to following page.

SGS Testing Korea Co., Ltd.

Jason Han / Lab. Manager

KHJ/ykj

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Test Report

No. F690101/LF-CTS014091

Date : March 10, 2004

Page 2 of 2

Heavy Metal Test

Items	Unit	Test Method	DL	Results
Cadmium (Cd)	mg/kg	USEPA 3050B, ICP-AES	0.5	n. d.
Lead (Pb)	mg/kg	USEPA 3050B, ICP-AES	5	n. d.
Mercury (Hg)	mg/kg	USEPA 3052, ICP-AES	0.5	n. d.
Hexavalent Chromium (Cr VI)	mg/kg	USEPA 3060A	0.16	n. d.

Note (1) n. d. = Not detected
(2) D. L = Detection Limit

***** End *****

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Tel : 031) 428-5765~6, Fax: 031) 427-2374, InterNet><http://www.sgslab.co.kr>

Test Report

No. F690101/LF-CTS030807

Date : October 6, 2004

Page 1 of 2

SAMYANG CORP.
407, 3-ka, Palbok-dong, Joenju-city,
Kyunggi-do, Korea

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

Type of Product : TRIBIT 1550GN30 BK(H)

SGS File No. : G-49/2004-3491/12

Materials : Plastic

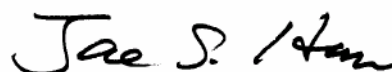
Sample Receiving Date : Sep. 23, 2004

Test Performing Date : Sep. 24, 2004

Test Performed : SGS Testing Korea tested the sample which was selected by applicant with following result.

Test Results : For further details, please refer to following page.

SGS Testing Korea Co., Ltd.



Jason Han / Director

HYK/hjp

SGS Testing Korea Co., Ltd.

#18-34, Sanbon-dong, Gunpo-city, Kyunggi-do, Korea 435-040
Tel : 031) 428-5765~6, Fax: 031) 427-2374, InterNet>http://www.sgslab.co.kr

Test Report

No. F690101/LF-CTS030807

Date : October 6, 2004

Page 2 of 2

Flame Retardants

Items	Unit	Test Method	D.L.	Results
Polybrominated Biphenyls (PBBs)	-	-	-	-
Bromobiphenyl	mg/kg	With reference to 83/264/EEC and 2003/11/EEC. Analysis was performed by GC/MS.	5	n. d.
Dibromobiphenyl	mg/kg		5	n. d.
Tribromobiphenyl	mg/kg		5	n. d.
Tetrabromobiphenyl	mg/kg		5	n. d.
Pentabromobiphenyl	mg/kg		5	n. d.
Hexabromobiphenyl	mg/kg		5	n. d.
Heptabromobiphenyl	mg/kg		5	n. d.
Octabromobiphenyl	mg/kg		5	n. d.
Decabromobiphenyl	mg/kg		5	n. d.
Polybrominated Diphenyl Ethers (PBDEs)	-	-	-	-
Bromodiphenyl ether	mg/kg	With reference to 83/264/EEC and 2003/11/EEC. Analysis was performed by GC/MS.	5	n. d.
Dibromodiphenyl ether	mg/kg		5	n. d.
Tribromodiphenyl ether	mg/kg		5	n. d.
Tetrabromodiphenyl ether	mg/kg		5	n. d.
Pentabromodiphenyl ether	mg/kg		5	n. d.
Hexabromodiphenyl ether	mg/kg		5	n. d.
Heptabromodiphenyl ether	mg/kg		5	n. d.
Octabromodiphenyl ether	mg/kg		5	n. d.
Nonabromodiphenyl ether	mg/kg		5	n. d.
Decabromodiphenyl ether	mg/kg		5	n. d.

Note (1) n. d. = Not detected
(2) D. L = Detection Limit

***** End *****

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MATERIAL SAFETY DATA SHEET

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

PRODUCT NAME **TRIBIT 1550GN30 ALL COLOR**
SUPPLIER **Sam Yang Co., Ltd.**
263 Yeonji-Dong, Chongro-Gu, Seoul, Korea.

2. COMPOSITION/INFORMATION ON INGREDIENTS

GENERAL DESCRIPTION OF CHEMICAL CHARACTER

Polybuthylene Terephthalate containing glassfiber and flame retardant.

HAZARDOUS INGREDIENTS

Not applicable

Do not have heavy metals, especially Pb,cd,Hg,Cr6+.

CAS NO HAZARD RISK PHRASES SYMBOL

Polybuthylene Terephthalate : 26062-94-2

Flame retardant : 68928-70-1 , 1309-64-4

Glass fiber : 65997-17-3

3. HAZARDOUS IDENTIFICATION

Hazard warning not required

4. FIRST AID MEASURES

EYES Flush eyes with plenty of water and seek medical device

SKIN Wash off in flowing water

INGESTION Immediately seek medical device

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray, extinguishing powder, CO₂, foam, dry powder.

UNUSUAL FIRE AND EXPLOSION HAZARD

No unusual fire and explosion hazardous.

PROTECTIVE EQUIPMENT

Pressure demand self-contained breathing apparatus in without sufficient oxygen

PRODUCT NAME : TRIBIT 1550GN30 ALL COLOR

6. ACCIDENTAL RELEASE MEASURES

- Non hazardous solid in pellet form which can be easily controlled in case of a spill
- Disposal must in accordance with applicable federal, state or local regulations.

7. HANDLING AND STORAGE

HANDLING

Ensure adequate ventilation or exhaust ventilation in the working area.
Protective eyewear, gloves and so on should be worn not to get a burn

STORAGE Idem

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

No special measures required.

9. PHYSICAL AND CHEMICAL PROPERTIES

Forms	Solid (cylindrical pellet)
Color	ALL
Odour	practically odorless
PH	Not applicable
Boiling point (deg)	Not applicable
Melting point (deg)	224
Flammability	V-0 (UL94)
Solubility in water	insoluble
Specific gravity	1.51
Viscosity	Not applicable
Bulk density	
Decomposition temperature	

10. STABILITY AND REACTIVITY

STABILITY Stable

INCOMPATIBILITY , HAZARDOUS DECOMPOSITION PRODUCTS

Caused by smouldering and incomplete combustion toxic fumes mainly consisting of Co, CO₂ may be developed. formation of traces of aliphatic THF, 1,3-Butadiene, Toluene, Benzoic acid, terephthalic acid may occur.

PRODUCT NAME : TRIBIT 1550GN30 ALL COLOR

11. TOXICOLOGICAL INFORMATION

Under recommened processing conditions small amounts of water, CO₂, THF may be emitted.

12. ECOLOGICAL INFORMATION

Water pollution not generally hazardous to water.

13. DISPOSAL CONSIDERATION

May be disposed of together with household refuse if local official regulations are observed. May be incinerated if local regulations are observed.

14. TRANSPORT INFORMATION

Not dangerous cargo. keep dry.

15. REGULATORY INFORMATION

No labelling is required.

16. OTHER INFORMATION

This material safety data sheet includes TRIBIT 1550GN30 ALL COLOR.

The product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with legal regulations. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.

Test Report

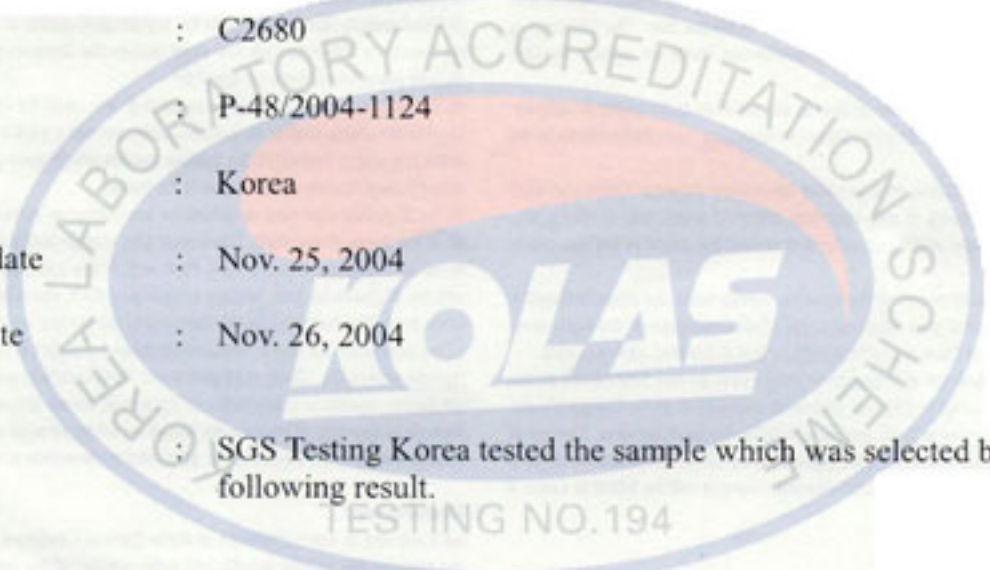
No. F690101/LF-CTS019841

Date : December 3, 2004

Page 1 of 2

POONGSAN CORPORATION
611, Daejung-ri, Onsan-up, Ulju-gun,
Ulsan, Korea**The following merchandise was submitted and identified by the client as : -**

Type of Product : C2680
SGS File No. : P-48/2004-1124
Country of Origin : Korea
Sample receiving date : Nov. 25, 2004
Test performing date : Nov. 26, 2004
Test Performed : SGS Testing Korea tested the sample which was selected by applicant with following result.
Test results : For further details, please refer to following page.

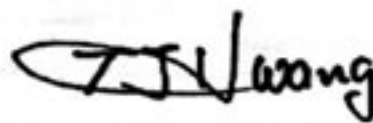
A large, semi-transparent circular logo for KOLAS (Korea Laboratory Accreditation Scheme) is centered in the background. It features the text 'KOLAS' in large, bold, blue letters, with 'KOREA LABORATORY ACCREDITATION SCHEME' around the perimeter. Below 'KOLAS' is 'TESTING NO.194'.

This laboratory is accredited by Korea Laboratory Accreditation Scheme (KOLAS) which is signatory to the International Laboratory Accreditation Cooperation (ILAC). Mutual Recognition Arrangement (MRA) for the above test item(s).



Sharpless Park / Testing Person

SGS Testing Korea Co., Ltd.



Thomas Hwang / Lab. Manager

Test Report

No. F690101/LF-CTS019841

Date : December 3, 2004

Page 2 of 2

Heavy Metal

Item(s)	Unit	Test Method	Detection Limit	Result
Cadmium (Cd)	mg/kg	USEPA 3050B:1996, ICP-AES	0.5	n. d.
Lead (Pb)	mg/kg	USEPA 3050B:1996, ICP-AES	5	30
Mercury (Hg)	mg/kg	USEPA 3052:1996, ICP-AES	2	n. d.
Hexavalent Chromium (Cr VI)	mg/kg	USEPA 3060A:1996, UV-Vis	0.16	n. d.

Heavy Metal Test (Test Method: EN 71 Part III:1994)

Item(s)	Detection Limit	Result(s)	Specified Max. Limit (Unit : mg/kg)	Conclusion
Soluble Lead (Pb)	3.5	n. d.	90	Pass
Soluble Antimony (Sb)	4.0	n. d.	60	Pass
Soluble Arsenic (As)	2.0	n. d.	25	Pass
Soluble Barium (Ba)	0.35	0.4	1000	Pass
Soluble Cadmium (Cd)	0.35	n. d.	75	Pass
Soluble Chromium (Cr)	0.7	n. d.	60	Pass
Soluble Mercury (Hg)	2.5	n. d.	60	Pass
Soluble Selenium (Se)	8.0	n. d.	500	Pass

Note : n. d. = not detected

***** END *****

1. 제품 및 제조회사 정보

- ① 물질명 : 황동 대, 봉, 선 (C2600, C2680, C2700, C2800 Brass Strip, Bar, Wire)
- ② 용도 : 전기부품 외
- ③ 유해성분류 (노동부고시기준) : 자료없음
- ④ 화학적 일반 특성 : 고체
- ⑤ 제조자 주소 / 정보 : (주)풍산 온산공장
주소 : 울산광역시 울주군 온산을 대정리 611번지
- ⑥ 공급자 주소 / 정보 : (주)풍산
주소 : 서울특별시 중구 충무로 3가 60-1

2. 구성성분 명칭 및 조성

명 칭	이 명	CAS No	함유량(%)
① Copper	Cu	7440 - 50 - 8	61.0 ~ 70.5%
② Zinc	Zn	7440 - 66 - 6	39.0 ~ 29.5%

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 (충분진으로 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

③ PH : 적용안됨

⑤ 비점 : 자료없음

⑦ 폭발성 : 자료없음

⑨ 비중 : 8.50

② 냄새 : 무취

④ 용해도 : 적용안됨

⑥ 융점 : 900℃

⑧ 산화성 : 자료없음

⑩ 증기압 : 적용안됨

11. 구성성분 명칭 및 조성

① LD50 : 자료없음

② LC50 : 자료없음

③ 발암성 : 없음

12. 관련법규에 관한 정보

① 산업안전 보건법 : MSDS 작성대상 물질

② 환경관리법 : 해당없음

③ 소방법 : 해당없음

Test Report

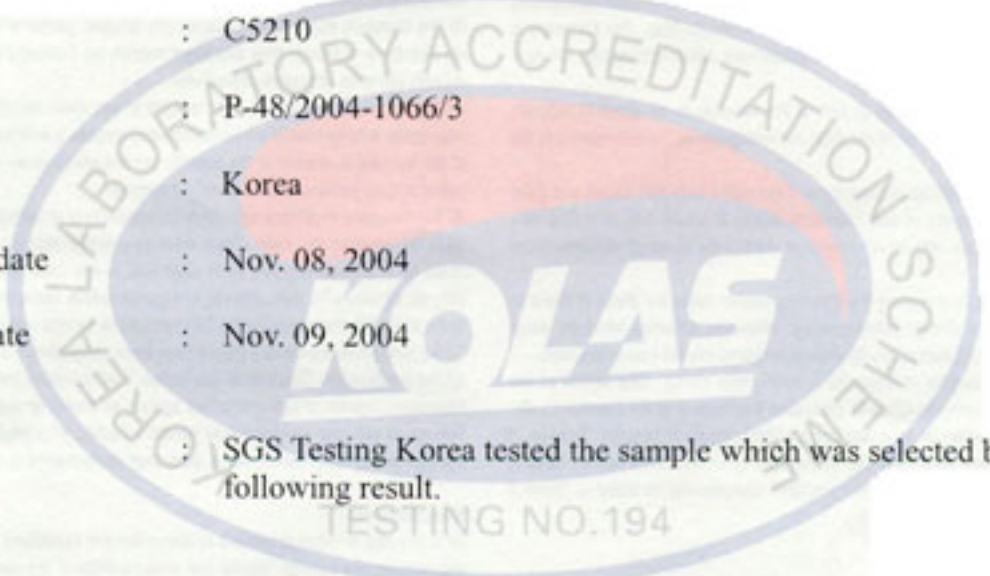
No. F690101/LF-CTS019570

Date : November 16, 2004

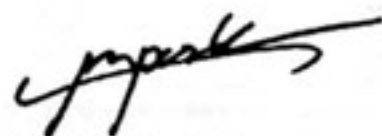
Page 1 of 2

POONGSAN CORPORATION
611, Daejung-ri, Onsan-up, Ulju-gun,
Ulsan, Korea**The following merchandise was submitted and identified by the client as :**

Type of Product : C5210
SGS File No. : P-48/2004-1066/3
Country of Origin : Korea
Sample receiving date : Nov. 08, 2004
Test performing date : Nov. 09, 2004
Test Performed : SGS Testing Korea tested the sample which was selected by applicant with following result.
Test results : For further details, please refer to following page

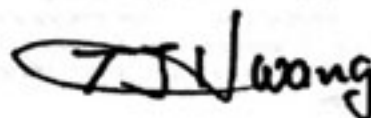
A large, semi-transparent circular logo for the Korea Laboratory Accreditation Scheme (KOLAS) is centered in the background. It features the text 'KOREA LABORATORY ACCREDITATION SCHEME' around the perimeter and 'KOLAS' in large, bold letters in the center. Below 'KOLAS' is the text 'TESTING NO.194'.

This laboratory is accredited by Korea Laboratory Accreditation Scheme (KOLAS) which is signatory to the International Laboratory Accreditation Cooperation (ILAC). Mutual Recognition Arrangement (MRA) for the above test item(s).



Sharpless Park / Testing Person

SGS Testing Korea Co., Ltd.



Thomas Hwang / Lab. Manager

Test Report

No. F690101/LF-CTS019570

Date : November 16, 2004

Page 2 of 2

Heavy Metal

Item(s)	Unit	Test Method	Detection Limit	Result
Cadmium (Cd)	mg/kg	USEPA 3050B:1996, ICP-AES	1	n. d.
Lead (Pb)	mg/kg	USEPA 3050B:1996, ICP-AES	5	30
Mercury (Hg)	mg/kg	USEPA 3052:1996, ICP-AES	2	n. d.
Hexavalent Chromium (Cr VI)	mg/kg	USEPA 3060A:1996, UV-Vis	0.16	n. d.

Heavy Metal Test (Test Method: EN 71 Part III:1994)

Item(s)	Detection Limit	Result(s)	Specified Max. Limit (Unit : mg/kg)	Conclusion
Soluble Lead (Pb)	3.5	n. d.	90	Pass
Soluble Antimony (Sb)	4.0	n. d.	60	Pass
Soluble Arsenic (As)	2.0	n. d.	25	Pass
Soluble Barium (Ba)	0.35	1.7	1000	Pass
Soluble Cadmium (Cd)	0.35	n. d.	75	Pass
Soluble Chromium (Cr)	0.7	n. d.	60	Pass
Soluble Mercury (Hg)	2.5	n. d.	60	Pass
Soluble Selenium (Se)	8.0	n. d.	500	Pass

Note n. d. = not detected

***** END *****

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

11. 구성성분 명칭 및 조성

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

12. 관련법규에 관한 정보

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