

2009年 02月 09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	PCN10-96S-2.54DSA	MOLD	PBT 1500GN30	삼양사	
		PIN	C5191R	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-CTSAYAA08-14504

**Issued Date:** May 21, 2008

**Page** 1 of 2

**To:** SAMYANG CORP.  
407- 3ga, Palbok-dong  
Deokjin-gu  
Jeongju-city  
JEONBUK 561-203  
Korea

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

**Product Name** : 1500GN30 GY  
**SGS File No.** : AYAA08-14504  
**Received Date** : May 15, 2008  
**Test Performing Date** : May 16, 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-CTSAYAA08-14504

Issued Date: May 21, 2008

Page 2 of 2

Sample No. : AYAA08-14504.001

Sample Description : 1500GN30 GY

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.

Picture of Sample as Received:

Sample Color : Gray



\*\*\* 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

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**Test Report No.** F690501/LF-CTSAYAA08-13131B

**Issued Date:** May 08, 2008

**Page 1 of 3**

**To:** SAMYANG CORP.  
407- 3ga, Palbok-dong  
Deokjin-gu  
Jeongju-city  
JEONBUK 561-203  
Korea

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

**Product Name** : 1500GN30 GY  
**SGS File No.** : AYAA08-13131B  
**Received Date** : April 30, 2008  
**Test Performing Date** : May 01, 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)  
**Comments** : This Report supersedes the Report No.F690501/LF-CTSAYAA08-13131 dated May 08,2008 issued by SGS Testing Korea Co.,Ltd. This report was separated from AYAA08-13131 by client's request.

SGS Testing Korea Co. Ltd.

Pluto Kim  
Monet Jeong  
Billy Oh / Testing Person

Jeff Jang / Chemical Lab Mgr

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Test Report No. F690501/LF-CTSAYAA08-13131B

Issued Date: May 08, 2008

Page 2 of 3

Sample No. : AYAA08-13131B.001

Sample Description : 1500GN30 GY

Item No./Part No. : N/A

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.

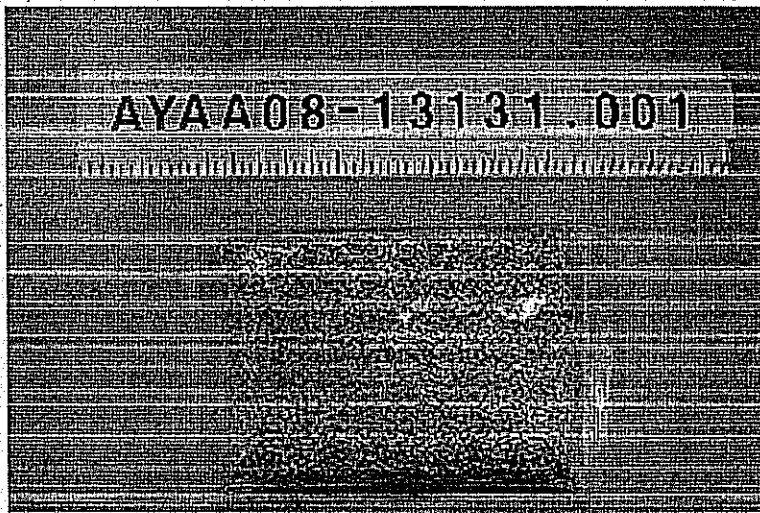
- NOTE:
- (1) N.D. = Not detected. (<MDL)
  - (2) mg/kg = ppm
  - (3) MDL = Method Detection Limit
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Picture of Sample as Received:

Sample Color :

Gray



\*\*\* End \*\*\*

- 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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# MATERIAL SAFETY DATA SHEET

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING(제품 및 제조회사)

**PRODUCT NAME(제품명)** TRIBIT 1500GN30 모든 칼라  
**SUPPLIER(제조회사)** 주식회사 삼양사.  
서울특별시 종로구 연지동 263번지.

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

### GENERAL DESCRIPTION OF CHEMICAL CHARACTER(재료의 성분,화학적특성)

유리섬유 와 난연제 를 함유한 Polybuthylene Terephthalate

**HAZARDOUS INGREDIENTS(위험성분)** Pb,cd,Hg,cr+6의 중금속을 함유하지않음.

### CAS NO HAZARD RISK PHRASES SYMBOL

Polybuthylene Terephthalate	26062-94-2
GLASS FIBER	65997-17-3
FLAME RETARDANT	68928-70-1
ANTIMONY TRIOXIDE	1309-64-4

## 3. HAZARDOUS IDENTIFICATION(위험물)

위험스럽지 않음

## 4. FIRST AID MEASURES(응급조치)

**EYES(눈)** 본제품이 눈에 들어가면 물로 씻어내거나 의사에게 진료를 받는다  
**SKIN(피부)** 물로 씻어낸다  
**INGESTION(섭취)** 즉시 의사의 진료를 받는다

## 5. FIRE FIGHTING MEASURES(화재시 응급조치)

### EXTINGUISHING MEDIA (소화물)

물, 소화기, 이산화탄소, FOAM, 모래, 흙등을 뿌린다

### UNUSUAL FIRE AND EXPLOSION HAZARD(폭발위험)

갑작스런 화재나 폭발의 위험은 없음.

### PROTECTIVE EQUIPMENT(보호장비)

환기가 잘되지 않는 곳에서는 숨을 쉴 수 있는 장비를 준비한다

# PRODUCT NAME : TRIBIT 1500GN30 ALL COLOR

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## 6. ACCIDENTAL RELEASE MEASURES(폐기시 조치사항)

- 폐기물 처리시 생물에 거의 무해함
  - 폐기물 처리시 해당관청의 규정에 따라 처리한다
- 

## 7. HANDLING AND STORAGE(취급 및 저장)

### HANDLING(취급)

작업장에 적절한 환기, 통풍이 되도록 한다.

건조 및 작업시 적절한 배기가 이루어지는 곳에서 작업을 하며 작업시 보호장갑,보호안경, 보호의 등을 착용하여 화상에 주의해야 한다.

### STORAGE(저장)

환기, 통풍이 잘되는 곳에 보관한다

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION(취급 시 보호구)

특별한 장비가 요구되지 않는다

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES(물리 화학적 성질)

Forms(형태)	고체상, 원통모양의 PELLET
Color(색상)	모든 칼라
Odour(냄새)	무취
PH(산성도)	알려지지 않음
Boiling point (°C)(비등점)	알려지지 않음
Melting point (°C)(녹는점)	224
Flammability(난연성)	V-0 (UL94)
Solubility in water(용해성)	녹지않음
Specific gravity(비중)	1.59
Viscosity(점성)	
Bulk density	
Decomposition temperature(분해온도)	

---

## 10 STABILITY AND REACTIVITY(안정 및 반응성)

**STABILITY(안정)** 안정하다

**INCOMPATIBILITY(비상용성)** 알칼리에 가수분해 된다

### HAZARDOUS DECOMPOSITION PRODUCTS(유해분해물질)

Aliphatic THF생성시 1,3-butadiene,Toluene, Benzoic acid, terephthalic acid가 생성될 수도있다.  
불완전 연소시 일산화탄소,이산화탄소를 포함한 독성연기가 난다.

---



# PRODUCT NAME : TRIBIT 1500GN30 ALL COLOR

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## 11. TOXICOLOGICAL INFORMATION(유해물)

통상 성형조건에서 소량의 물, 이산화탄소, THF가 방출 될 수 있다.

---

## 12. ECOLOGICAL INFORMATION(환경적 영향)

Water pollution(수질오염)                      일반적으로 물을 오염시키지 않는다

---

## 13. DISPOSAL CONSIDERATION(폐기시 고려할 사항)

관할 관청의 허가시 가정쓰레기와 함께 폐기하거나 소각해도 된다

---

## 14. TRANSPORT INFORMATION(운반시 주의사항)

위험물이 아니므로 특별히 주의를 요하지 않고, 건조하고, 통풍이 잘되게 하여 운반한다

---

## 15. REGULATORY INFORMATION(법규표기)

식별표기가 필요하지 않다

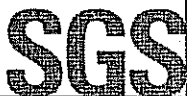
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## 16. OTHER INFORMATION(기타)

본 MATERIAL SAFETY DATA SHEET는 TRIBIT 1500GN30 GRADE의 모든 칼라를 포함한다.

---

이상의 정보는 Polybutylene Terephthalate의 일반적인 참고자료이므로 사용자의 사용처의 환경과 상황에 맞도록 보완하여야 한다



**Test Report No.** F690501/LF-CTSAYAU08-07616R1 **Issued Date:** May 02, 2008 **Page 1 of 2**

**To:** POONGSAN CORPORATION  
611, Daejung-ri  
Onsan-up  
Ulju-kun  
ULSAN  
KOREA

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

**Product name** : C5191  
**SGS File No.** : AYAU08-07616R1  
**Received Date** : April 25, 2008  
**Test Performing Date** : April 28, 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)  
**Comments** : This Report supersedes the Report No. F690501/LF-CTSAYAU08-07616 dated May 02, 2008 issued by SGS Testing Korea Co., Ltd.

SGS Testing Korea Co. Ltd. / Ulsan Laboratory

Thomas Hwang / Ulsan Lab. Mgr

Sharpless Park  
Annie Lim  
Helen Yeo / Testing Person

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**Sample No.** : AYAU08-07616R1.001  
**Sample Description** : C5191  
**Item No./Part No.** : PB2

**Heavy Metals**

Test Items	Unit	Test Method	MDL	Results
Cadmium (Cd)	mg/kg	US EPA 3052, ICP-AES	1	N.D.
Lead (Pb)	mg/kg	US EPA 3052, ICP-AES	5	30.0
Mercury (Hg)	mg/kg	US EPA 3052, ICP-AES	2	N.D.
Hexavalent Chromium (Cr VI)	mg/kg	US EPA 3060A, UV-vis	1	N.D.

**Picture of Sample as Received:**

**Sample Color :** Bronze

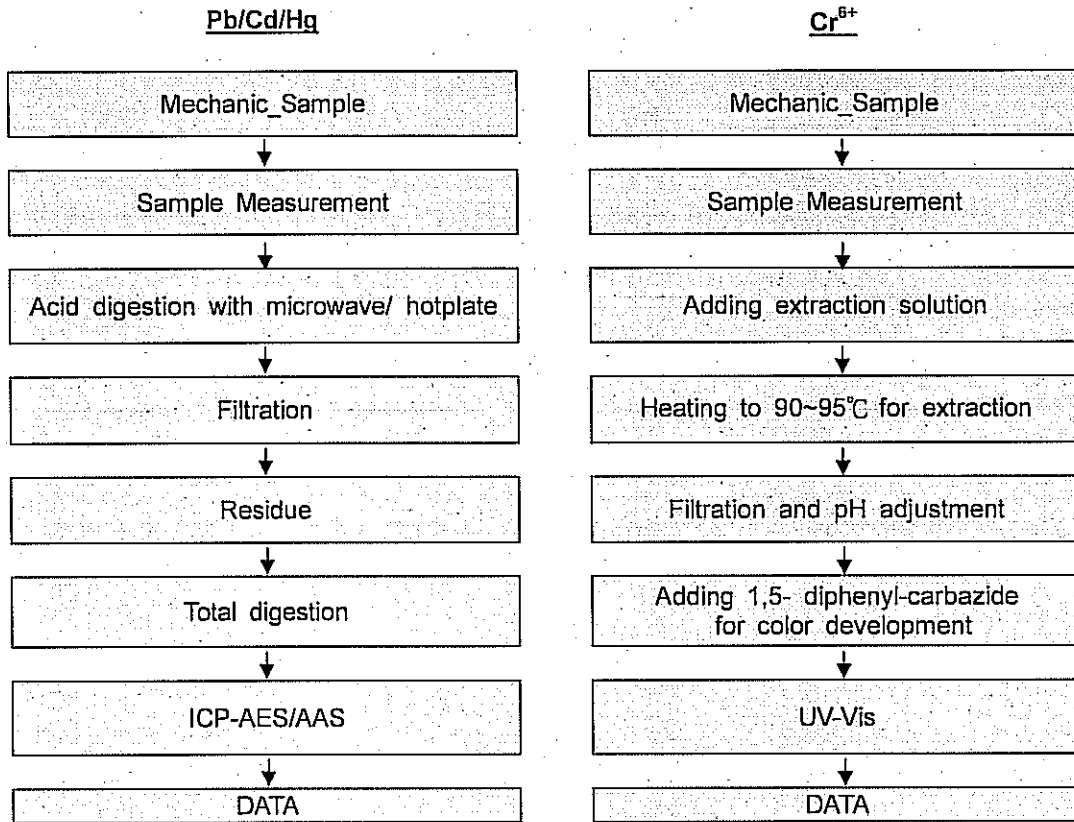


\*\*\* End \*\*\*

- 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

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Testing Flow Chart for RoHS: Pb/Cd/Hg/Cr<sup>6+</sup> Testing



The samples were dissolved totally by pre-conditioning method according to above flow chart for Cd,Pb,Hg.

Operator	Sharpless Park
Section Chief	Thomas Hwang

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**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 / m<sup>3</sup> (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  
용용액에 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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