



국제환경규제 대응 인력양성교육 기초교육 . 완제품의 REACH 대응



지식경제부 지정
국제환경규제 기업지원센터
BUSINESS SERVICE CENTER FOR GLOBAL ENVIRONMENTAL REGULATION

담당강사 : 원창덕박사



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I. 완제품의 정의

◆ 완제품의 정의(RIP 3.8)

영 문	국 문
Article means an object which during production is given a special shape, surface or design which determines its function to a greater than its chemical composition	완제품이란 제조 기간 중 화학물질의 조성보다 특정 형태, 표면 또는 디자인이 그것의 기능을 결정하는 물체를 의미

완제품의 정의에 따라 가정이나 산업계에서 보통 사용되는 제품(부품, 반제품 등)은 완제품(Article)에 해당- 포장재는 포장재 자체를 별개의 완제품으로 간주

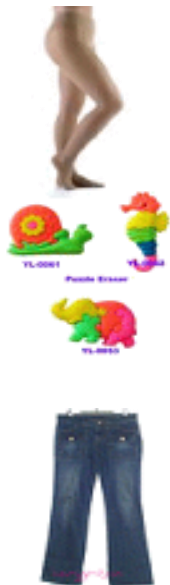




II. 완제품 내 물질의 등록

◆ 의도적인 배출(Intended Release)의 예시

■ 화학물질이 배출되면서 부가 기능을 발휘하는 경우



▶ Case 1 – 로션이 첨가된 스타킹

스타킹에 첨가된 로션이 사용 중 의도적인 배출로 간주

▶ Case 2 – 향기나는 지우개,

지우는 주 기능을 수행하는 과정에서 부수적으로 향기나는 물질을 배출함으로 의도적인 배출로 간주

▶ Case 3 – 물 빠지는 청바지

청바지의 청색염료를 의도적으로 배출시키므로 의도적인 배출로 간주



III. 완제품 내 물질 신고

◆ 완제품 내 물질의 신고

- **비의도적으로** 배출되는 SVHC (Substance of Very High Concern) 함유하며
- 완제품 내 SVHC 물질의 함량이 **0.1 w/w%**를 초과 한 경우에
- 완제품 내 SVHC 물질이 생산자·수입자 별 **연간 1**톤을 초과
 - ▶ 위 **3가지** 해당하는 경우에 완제품 내 **SVHC** 물질의 **신고** 필요

- (a) **Directive 67/548/EEC**에 따른 **CMR**(발암성, 변이원성, 생식독성) 물질로 분류된 물질로 카테고리 **1** 또는 **2**에 포함
- (b) **Annex X III** 에 제시된 기준에 따른 **PBT** 또는 **vPvB**물질
- (c) **PBT** 또는 **vPvB**물질의 특성을 갖고 있으나, **Annex X III**에 의해 **PBT**또는 **vPvB** 물질로 분류되지 않은 물질 (**ex. 내분기계 장애물질**)



III. 완제품 내 물질 신고

▶ 허가 후보물질 목록 (1차 15종 : 2008년 10월 28일)

No.	Substance name	CAS No.	EC No.	비점/빙점	분류	사용용도 예시
1	Triethyl arsenate	15605-95-8	427-700-2	NA/NA	Cat. 1&2 CMR	합금첨가제, 내열제, 강도증가제, 납-안티몬계의 베어링 합금원료 농약, 목재 방부제
2	Anthracene	120-12-7	204-371-1	340/217 °C	PBT	연료의 합성, 카본블랙원료, 방충제, 가솔린 등의 안정제, 염료중간체, 살충제, 목재 방부제
3	4,4` - Diaminodiphenylmethane (MDA)	101-77-9	202-974-4	398/93 °C	Cat. 1&2 CMR	접착제 원료, 아조계 염료, 에폭시 수지 경화제
4	Dibutyl phthalate(DBP)	84-74-2	201-557-4	340/-31 °C	Cat. 1&2 CMR	잉크도료, 접착제, 결합력 우수, 탄성 및 연성을 향상 플라스틱(PVC)의 가소제, 잉크, 락카, 접착제
5	Cobalt dichloride	7646-79-9	231-589-4	1049/735 °C	Cat. 1&2 CMR	내마모, 기계적용도, 촉매, 도금화합물, 실리카겔
6	Diarsenic penlaoxide	1303-28-2	215-116-9	NA/315 °C	Cat. 1&2 CMR	살충제, 비소 제제의 원료, 살균제, 제초제
7	Diarsenic trioxide	1327-53-3	215-481-4	465/312 °C	Cat. 1&2 CMR	금속과 반응, 인쇄용잉크, 착색제, 축전지 등 제초제, 살충제
8	Sodium dichromate	7789-12-0, 10588-01-9	234-190-3	NA/357 °C	Cat. 1&2 CMR	표백제, 방수제, 세라믹 착색제, 사진, 금속, 가죽, 원단, 목재 방부제



III. 완제품 내 물질 신고

▶ 허가 후보물질 목록 (1차 15종 : 2008년 10월 28일)

No.	Substance name	CAS No.	EC No.	비점/빙점	분류	사용용도 예시
9	5-tert-butyl-2,4,6-trinitro-m-xylene(musk xylene)	81-15-2	201-329-4		vPvB	로션, 면도용크림, 유연제, 공기정화제, 방향제, 화장품
10	Bis (2-ethylhexyl) Phthalate(DEHP)	117-81-7	204-211-0	384/-55 ℃	Cat. 1&2 CMR	방수성, 표면 슬라이딩성이 우수 플라스틱(PVC) 가소제, 잉크, 락카, 접착제, 캐패시터
11	Hexabromocyclododecane (HBCDD)	25637-99-4 3194-55-6 (134237-51-7, 134237-50-6, 134237-52-8)	247-148-4 221-695-9	NA/195 ℃	PBT	폴리스틸렌 브롬계난연제, 섬유, 포장재, 가구용 단열물
12	Bis(Tributylin)oxide (TBTO)	56-35-9	200-268-0	180/-45 ℃	PBT	PVC 안정제, 플라스틱 첨가제, 촉매, 살충제, 살생물제, PU원료, 목재방부제
13	Lead hydrogen arsenate	7784-40-9	232-064-2	NA/720 ℃	Cat. 1&2 CMR	비소화합물에 사용, 농약
14	Benzyl butyl phthalate	85-68-7	201-622-7	370/-35 ℃	Cat. 1&2 CMR	플라스틱(PVC) 가소제, 잉크, 락카, 접착제
15	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	NA/NA	PBT vPvB	전선, 피복, 고무, 도료, 연화제, 윤활유 첨가제, 난연제, 페인트, 고무, 접착제, 플라스틱의 가소제



III. 완제품 내 물질 신고

▶ 허가 후보물질 목록 (2차 14종 : 2010년 1월 13일)+ 3차 1종

	Chemical name	CAS No.	EC No.	Proposed SVHC property
1	Anthracene oil	90640-80-5	292-602-7	Persistent, Bioaccumulative & Toxic
2	Anthracene oil, anthracene paste, distn. lights*	91995-17-4	295-278-5	Persistent, Bioaccumulative & Toxic
3	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	Persistent, Bioaccumulative & Toxic
4	Anthracene oil, anthracene-low	90640-82-7	292-604-8	Persistent, Bioaccumulative & Toxic
5	Anthracene oil, anthracene paste	90640-81-6	292-603-2	Persistent, Bioaccumulative & Toxic
6	Coal tar pitch, high temperature	65996-93-2	266-028-2	Persistent, Bioaccumulative & Toxic Carcinogen Cat. 2
7	Alumimiosilicate, Refractory Ceramic Fibres	-	650-017-00- 8**	Carcinogen Cat. 2



III. 완제품 내 물질 신고

▶ 허가 후보물질 목록 (2차 14종 : 2010년 1월 13일)+ 3차 1종

	Chemical name	CAS No.	EC No.	Proposed SVHC property
8	Zirconia Alumimiosilicate, Refractory Ceramic Fibres	-	650-017-00-8**	Carcinogen Cat. 2
9	2,4-Dinitrotoluene	121-14-2	204-450-0	Carcinogen Cat. 2
10	Diisobutyl phthalate	84-69-5	201-553-2	Toxic for reproduction Cat. 2
11	Lead chromate	7758-97-6	231-846-0	Carcinogen Cat. 2 Toxic for reproduction Cat. 2
12	Lead chromate molybdate sulphate red (C.I. Pigment red 104)***	12666-85-8	235-759-9	Carcinogen Cat. 2 Toxic for reproduction Cat. 2
13	Lead sulphochromate yellow (C.I. Pigment Yellow 34)***	1344-37-2	215-693-7	Carcinogen Cat. 2 Toxic for reproduction Cat. 2
14	Tris(2- chloroethyl)phosphate	115-96-8	204-118-5	Toxic for reproduction Cat. 2
15	Acrylamide	79-06-1	201-173-7	Carcinogen Cat. 2 Mutagen Cat. 2 (2010년 3월 30일)

* 증류로부터 분리된 가벼운 성분(light fraction)

** 모든 refractory ceramic fibres는 CLP 규정의 부속서6 Index No. 650-017-00-8에 의해 커버

*** C.I : 컬러 인덱스



III. 완제품 내 물질 신고

▶ 허가 후보물질 (4차 8종 6월 18일 발표)

NO.	물질명	CAS No.	EC No.	구분	비고
1	Trichloroethylene	79-01-6	201-167-4	Carc. cat. 2	
2	Boric acid	10043-35-3 11113-50-1	233-139-2, 234-343-4	Toxics For Repro. cat. 2	
3	Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3	215-540-4	Toxics for Repro. cat. 2	
4	Tetraboron disodium he ptaoxide, hydrate	12267-73-1	235-541-3	Toxics for Repro. cat. 2	
5	Sodium chromate	7775-11-3	231-889-5	Carc. cat. 2; Muta. cat. 2; Toxics for Repro. cat. 2	
6	Potassium chromate	7789-00-6	232-140-5	Carc. cat. 2; Muta. cat. 2	
7	Ammonium dichromate	7789-09-5	232-143-1	Carc. cat. 2; Muta. cat. 2; Toxics for Repro. cat. 2	
8	Potassium dichromate	7778-50-9	231-906-6	Carc. cat. 2; Muta. cat. 2; Toxics for Repro. cat. 2	



III. 완제품 내 물질 신고

▶ 5차 SVHC 8개 물질(10. 12. 15)

	Chemical name	CAS No.	EC No.	Proposed SVHC property
1	1,2,3-Trichlorobenzene	87-61-6	201-757-1	PBT like substance (equivalent level of concern)
2	1,2,4-Trichlorobenzene	120-82-1	204-428-0	PBT like substance (equivalent level of concern)
3	1,3,5-Trichlorobenzene	108-70-3	203-608-6	PBT like substance (equivalent level of concern)
4	Cobalt(II) sulphate (추가: '10. 12. 15 발표)	10124-43-3	233-334-2	CMR (carcinogen, cat. 2; toxic for reproduction, cat. 2)
5	Cobalt(II) dinitrate (추가: '10. 12. 15 발표)	10141-05-6	233-402-1	CMR (carcinogen, cat. 2; toxic for reproduction, cat. 2)
6	Cobalt(II) carbonate (추가: '10. 12. 15 발표)	513-79-1	208-169-4	CMR (carcinogen, cat. 2; toxic for reproduction, cat. 2)
7	Cobalt(II) diacetate (추가: '10. 12. 15 발표)	71-48-7	200-755-8	CMR (carcinogen, cat. 2; toxic for reproduction, cat. 2)



III. 완제품 내 물질 신고

▶ 5차 8개 SVHC 물질 2010년 8월 30일-10월 14일까지 11개 공공 자문

	Chemical name	CAS No.	EC No.	Proposed SVHC property
8	2-Methoxyethanol (추가: '10. 12. 15 발표)	109-86-4	203-713-7	CMR (toxic for reproduction, cat. 2)
9	2-Ethoxyethanol (추가: '10. 12. 15 발표)	110-80-5	203-804-1	CMR (toxic for reproduction, cat. 2)
10	Chromium trioxide (추가: '10. 12. 15 발표)	1333-82-0	215-607-8	CMR (carcinogen, cat .1; mutagen, cat. 2)
11	Acid generated from chromium trioxide and their oligomers (추가: '10. 12. 15 발표) Chromic acid Dichromic acid Oligomers of chromic acid and dichromic acid	7738-94-5 13530-68-2 (번호미지정)	231-801-5 236-881-5 (번호미지정)	CMR (carcinogen, cat. 2)



III. SVHC 물질, 허가대상물질로 추가-7개

2011년 6월 20일

- 2-Ethoxyethylacetate
- Strontium chromate
- 1,2-Benzenedicarboxylic acid- di-C7-11 branched and linear alkyl esters (DHNUP)
- hydrazine
- 1-Methyl-2-pyrrolidone
- 1,2,3-Trichloropropane
- 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich (DIHP)

※ 2011년 11월 현재 총 53개 물질



ECHA 20개의 SVHC 물질 추가제안('11. 8.29-10.13)- 45일간 의견 제출

물질명	EC No	CAS No	
Dichromium tris(chromate)	246-356-2	24613-89-6	발암성
Potassium hydroxyoctaoxodizincatedi-chromate	234-329-8	11103-86-9	발암성
Pentazinc chromate octahydroxide	256-418-0	49663-84-5	발암성
Aluminosilicate Refractory Ceramic Fibres (RCF)	-	-	발암성
Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	-	-	발암성
Formaldehyde, oligomeric reaction products with aniline (technical MDA)	500-036-1	25214-70-4	발암성
Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8	생식독성
2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0	발암성
4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	205-426-2	140-66-9	내분비계장애
1,2-Dichloroethane	203-458-1	107-06-2	발암성



ECHA 20개의 SVHC 물질 추가제안('11. 8.29-10.13)- 45일간 의견 제출

물질명	EC No	CAS No	
Bis(2-methoxyethyl) ether	203-924-4	111-96-6	생식독성
Arsenic acid	231-901-9	7778-39-4	발암성
Calcium arsenate	231-904-5	7778-44-1	발암성
Trilead diarsenate	222-979-5	3687-31-8	발암성, 생식독성
N,N-dimethylacetamide (DMAC)	204-826-4	127-19-5	생식독성
2,2'-dichloro-4,4'-methylenedianiline (MOCA)	202-918-9	101-14-4	발암성
Phenolphthalein	201-004-7	1977-09-08	발암성
Lead azide Lead diazide	236-542-1	13424-46-9	생식독성
Lead styphnate	239-290-0	15245-44-0	생식독성
Lead dipicrate	229-335-2	6477-64-1	생식독성



III. 완제품 내 물질 신고 -신고기간

◆ 2011년 6월 1일까지

- 2010년 12월 1일 까지 후보목록에 포함된 물질(38종)
- 2011년 6월 1일 까지 175건 신고접수

◆ 후보목록에 포함된 시점부터 6개월 이내

- 2010년 12월 1일 이후 후보목록에 포함된 물질
(6월15일-8종, 12월20일-7종)

◆ 정보전달의 의무

- 소비자의 요청이 있을 경우 45일 이내 정보제공
- 2008년 10월 28일 부터 후보목록에 포함된 SVHC가 0.1%(w/w) 초과하여 포함된 완제품을 EU와 EEA(아이슬란드, 노르웨이, 리히텐슈타인)에 공급하는 공급자는 고객에게 정보제공의 의무 발생



III. 완제품 내 물질 신고

◆ 완제품 내 SVHC의 평균 농도 계산(RIP. 3.8참조)

$$SVHC \text{ 농도 } (\%) = \frac{SVHC \text{ 의 양 } (g) * 100}{\text{전체 완제품의 무게 } (g)}$$

➤ 예시

- ▶ 의자는 나무 부분과 플라스틱 부분으로 구성되어 있으며, 의자의 무게는 **2.0001 kg**
- ▶ 의자의 나무 부분의 무게 : **2 kg (SVHC가 10 mg 포함)**
- ▶ 의자의 플라스틱 부분의 무게 : **1g (동일한 SVHC가 1 mg 포함)**

$$\text{의자의 } SVHC \text{ 농도} = \frac{(10 * 10^{-3} + 1 * 10^{-3}) g * 100}{(2001) g} \% = 0.0005 \% (w/w)$$



III. 완제품 내 물질 신고

◆ 완제품 내 **SVHC**의 총량 계산(1)

a) 완제품(부품) 내의 **SVHC** 양

= (완제품 내 **SVHC**의 최대농도(%) $\times 0.01$) \times (완제품 무게) \times (완제품 수/년)

b) 전체 완제품 내의 **SVHC** 총량

= \sum 각 종류의 완제품 내의 **SVHC**양



III. 완제품 내 물질 신고

◆ 완제품 내 SVHC의 총량 계산(2)

❖ 예제)



- 연간 20,000켤레의 신발, 3,000개의 벨트, 60,000개의 가방을 EU에 수출함
- 신발에는 SVHC가 0.05 w/w% 함유되어 있고, 벨트에는 동일한 SVHC가 0.15 w/w%, 가방에는 2 w/w% 가 함유되어 있음
- 완제품의 무게는 한 켤레의 신발당 0.7kg, 벨트 당 700g, 가방당 1kg

< 벨트와 가방의 SVHC 농도가 0.1 w/w% 이상이므로 신고에 해당할 수 있음 >

a) 벨트 : SVHC Volume [t/a] = $(3,000 * 700 * 0.15) / (10^6 * 100) = 0.0032 \text{ t/a}$

b) 가방: SVHC Volume [t/a] = $(60,000 * 1,000 * 2) / (10^6 * 100) = 1.2 \text{ t/a}$

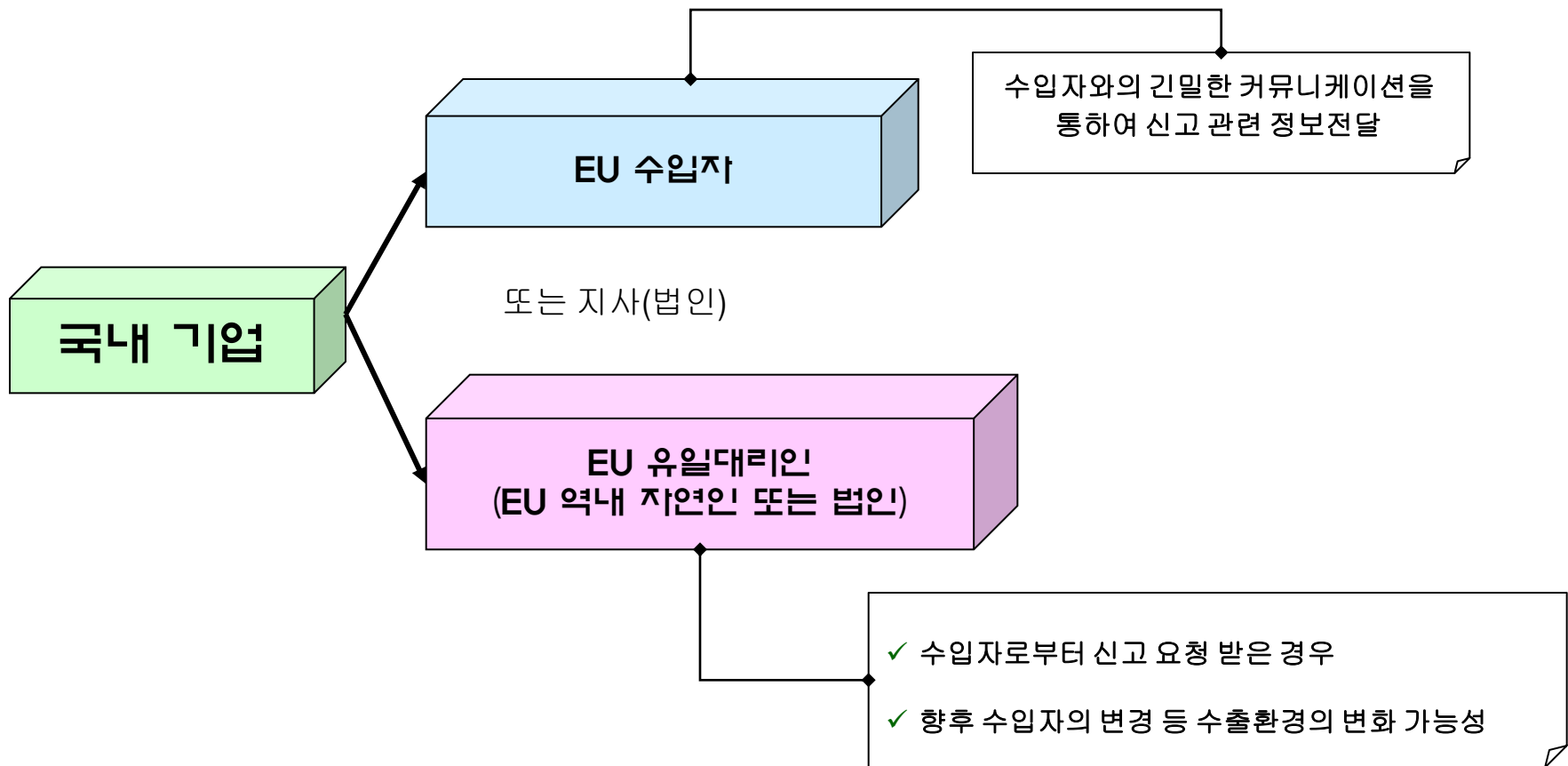
b) SVHC 연간 총량: $0.0032 + 1.2 = 1.2032 \text{ t/a}$

연간 1톤을 초과하므로 신고 및 정보 전달 의무



III. 완제품 내 물질 신고

▶ 신고 주체





III. 완제품 내 물질 신고

▶ 신고 서류 (Annex VI 참조)

◆ 완제품 내 **SVHC**물질의 신고 시, 제출해야 하는 정보

■ 일반적 등록정보

▶ 등록자 - 성명, 주소, 전화, 팩스번호, 이메일 주소

▶ 담당자, 생산지, 자료의 공동 제출

▶ 제4조에 따라 지정된 제3자 정보

(성명, 주소, 전화, 팩스번호, 이메일 주소, 담당자)

■ 물질 등록 번호(가능한 경우)

■ 물질 정보(Identity)

▶ 물질의 명칭 또는 다른 식별자

▶ **IUPAC** 명명법 상 명칭 또는 국제적으로 통용되는 화학물질명

▶ 다른 이름(**Usual name, Trade name, Abbreviation**)등

▶ **CAS** 명칭 또는 **CAS** 번호(이용 가능한 경우), 다른 식별 코드

▶ 물질의 분자식 및 구조식 관련 정보, 물질의 조성, 순도, 불순물 정보

▶ 모든 첨가제(**ex. 안정제 또는 반응 억제제**)의 성질 및 크기, 등급 등



III. 완제품 내 물질 신고

▶ 신고 서류 (Annex VI 참조)

◆ 완제품 내 **SVHC**물질의 신고 시, 제출해야 하는 정보

- 물질의 분류

Directive 67/548/EEC 제4조 제6조를 적용한 유해성 분류

Directive 67/548/EEC 제23조 제24조 제25조를 적용한 물질의
위험표시

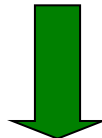
- 완제품 내 물질 용도와 완제품 사용에 대한 간략한 설명 및
확인된 용도에 대한 일반적인 설명
- 물질의 톤 수 범위(**Tonnage band**)



IV. 완제품의 REACH 대응전략

◆ 완제품 내 물질의 신고 면제

1. 완제품 생산자/수입자가 폐기를 포함하여 통상적이고 합리적으로 예측 가능한 사용 조건 상에서 인체나 환경에 물질의 노출을 차단할 수 있는 경우 **or**
2. **동일한 용도(for that use)**로 물질이 이미 등록되어 있는 경우



신고 면제에 해당하는 경우

- 완제품 수령자에게 적절한 **사용 안내서**를 제공하여야 함
- 사용 안내서에는 **안전한 사용과 처리**를 위하여 **충분한 정보**가 있어야 하며, 최소한 **물질의 명칭은 포함**되어 있어야 함.



IV. 완제품의 REACH 대응 전략

▶ 신고대상 **SVHC** 확인 방법

◆ 신고대상 화학물질 확인

- 잠재적인 **SVHC** 목록확인
- 잠재적인 **SVHC** 포함 가능성이 높은 제품의 부품 선정 및 분류
- 부분품 내 원료 화학물질 파악
- 잠재적인 **SVHC** 해당여부 확인
- 0.1(w/w)% 초과, 1톤 초과 여부 확인
- 잠재적인 신고 대상물질로 확정
 - **신고면제 해당여부확인(원료물질 제조 공급자의 등록여부 확인)**

◆ 신고주체 결정

◆ 신고기한 내 ECHA에 신고



신고면제 여부파악 (기등록여부)



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Consortia under REACH

REACH con

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Consortia under REACH

REACH requires that manufacturers/importers of the same substance cooperate jointly in preparing a submission, by sharing data and costs. Consortia are an efficient form of cooperation for potential registrants of a substance or group of substances to fulfil the REACH requirements in time.

REACH consortia managed by ReachCentrum

ReachCentrum has been contracted to manage a large number of REACH consortia. We support the founding members and potential new consortia members in preparing their registration dossiers to submit them in time to ECHA, respecting the deadlines imposed by the legislation. Read more on [REACH consortia and SIEF](#).

If you are looking for a specific REACH consortium managed by ReachCentrum, click on the following characters:

1 A B C D E F G H I L M N O P Q R S T V W

- [DBE REACH Consortium](#)
- [DEHP/2EH/n- and i-Butanal REACH consortium](#)
- [Diarylide Yellow Pigments REACH consortium](#)
- [DINP REACH consortium](#)

DEHP plasticiser is registered for use under REACH

October 12 2010 – *The widely used general purpose plasticiser Di(2-ethylhexyl) phthalate (DEHP) has been registered under the EU's new Chemicals Legislation REACH.*

The consortium of European producers which has been responsible for collating data announced this week that the lead Registrant's submission has been successful and that a registration number has been received. This is well ahead of the November 30 deadline.

DEHP (CAS No [117-81-7]) is also known as di-octyl phthalate (DOP) and is used mainly for making PVC soft and pliable. It accounts for around 17% of all plasticiser usage in Western Europe and approximately one third of plasticiser use worldwide. It has been registered for all current uses including medical devices.

The registration enables the continued manufacturing and use of DEHP. However, because DEHP is classified in Europe as a Substance of Very High Concern (SVHC), its uses beyond January 2015 will eventually need to be authorised.

Manufacturers are expected to begin the process of seeking the necessary approvals for its continued uses beyond January 2015 as soon as the European Chemicals Agency (ECHA) has finalised details of the process.

The uses are being discussed with downstream users but manufacturers believe that following the development of the Chemical Safety Report of the REACH DEHP dossier, all current uses should receive the necessary authorisation based on its adequate control and the safe use that is demonstrated and confirmed by the EU Risk Assessments and agreed by EU Member States.

The EU Risk Assessment Reports for DEHP can be found on the DEHP Information Centre website: <http://www.dehp-facts.com/RA>.

The members of the DEHP consortium include Arkema (lead registrant), Oxea, Perstorp, Polynt SPA, Zak S.A., Deza a.s., Olchim S.A. and Boryszew S.A.

DEHP is a plasticiser which offers a good all-round performance and is therefore used for a great many cost-effective, general purpose products including building material such as flooring, cables, profiles and roofs, as well as medical products such as blood bags and dialysis equipment.

For further information please refer to the DEHP Information Centre website www.dehp-facts.com

reach.dehp@reachcentrum.eu

ReachCentrum

Avenue E. van Nieuwenhuyse 6
B-1160 Brussels BELGIUM



IV. 완제품의 REACH 대응 전략

▶ 신고대상 **SVHC** 확인 방법

◆ 공급망(협력사)을 통하여 신고대상 물질확인

- 공급망내의 긴밀한 의사소통
- 공급망을 따라 최상위 원료물질이 **SVHC**여부확인
- **(M)SDS**를 통하여 물질정보확인



October 2010

The majority of products and packaging as manufactured and/or supplied by Samsung Electronics Co. Ltd (SEC) do not contain substances on the REACH SVHC candidate list in concentrations greater than 0.1% by weight per article¹. The limited number of articles affected are listed below. This is the status as of October 2010.

Substance	CAS No	Product Group affected	Application	Safe use information
Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	PVC power cords and cables in Samsung Electronics products may potentially contain DEHP above 0.1% by weight.	Plasticizer in PVC cable	This product and its accessories are not a toy and should not be sucked or placed in the mouth. Please keep out of reach of very young children. In accordance with the European WEEE Directive this product and its electronic accessories (e.g. charger, USB cable) should not be disposed of with other household waste at the end of their working life. Please see WEEE instructions supplied with the product on correct disposal and recycling channels.

◆ 동종업계, 유사제품 제조 경쟁사의 정보공개 현황 파악

◆ 신고대상 물질은 모두 정보공개 대상범위에 포함

◆ 경쟁사 홈페이지 등을 통하여 정보공개 현황파악

◆ **분석기관** 을 통하여 화학적 성분 분석

- **SVHC** 후보목록 대상 분석 및 확인

- 각 제품 내 함유량을 산정하여 수출 제품 내 총량(1톤 초과 여부)확인



IV. 완제품의 REACH 대응 전략

▶ 신고 대상물질 확인의 문제점

◆ 공급망을 통하여 신고대상 물질확인

- 공급망 관리 및 의사소통의 의무, 법적 강제성 부재
- 공급망 관리시스템 부재
- 사업장내 화학물질 정보 통합 표준 관리시스템 부재
(신뢰성, 관리양식 및 수준의 차이)

◆ 분석기관을 통하여 화학적 성분 분석

- 완제품내의 수많은 부품과 재질로 구성
- 제품 내 특정 신고대상의 정확한 물질분석의 어려움
- 비용발생(38+8+7+ α + β +.....)

※ ECHA에서는 화학적 분석 방법은 최후의 수단으로 수행하기를 권고



V. REACH SVHC Declaration Form

► REACH SVHC Declaration Form-네덜란드

REACH DECLARATION

Substances of Very High Concern (SVHC) according to REACH Article 57
Date: 28-10-2008

Today, ECHA has included 15 substances in the Candidate List of Substances of Very High Concern (SVHC) for authorisation. The list was published on ECHA website today. It will be regularly updated when more substances are identified as SVHC. ECHA urges companies to check their potential obligations resulting from the Candidate List.

IMPACT OF THE LISTING

Companies may have **legal obligations** resulting from the inclusion of the substances in the Candidate List from the date of inclusion. These obligations are linked to the listed substances on their own, in preparations and in articles.

The Candidate List

Substance name	CAS number	EC number	Basis for Identification as a SVHC
Anthracene	120-12-7	204-371-1	Persistent, bioaccumulative and toxic
4,4'-Diaminodiphenylmethane	101-77-9	202-974-4	Carcinogen, cat. 2
Dibutyl phthalate	84-74-2	201-557-4	Toxic for reproduction, cat. 2
Cobalt dichloride	7646-79-9	231-589-4	Carcinogen, cat. 2
Diarsenic pentaoxide	1303-28-2	215-116-9	Carcinogen, cat. 1
Diarsenic trioxide	1327-53-3	215-481-4	Carcinogen, cat. 1
Sodium dichromate	7789-12-0 10588-01-9	234-190-3	Carcinogen, cat. 2 Mutagen, cat. 2 Toxic for reproduction, cat. 2
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	Very persistent, bioaccumulative and toxic
Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-0	Toxic for reproduction, cat. 2
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (α -HBCDD, β -HBCDD, γ -HBCDD)	(134237-51-7, 134237-50-6, 134237-52-8)	247-148-4 and 221-659-9	Persistent, bioaccumulative and toxic
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	Persistent, bioaccumulative and toxic Very persistent and very bioaccumulative
Bis(tributyltin)oxide	56-35-9	200-268-0	Persistent, bioaccumulative and toxic
Lead hydrogen arsenate	7784-40-9	232-064-2	Carcinogen, cat. 1 Toxic for reproduction, cat. 1
Benzyl butyl phthalate	85-68-7	201-622-7	Toxic for reproduction, cat. 2
Triethyl arsenate	15606-95-8	427-700-2	Carcinogen, cat. 1

1. Thetford has checked the presence of the identified Substances of Very High Concern (SVHC) according to REACH Article 57 the substances, preparations and articles used.
2. Thetford can conclude that none of the identified Substances of Very High Concern (SVHC) as mentioned in the 'Candidate List' is present in the products manufactured.
3. Thetford will follow all further publications regarding this subject and inform customers through the website and other means of communication.
4. In case of further questions, our contact person for REACH is:

Mr. Frans van der Pluijm
PO Box 169
4870 AD Etten-Leur
The Netherlands
Tel: +31 (0) 76 504 22 00
Fax: +31 (0) 76 504 23 00
Email: reach@thetford.eu
fvdpluijm@thetford.eu

Thetford
Etten-Leur, the Netherlands
Date: 31 October 2008

Stephane Cordeille
Managing Director Europe

The information contained in this document expresses only the intention of the manufacturer and does not constitute a legally binding obligation. Whilst the information is provided in utmost good faith, no representations or warranties are made with regards to its completeness or accuracy and no liability will be accepted for damages of any nature whatsoever resulting from the use of or reliance on the information.



V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-미국



your best connection

Anderson Power Products®

13 Pratt's Junction Road
Sterling, MA 01564-2305 USA
T: 978-422-3800 F: 978-422-3700
www.andersonpower.com
ISO 9001:2000 Certified

November 7, 2008

To Whom It May Concern:

Subject: REACH-(SVHC) Declaration

Dear Valued Customer:

Substances (listed below), are not employed in the manufacture of plastic and hardware products made by Anderson Power Products, Inc.

Substance Name	CAS Number	EC Number
Anthracene	120-12-7	204-371-3
4,4'- Diaminodiphenylmethane	101-77-9	202-974-6
Dibutyl phthalate	84-74-2	201-557-6
Cyclododecane	294-82-2	206-33-9
Cobalt dichloride	7648-79-9	231-589-4
Diarsenic pentaoxide	1303-28-2	215-116-9
Diarsenic trioxide	1327-53-3	215-481-4
Sodium dichromate, dihydrate	7789-12-0	-
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-6
Bis (2-ethyl(hexyl)phthalate) (DEHP)	117-81-7	204-211-2
Hexabromocyclododecane (HBCDD)	25637-99-4	247-148-6
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-7
Bis(tributyltin)oxide	56-35-9	200-268-2
Lead hydrogen arsenate	7784-40-9	232-064-4
Triethyl arsenate	15606-95-8	427-700-4
Benzyl butyl phthalate	85-68-7	201-622-

If you have any questions, or if you need additional information regarding our products, please contact Customer Service Department directly at 01-978-422-3800 or via e-mail at customerservice@andersonpower.com

Regards,


Urs Nager
Director of Quality Control
Anderson Power Products, Inc.



electrical power connectors

V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-미국

INEOS ABS

November, 18, 2008

Mike Angell
Allen Extruders

RE: INEOS-ABS (USA) REACH Information

Dear Mike,

INEOS ABS (USA) has created this letter to respond to requests for information on the European REACH regulation on the Registration, Evaluation, Authorization and Restriction of Chemicals (Regulation (EC) No 1907/2006). The REACH regulation is complex and there are only certain parts to which we can respond. It is important that you know that it is the basic chemicals used to produce our polymers that are being targeted by REACH. These chemicals are reacted to form our polymers or may be used with them as additives or colorants. Any of these ingredients in an amount $\geq 2\%$ by weight are part of this regulation. Our finished polymers themselves are exempt from REACH.

The REACH regulation is written such that the company that imports materials into Europe is responsible for them. INEOS ABS companies in Spain and Germany purchase certain polymers from us and have pre-registered the required chemicals for those shipments. Under the REACH regulation, they cannot perform this function for other polymers that they do not import or for other companies who import the same polymers.

Many customers are inquiring about our possible use of chemicals listed as Substances of Very High Concern (SVHC). If you purchase Lustran® ABS 648 or Lustran ABS 488 you will find there is one substance on the SVHC list that is contained in those two products. No other products made by INEOS ABS (USA) contain any of the SVHC chemicals. If you purchase ABS 648 or ABS 488, the SVHC ingredient used in them is clearly disclosed in Section 15 of the MSDS for your specific product. If you do not export these products or parts made from these products to Europe, there is no action required on your part.

Since some customers are sending our polymers to Europe, we are offering the following assistance. INEOS ABS companies in Spain and Germany are prepared to import these polymers for you and do the necessary pre-registration for REACH. They have already pre-registered the chemicals associated with the polymers they are currently importing and could expand that list for new ones customers would like them to import on their behalf. This might provide a cost savings if you are considering paying for the services of an "Only Representative" to register your imports as outlined in the REACH regulation.

For customers who are molding parts and shipping them to Europe, it is our understanding that importation of parts (called "articles" in the regulation) will not have to pre-register or register chemical substances contained in the articles unless those chemicals (total quantity over 1 metric tonne/year) would be released from the article during normal or reasonably foreseeable conditions of use. If the article contains an SVHC chemical, then the importer of the article or their "Only Representative" would have to notify the European Chemicals Agency as indicated in the REACH regulation.

If you are purchasing our products and modifying them (i.e. coloring or blending) before sending them to Europe, then you will need to contact us in regard to the type of modifications being made and how that impacts REACH compliance for the final material being sent to Europe. This might require a nondisclosure agreement for us to assist you.

We hope this information is helpful in working on your REACH requirements.

Sincerely,



Carol Yager Calkins
Quality Engineer
INEOS ABS (USA) Corporation
INEOS ABS NAFTA
356 Three Rivers Parkway
Addyston, Ohio 45001
(513) 467-2191 voice
(513) 467-2233 fax
carol.calkins@lustran-polymers.com

REACH Declaration Form

Return signed scanned copy to: will.schmidt@emerson.com

Supplier Name: _____
REACH Contact Person: _____
Title: _____
Email Address: _____
Phone Number: _____
(KINDLY TICK BOX FOR THE MOST APPROPRIATE STATEMENT)



EMERSON
Products and Services

Supplier Declaration for Articles Provided

☐ We declare that information provided in the table below is true and complete to the best of our knowledge and that the articles we provide are compliant to restrictions on substances listed in Annex XVII of REACH. As **Distributor / Articles Producer / Downstream User**, there is no obligation for our company to register/pre-register anything. However, we will ensure our upstream suppliers will pre-register/register for which REACH registration requirements are applicable except where considered already registered under the regulation.

Supplier Declaration for Substances or Preparations Provided

☐ We declare that information provided in the table below is true and complete to the best of our knowledge and that the substances and / or preparations we provide are compliant to restrictions on substances listed in Annex XVII of REACH and that we or our upstream suppliers will pre-register/register for which REACH registration requirements are applicable except where considered already registered under the regulation.

Table 1 Substances under consideration for treatment as SVHC Candidates

Do the articles you supply contain any of the following? (KINDLY TICK BOX FOR THE MOST)				
Substance name	CAS number	EC number	YES	NO
Anthracene	120-12-7	204-371-1	<input type="checkbox"/>	<input type="checkbox"/>
4,4'-Diaminodiphenylmethane	101-77-9	202-974-4	<input type="checkbox"/>	<input type="checkbox"/>
Dibutyl phthalate	84-74-2	201-557-4	<input type="checkbox"/>	<input type="checkbox"/>
Cyclododecane	294-62-2	206-33-9	<input type="checkbox"/>	<input type="checkbox"/>
Cobalt dichloride	7646-79-9	231-589-4	<input type="checkbox"/>	<input type="checkbox"/>
Diarsenic pentaoxide	1303-28-2	215-116-9	<input type="checkbox"/>	<input type="checkbox"/>
Diarsenic trioxide	1327-53-3	215-481-4	<input type="checkbox"/>	<input type="checkbox"/>
Sodium dichromate, dihydrate	7789-12-0		<input type="checkbox"/>	<input type="checkbox"/>
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	<input type="checkbox"/>	<input type="checkbox"/>
Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	204-211-0	<input type="checkbox"/>	<input type="checkbox"/>
Hexabromocyclododecane (HBCDD)	25637-99-4	247-148-4	<input type="checkbox"/>	<input type="checkbox"/>
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	<input type="checkbox"/>	<input type="checkbox"/>
Bis(tributyltin)oxide	56-35-9	200-268-0	<input type="checkbox"/>	<input type="checkbox"/>
Lead hydrogen arsenate	7784-40-9	232-064-2	<input type="checkbox"/>	<input type="checkbox"/>
Triethyl arsenate	15606-95-8	427-700-2	<input type="checkbox"/>	<input type="checkbox"/>
Benzyl butyl phthalate	85-68-7	201-622-7	<input type="checkbox"/>	<input type="checkbox"/>

Authorized Signature above Printed Name and Title

DATE Signed

V. REACH SVHC Declaration Form

► REACH SVHC Declaration Form



March 5, 2009

REACH EC/1097-2006 SVHC ANNEX 1 COMPLIANCE

Please be advised that this certification covers all exclusive proprietary Richco products that are presented on our global website www.richco-inc.com. This also covers proprietary products specified as uncontrolled documents in our Catalogues listed below,

1. North America Version edition 28
2. International Version 28
3. EMI Filtering Solutions Edition 3
4. Asia Version 28

(collectively, "Products")

This certification covers all materials under the general classification of plastics, rubber, metal, coatings, adhesives, and any other materials.

Richco Inc. does not manufacture chemicals, substances or preparations. Therefore, we do not participate in the new European Union law on chemicals and their safe use called REACH EC/1907-2006 - Registration, Evaluation, Authorization and Restriction of Chemicals ("REACH"). Richco Inc. does, however, manufacture the Products, which are considered Articles under the REACH Directive. Our Products do not have any intended releases.

Under the REACH Directive, the European Chemicals Agency ("ECHA") issued a Candidate List of Substances of Very High Concern (SVHC) effective October 28, 2008. SVHC includes the following:

1. Anthracene CAS 120-21-7 EC 204-371-1
2. 4,4'-Diaminodiphenylmethane CAS 101-77-9 EC202-974-4
3. Dibutyl phthalate CAS 84-74-2 EC 201-557-4
4. Cobalt dichloride CAS 7646-79-9 EC 231-589-4
5. Diarsenic pentaoxide CAS 1303-28-2 EC 215-116-9
6. Diarsenic trioxide CAS 1327-53-3 EC 215-481-4
7. Sodium diiodate, dihydrate CAS 7789-12-0 EC 234-190-3
8. 5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene) CAS 81-15-2 EC 201-329-4
9. Bis(2-ethylhexyl)phthalate (DEHP) CAS 117-81-7 EC 204-211-0
10. Hexabromocyclododecane (HBCDD) CAS 134237-50-6, (X-51-7) (X-52-8) EC 2470148-4 221-695-9
11. Alkanes, C10-13, chloro (Short chain Chlorinated Paraffins) CAS 85535-84-8 EC 287-476-5
12. Bis(tributyltin)oxide CAS 56-35-9 EC 200-268-0
13. Lead hydrogen arsenate CAS 7784-40-9 EC 232-064-2
14. Benzyl butyl phthalate CAS 85-68-7 EC 201-622-7
15. Triethyl arsenate CAS 15606-95-8 EC 427-700-2

Based on the information available to us from our raw materials suppliers, to the best of Richco's knowledge and belief, all Products previously referred comply with the REACH Directive. The



substances listed in the SVHC are not intentionally added to any Products manufactured by Richco Inc.

The SVHC will be updated in the future by the ECHA. At that time, Richco Inc. will issue another certification that will reflect the updated SVHC.

This document is valid without signature and replaces all former statements made by Richco Inc. concerning REACH and the SVHC.

Should you require further information, please contact marketing@richco-inc.com or sales@richco-inc.com.

DISCLAIMER

THIS DECLARATION AND OTHER INFORMATION PROVIDED IN CONNECTION WITH COMPLIANCE WITH THE REACH DIRECTIVE IS PROVIDED "AS IS", "AS AVAILABLE" AND "WITH ALL FAULTS." RICHCO DISCLAIMS ALL EXPRESS OR IMPLIED CONDITIONS, REPRESENTATIONS AND WARRANTIES OF ANY KIND, INCLUDING ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, SATISFACTORY QUALITY, FITNESS FOR A PARTICULAR PURPOSE, OR INFRINGEMENT.

V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-미국



Date Revised: October 16, 2008
Document ID: ERD1008DUR_WAFERS

Environmentally Restricted or Sensitive Content Declaration

This declaration covers the following products (collectively "covered products") manufactured by or on behalf of Cree, Inc. ("Cree") and its subsidiaries at the locations listed below, and shipped by or on behalf of Cree on or after January 1, 2008:

Product Category/Type:	Materials - Wafers
Production Location(s):	Cree, Inc., Durham North Carolina, USA
Product Identification:	Part Number(s):
SiC wafers	All

Cree hereby declares that the known levels of environmentally sensitive materials, persistent biologically toxicants (PBTs), persistent organic pollutants (POPs), or otherwise restricted materials in the covered products are below the maximum concentration values (also referred to as the threshold limits) permitted for such substances in the following international directives, regulations and/or guidelines, and as summarized in the attached Table 1:

- EU Directive 2002/95/EC on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS), as amended through June 1, 2008;
- PRC Ministry of Commerce regulations commonly referred to as "China RoHS" titled *Measures for Administration of the Pollution Control of Electronic Information Products*, initially in force on March 1, 2007, covering the reporting of the use of certain hazardous and restricted substances in electrical and electronic equipment, as amended through January 1, 2008;
- EU Directives 1907/2006 (REACH) and 76/769/EEC on restrictions on the marketing and use of certain dangerous or toxic substances and preparations, as amended through October 15, 2008, including the draft list of substances of very high concern (SVHCs);
- EU Directive 1999/45/EC relating to the classification, packaging and labelling of dangerous preparations, as amended through January 1, 2008;
- EU Directive 2037/2000 regarding Ozone depleting substances, as amended through January 1, 2008;
- Joint Industry Guide for Material Composition Declaration for Electronic Products (Joint Industry Guide or JIG) dated April 2005 developed by the Electronic Industries Alliance (EIA) and Japan Green Procurement Survey Standardization Initiative (JGPSSS) (in association with the European Information, Communications and Consumer Electronics Technology Industry Association (ECTIA)) and standardized using JEDEC procedures (copy available at www.eia.org/jig);
- For locally regulated EU hazardous substances, CEIC - EICTA (copy available at www.eicita.net/Uploads/media/ChemicalsList-15448A.pdf) also provides a similar list of restricted substances to the aforementioned regulations. The notable exceptions include the added groups of poly-chlorinated and poly-brominated dioxins and furans, tar oils, and carcinogenic amines. Cree, Inc. certifies that these compounds are not intentionally added to our products, are not known to be part of the manufacturing process, and are not known to be formed under the conditions of manufacture for Cree products covered under this certification.

- The covered products also satisfy the requirements of statute 2006 No. 1463, "The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronics Equipment Regulations 2006," effective July 1, 2006, which implements EU Directive 2002/95/EC (RoHS) in the United Kingdom (UK) for electrical and electronic equipment put on the market in the UK on or after July 1, 2006.
- The covered products also satisfy the requirements of the Norwegian Pollution Control Authority regarding restricted content in products regulations, Chapters 1 through 7, which are finalized and scheduled for enactment sometime in mid-2008. These regulations include restrictions on the following materials commonly found in electronic products: bisphenol-A ("as freely available substance" following epoxy curing), PFOA's and PFOS's, arsenic, cadmium in coloring agents, short chained chlorinated paraffins and related chlorinated solvents, and vinyl chloride.
- Cree, Inc. also certifies that vinyl chloride and polyvinyl chloride (PVC) are not incorporated into, or otherwise used in the manufacture of, the covered products in accordance with the restrictions noted by the Japanese "Standard on Food, Additives, and Related Products", local Japanese ordinances, or other developing standards of international significance. Cree may use PVC as part of the packaging and/or shipping materials used to ship the electronic components to a customer. As replacement materials become available and are accepted as part of the supply chain, Cree intends to switch to alternative materials for the transport of electronic components.

In preparing this certificate, Cree has based its conclusions regarding the content of its Covered Products on certifications received from its suppliers, a review of its procurement and production processes, and the results of analytical tests for materials or substances used in homogeneous materials performed on the Covered Products by independent third parties. Cree has endeavored to be diligent and thorough.

This certification only applies to the products and specific materials or substances listed within this document. No additional certifications, expressions of risk or liability, or further declarations are made, expressed or implied. The recipient or end user of this data is responsible for determining the applicability of this data to its specific use or electrical or electronic equipment application. Other jurisdictions and governing bodies may enact or may have enacted additional restrictions and/or controls on these or other substances or materials, which restrictions and controls are outside the scope of this certification.

Due to the frequency of changes and the diversity in international laws regarding restricted and controlled substances, the certifications contained in this certificate are limited to compliance with the versions of the directives, guidelines and legislation referenced above. Unless and until Cree updates this certificate, the recipient or end user of this data should be aware that changes may occur or may have occurred in the directives, guidelines and legislation versions referenced above, and that this certification does not address the impact, if any, of such changes on the Covered Products.

Reviewed and approved for release by:

Barry H. Rayfield

and

Randy A. Amott

Date: 10/16/2008

Date: 10-16-2008

For additional information regarding this declaration, please contact:

Barry Rayfield
Cree - International Environmental Coordinator
Telephone: 919-313-5373
Email: barry_rayfield@cree.com

or Randy Amott
Cree - Environmental Safety & Health Manager
Telephone 919-287-7542
Email: randy_amott@cree.com



Revision Date: October 16, 2008
Document ID: ERD1008DUR_WAFERS

Table 1 - Environmentally Restricted Content Summary

Material/Substance	Regulation Restricting Use	CAS #	Covered Product Content	Units	Below Limit
Antimony/antimony compounds	JIG, PnHS	Various	non-detect	ppm	yes
Asbestos/asbestos compounds	RoHS, PnHS	Various	non-detect	ppm	yes
Asbestos	PnHS, REACH candidate lists	Various	not intentionally added or used	fibers	N/A
AZO dyes	REACH candidate lists	Various	non-detect	ppm	yes
Bisphenol/A polycarbonate compounds	Various	Various	not intentionally added or used	ppm	yes
Bismuth/bismuth compounds	JIG	Various	non-detect	ppm	yes
Bromomethane	JIG	74-83-4	not intentionally added or used	ppm	N/A
Cadmium/cadmium compounds	RoHS, PnHS	Various	non-detect	ppm	yes
Chromium/Chromium compounds (hexavalent)	RoHS, JIG, PnHS	Various	non-detect	ppm	yes
COBALT Compounds	JIG, REACH SVHC	Various	not intentionally added or used	ppm	N/A
Group 1 COPs (space depleting)	Various	Various	not intentionally added or used	ppm	N/A
Chlorinated Paraffins (Hydrocarbons)	Various	Various	not intentionally added or used	ppm	N/A
Formaldehyde	Germany (packaging)	50-00-0	not intentionally added or used	ppm	N/A
Halons	Various	Various	not intentionally added or used	ppm	N/A
HCF/Cs	Various	Various	non-detect	ppm	yes
Group 2 HCF/Cs (space depleting)	Various	Various	non-detect	ppm	yes
HFPC	EU SVHC/REACH	N/A	not intentionally added or used	ppm	N/A
Hexavalent chromium	RoHS	7440-47-3	non-detect	ppm	yes
Lead/lead compounds	RoHS	Various	non-detect	ppm	yes
Mercury/mercury compounds	RoHS	Various	non-detect	ppm	yes
Misc	EU RoHS/REACH	2385-45-5	not intentionally added or used	ppm	N/A
Organic tin compounds	JIG, PnHS	Various	not intentionally added or used	ppm	N/A
Polybrominated biphenyls (PBBs)	RoHS, PnHS	Various	non-detect	ppm	yes
Polybrominated diphenyl ethers (PBDEs)	RoHS, PnHS	Various	non-detect	ppm	yes
Dibrominated diphenyl ethers (PBDEs)	RoHS (added 2008)	Various	non-detect	ppm	yes
Polychlorinated biphenyls (PCBs)	REACH, PnHS	Various	non-detect	ppm	yes
PFCs, including PFOA/PFOOs	PnHS	Various	non-detect	ppm	N/A
Phthalates (packaging, DTPP)	REACH SVHC, PnHS	Various	not intentionally added or used	ppm	N/A
Polyvinyl chloride (PVC)	JIG, PnHS (proposed)	Various	not intentionally added or used	ppm	N/A
Radioactive Materials	Various	Various	not intentionally added or used	ppm	N/A
Selenium/selenium compounds	JIG	Various	not intentionally added or used	ppm	N/A
Tellurium/tellurium compounds	JIG	Various	not intentionally added or used	ppm	N/A
Thallium/thallium compounds	JIG	Various	not intentionally added or used	ppm	N/A
Vinyl chloride	PnHS (proposed)	75-35-4	not intentionally added or used	ppm	N/A

Notes for Table 1:

RoHS = EU RoHS regulations effective July 1, 2006, and PRC (China) RoHS regulations effective July 1, 2007
PnHS = Norwegian product regulations effective January 1, 2008 or proposed amendments as noted
JIG = Joint Industry Guide and/or Japanese Green Procurement Initiative as outlined in JGPSSS/EICIA
N/A = Not detected
Not intentionally added or used = This material is not knowingly incorporated into the covered product by Cree or our suppliers

Table 2 - Product Content Summary

One or more of the following non-restricted substances are included in the covered products:

Substance/material	Use	Level
Silicon carbide	Substrate	%
Silicon	Trace component	<0.01%
Carbon	Trace component	<0.01%
Nitrogen	Trace component	<0.01%

Notes:

Other components may be present at low ppm or sub-ppm levels resulting from the typical trace impurities in our raw material feed stocks.



V. REACH SVHC Declaration Form

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Toshiba TEC EU REACH Declaration for Store Automation and Printing products

Based on first Candidate List published on October 28th, 2008

The new European Union (EU) chemical regulation, REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), entered into force on 1st June 2007. The candidate list according to Article 59 of REACH was published on 28th October 2008. REACH requires TOSHIBA TEC to provide customers with sufficient information if Substances of Very High Concern (SVHC) of candidate list are contained in our products in a concentration above 0.1% weight by weight (w/w).

¹⁾ The below mentioned SVHC may be contained in the listed articles in a concentration above 0.1% weight by weight.

Products

Products	Substances of Very High Concern (SVHC)	
	Substance name ¹⁾	EC Number (CAS Number)
Printer with accessories, such as AC cable, etc. ²⁾	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)
POS terminal with accessories, such as AC cable, etc. ²⁾	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)
Electronic cash register with accessories, such as AC cable, etc. ²⁾	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)

²⁾ calculation is based on the total weight % of all parts delivered with product.

Options

Products	Substances of Very High Concern (SVHC)	
	Substance name ¹⁾	EC Number (CAS Number)
Drawer	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)
Keyboard	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)
Scale	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)
Display	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)
Card Reader	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)
Others	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)

Disclaimer

All information in this document is provided to the best of Toshiba's knowledge at the time of completion. This declaration is provided for informational purposes only. Toshiba provides this information without warranties of any kind neither expressed nor implied including but not limited to warranties for a particular purpose. Toshiba does not warrant that the content will be error free.

TOSHIBA TEC Europe Retail Information Systems Headquarters
Rue de la Celideestraat 33 BE-1080 Brussels Belgium

V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-독일

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Toshiba EU REACH Declaration for PC products

Based on first Candidate List published on October 28th, 2008

The new European Union (EU) chemical regulation, REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), entered into force on 1st June 2007. The candidate list according to Article 59 of REACH was published on 28th October 2008. REACH requires Toshiba to provide customers with sufficient information if Substances of Very High Concern (SVHC) of candidate list are contained in our products in a concentration above 0.1% weight by weight (w/w).

¹⁾ The below mentioned SVHC may be contained in the listed articles in a concentration above 0.1% weight by weight.

Laptops

Products	Substances of Very High Concern (SVHC)	
	Substance name ¹⁾	EC Number (CAS Number)
Laptops with accessories, such as AC cable, AC adapter, etc. ²⁾	Bis (2-ethyl(hexyl)phthalate) (DEHP) in AC-cable	204-211-0 (117-81-7)

²⁾ calculation is based on the total weight % of all parts delivered with the laptop

Options

Products	Substances of Very High Concern (SVHC)	
	Substance name ¹⁾	EC Number (CAS Number)
AC Adapter, Notebook Car Adapter	-	n. a.
Battery Pack, High Capacity Battery Pack, Slim Select Bay 2nd Battery Pack	-	n. a.
Battery Charger (without AC cable)	-	n. a.
Power Cord	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)
Built-in Optical Disc Drive	-	n. a.
External Optical Disc Drive	Bis (2-ethyl(hexyl)phthalate) (DEHP) in AC-cable	204-211-0 (117-81-7)
Built-in Hard Disk Drive	-	n. a.
External Hard Disk Drive	Bis (2-ethyl(hexyl)phthalate) (DEHP) in AC-cable	204-211-0 (117-81-7)
FDD kit, USB FDD	-	n. a.
Mice (Optical, Wireless, Bluetooth)	-	n. a.

Toshiba EU REACH Declaration for PC products

Based on first Candidate List published on October 28th, 2008

USB Keyboards	-	n. a.
Wireless Presenter	-	n. a.
Card Reader	-	n. a.
Docking Stations (EPR, SPR)	-	n. a.
Docking Stations (dynadock)	Bis (2-ethyl(hexyl)phthalate) (DEHP) in AC-cable	204-211-0 (117-81-7)
Photo Scanner	-	n. a.
Digital Photo Frame	Bis (2-ethyl(hexyl)phthalate) (DEHP) in AC-cable	204-211-0 (117-81-7)
Digital Video Camera (Battery)	Bis (2-ethyl(hexyl)phthalate) (DEHP) in AC-cable	204-211-0 (117-81-7)
USB Webcam	-	n. a.
Kensington Lock	-	n. a.
Screen Filter (Privacy filter)	-	n. a.
Memory module	-	n. a.
USB Flash Drives, USB Memories	-	n. a.
Carry Case (Shoulder back, Back pack, Wheel case)	-	n. a.
Select Bay HDD Adapter	-	n. a.
Notebook Stand	-	n. a.
Bundles (Notebook Starter Kit)	-	n. a.
Tablet Pen	-	n. a.
Cables (HDMI)	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 (117-81-7)

date: 28.10.2008

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V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-독일

TOSHIBA
Leading Innovation >>>

TOSHIBA EUROPE GMBH
Hammfelddamm 8 D-41460 Neuss
Postfach 101462 D-41414 Neuss
Tel.: +49 (0) 2131-158-01
Fax: +49 (0) 2131-158-341

Toshiba EU REACH Declaration for SDD Products

Dear Customer,

Thank you for your interest in our products and their compliance with the European Union (EU) chemical regulation No. 1907/2006 (REACH).

Based on first Candidate List published on October 28th, 2008

The new European Union (EU) chemical regulation, REACH (Registration, Evaluation, Authorization and Restriction of Chemicals), entered into force on 1st June 2007. The candidate list according to Article 59 of REACH was published on 28th October 2008.

REACH requires Toshiba to provide customers with sufficient information if Substances of Very High Concern (SVHC) of candidate list are contained in our products in a concentration above 0.1% weight by weight (w/w).

1) The below mentioned SVHC may be contained in the listed articles in a concentration above 0.1% weight by weight.

Hard Disk Drive Products

Product	Substances of Very High Concern (SVHC)	
	Substance name	EC Number / (CAS Number)
External Hard Disk Drive USB-Cable	Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0 / (117-81-7)

Date: 12.03.2009

REACH declaration 2009.doc
13/03/2009

Managing Director:
Noriaki Hashimoto
HRB 3479 AG Neuss

TOSHIBA
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TOSHIBA EUROPE GMBH
Hammfelddamm 8 D-41460 Neuss
Postfach 101462 D-41414 Neuss
Tel.: +49 (0) 2131-158-01
Fax: +49 (0) 2131-158-341

Disclaimer

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Joergen Klein
Quality Manager
Storage Device Division
Toshiba Europe GmbH
Hammfelddamm 8
41460 Neuss
Germany
<http://www.storage.toshiba.eu/>

E-Mail: joergen.klein@toshiba-europe.com
Phone: +49 (0) 2131 158 259
Fax: +49 (0) 2131 158 473
Mobil: +49 (0) 172 2023083

REACH declaration 2009.doc
13/03/2009

Managing Director:
Noriaki Hashimoto
HRB 3479 AG Neuss



V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-대한민국

AUK CORP.

Corporation Statement Regarding the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

This document is AUK Corporation statement regarding Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH). The content of this document is based upon information collected from AUK Corporation supply chain, manufacturing facilities and affiliates worldwide.

In accordance with Article 33 of REACH, AUK is obligated to inform recipients of articles that contain any of the chemicals on the Substance of Very High Concern (SVHC) candidate list above a 0.1% concentration (by weight per article).

We hereby declare that products manufactured and marketed by AUK Corporation do not contain substances on the REACH SVHC candidate list, in the table below in concentrations greater than 0.1% by weight per article. However, humidity indicator cards placed in dry pack bags of moisture sensitive products may contain 5% Cobalt dichloride. Also, tube-style rails that product is stored and shipped in may contain phthalates in the PVC tube.

Substance Name	CAS Number
Anthracene(PAH)	120-12-7
4,4'- Diaminodiphenylmethane	101-77-9
Dibutyl phthalate	84-74-2
Cyclododecane	294-62-2
Cobalt dichloride	7546-79-9
Diarsenic pentaoxide	1303-28-2
Diarsenic trioxide	1327-53-3
Sodium dichromate dehydrate	7789-12-0
5-tert-butyl-2,4,6-trinitro-m-xylene(musk xylene)	81-15-2
Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7
Hexabromocyclododecane (HBCDD)	25637-99-4
Alkanes, C10-13, chloro(SCCP)	85535-84-8
Bis(tributyltin)oxide	56-35-9
Lead hydrogen arsenate	7784-40-9
Triethyl arsenate	15606-95-8
Benzyl butyl phthalate	85-68-7

AUK will continue to monitor the developments of the REACH legislation and is committed to meeting our responsibilities as an environmentally-responsible company.

Please contact me if you have any questions or need additional information.

AUK Corporation
Office Tel : 82-
E-mail : info@auk.co.kr

Date : April 1, 2009

REACH Declaration


Providing for limitations below, AUK certifies that the information provided in this document is correct as of the date indicated on this page.

AUK has implemented systems to ensure our products are compliant to environmental regulations and laws worldwide. However, not all materials in AUK products may have been independently verified regarding substance content. In the event of any issues arising from information in this document, the warranty section of AUK standard terms and conditions of sale shall apply, unless alternate contracts have been agreed upon in writing by both parties.



V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form -대한민국

		Electronics Co., LTD. San #24 Tel. +82-		0, KOREA 4																																	
To :																																					
From : ELECTRONICS CO.LTD.																																					
Date : 2008-10-22																																					
SUB : Declaration of 15 SVHCs of EU REACH for																																					
<p>Electronics Co. Ltd (the company) hereby declares that the product(s) described above do(es) not contain the 15 SVHCs(substances of very high concern). SVHCs are defined by REACH Article 57 and in accordance with Directive 67/548/EEC and criteria set out in REACH Annex XIII.</p> <p>These 15 substances will be included in the Candidate List. Cyclododecane, the Member State Committee (MSC) unanimously agreed that there was no sufficient scientific data to justify identification under Article 57.</p>																																					
<table border="1"> <thead> <tr> <th>Substance Name</th> <th>CAS number</th> </tr> </thead> <tbody> <tr><td>Anthracene</td><td>120-12-7</td></tr> <tr><td>4,4'-Diaminodiphenylmethane</td><td>101-77-9</td></tr> <tr><td>Dibutyl phthalate (DBP)</td><td>84-74-2</td></tr> <tr><td>Cobalt dichloride</td><td>7646-79-9</td></tr> <tr><td>Diarsenic pentoxide</td><td>1303-28-2</td></tr> <tr><td>Diarsenic trioxide</td><td>1327-53-3</td></tr> <tr><td>Sodium dichromate</td><td>7789-12-0</td></tr> <tr><td>5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)</td><td>81-15-2</td></tr> <tr><td>Bis (2-ethylhexyl)phthalate (DEHP)</td><td>117-81-7</td></tr> <tr><td>Hexabromocyclododecane(HBCCD)</td><td>25637-99-4</td></tr> <tr><td>Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)</td><td>85535-84-8</td></tr> <tr><td>Bis(tributyltin)oxide (TBTQ)</td><td>56-35-9</td></tr> <tr><td>Lead hydrogen arsenate</td><td>7784-40-9</td></tr> <tr><td>Benzyl butyl phthalate (BBP)</td><td>85-68-7</td></tr> <tr><td>Triethyl arsenate</td><td>15606-96-8</td></tr> </tbody> </table>						Substance Name	CAS number	Anthracene	120-12-7	4,4'-Diaminodiphenylmethane	101-77-9	Dibutyl phthalate (DBP)	84-74-2	Cobalt dichloride	7646-79-9	Diarsenic pentoxide	1303-28-2	Diarsenic trioxide	1327-53-3	Sodium dichromate	7789-12-0	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	Hexabromocyclododecane(HBCCD)	25637-99-4	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	Bis(tributyltin)oxide (TBTQ)	56-35-9	Lead hydrogen arsenate	7784-40-9	Benzyl butyl phthalate (BBP)	85-68-7	Triethyl arsenate	15606-96-8
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Benzyl butyl phthalate (BBP)	85-68-7																																				
Triethyl arsenate	15606-96-8																																				
<p>The company's products (articles) are not intended to release chemical substances under standard and predictable conditions. Therefore obligations of pre-register resister are irrelevant. The company will continue to monitor the status of the Candidate List as part of our on-going compliance activities.</p>																																					
<p>This declaration represents the Company's knowledge and belief which is partially based on information provided by third party suppliers.</p>																																					
<p>Regards,</p>																																					
<p>Environmental Senior Manager Environment, Safety & Health Team</p>																																					



V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-미국



REACH SVHC DECLARATION

Registration, Evaluation, Authorisation and restriction of Chemicals
Substance of Very High Concern (SVHC) Declaration (2010-03-31)

Dear Valued Customers,

Based on a diligent review of information provided by our raw material suppliers, Kester can report that our products and parts **do not contain** above the 0.1% weight (w/w) threshold of any Substance of Very High Concern (SVHC) on the following recently published European Chemicals Agency (ECHA) candidate list.

Substance Name	EC Number	CAS Number
Bis(tributyltin)oxide	200-268-0	56-35-9
Acrylamide	201-173-7	79-06-1
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2
Dibutyl phthalate (DBP)	201-557-4	84-74-2
Diisobutyl phthalate	201-553-2	84-69-5
Benzyl butyl phthalate	201-622-7	85-68-7
4,4'- Diaminodiphenylmethane (MDA)	202-974-4	101-77-9
Tris(2-chloroethyl)phosphate	204-118-5	115-96-8
Bis (2-ethyl(hexyl)phthalate) (DEHP)	204-211-0	117-81-7
Anthracene	204-371-1	120-12-7
2,4-Dinitrotoluene	204-450-0	121-14-2
Cyclododecane	206-033-9	294-62-2
Diarsenic pentaoxide	215-116-9	1303-28-2
Diarsenic trioxide	215-481-4	1327-53-3
Lead sulfochromate yellow	215-693-7	1344-37-2
Cobalt dichloride	231-589-4	7646-79-9
Lead chromate	231-846-0	7758-97-6
Lead hydrogen arsenate	232-064-2	7784-40-9
Sodium dichromate, dihydrate	234-190-3	7789-12-0
Lead chromate molybdate sulphate red	235-759-9	12656-85-8
Triethyl arsenate	427-700-2	15606-95-8
Hexabromocyclododecane (HBCDD)	247-148-4	25637-99-4
Coal tar pitch, high temperature	266-028-2	65996-93-2
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	287-476-5	85535-84-8
Anthracene oil	292-602-7	90640-80-5
Anthracene oil, anthracene paste	292-603-2	90640-81-6
Anthracene oil, anthracene-low	292-604-8	90640-82-7
Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2
Anthracene oil, anthracene paste, distn. Lights	295-278-5	91995-17-4
Zirconia Aluminosilicate and Aluminosilicate, Refractory Ceramic Fibres	CLP Index # 650-017-00-8	

Kester is primarily a Downstream User as defined by the requirements of the European Union (EU) Regulation – Registration, Evaluation, Authorisation and restriction of Chemicals (REACH). Kester will purchase raw materials from upstream suppliers that follow through with the final REACH registration. Kester finished products (bar solder, solder wire, solderforms, soldering fluxes, flux thinners, solder paste, and solder masks) are defined as preparations or mixtures that will not require registration under Article 7.1 of REACH.

Be assured that Kester will continue to monitor the REACH regulations for any new Substances of Very High Concern (SVHC) that may be included in subsequent ECHA candidate lists. Kester will compare any newly listed SVHC with the raw materials in our finished preparation / mixture product lines and communicate this information to our customers.

Respectfully,
Tony DiDomenico
Environmental, Health and Safety Manager
Kester Global Headquarters

tdidomenico@kester.com
630.616.6844 - Phone
630.616.4044 - Fax

Disclaimer: THIS STATEMENT IS FOR INFORMATIONAL PURPOSES ONLY, DOES NOT CONSTITUTE A LEGAL REPRESENTATION AND DOES NOT CREATE OR CONFIRM THE EXISTENCE OF ANY RIGHTS, LIABILITIES OR OBLIGATIONS OF KESTER, ITS AFFILIATES, ANY OF THEIR RESPECTIVE CUSTOMERS OR ANY OTHER PERSON. THE SALE OF KESTER PRODUCTS SHALL BE GOVERNED EXCLUSIVELY BY THE TERMS AND CONDITIONS SET FORTH IN THE APPLICABLE KESTER SALE AGREEMENT.

V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-대만(1)



MEAN WELL ENTERPRISES CO., LTD.
No.28, Wu-Chuan 3rd Road, Wu Ku Ind. Park,
Taipei Hsien, Taiwan, 248

TEL: 886-2-2299-6100
FAX: 886-2-2299-6200
http://www.meanwell.com

Declaration of SVHC / REACH Conformity

2010.06.14.

To minimize the environmental impact and take more responsibility to the earth we live, MEAN WELL hereby confirms that the following product series comply with the restriction of SVHC (Substances of Very High Concern) in (EC) 1907/2006 (REACH -- Registration, Evaluation, Authorization, and Restriction of Chemicals) regulated by the European Union.

Content of Compliance

30 substances listed in SVHC <0.1 % by weight (1000 ppm)
(For more information about SVHC candidate list, please refer to the following pages)

Product Series

Please refer to the attached list for details.

Delivery

Products announced to be for SVHC compliance can be provided now.

Product Family	Series
G3	RS-15/25/35/50/75/100/150, RD-35/50/65/85/125, RID-50/65/85/125, RT-50/65/85/125, RQ-50/65/85/125
G2	S-25/40/60/100F/150/240, T-40, D/ID/T/IT/Q/IQ-60, D/T/Q-120, SC-150, SE-1000/1500
PFC	SP-75/100/150/200/240/320/480/500/750, USP-150/225/350/500, TP-75/100/150, QP-100/150/200/320/375, PSP-500/600/1000/1500, RSP-1000/1500/2400/3000, SPV-150/300/1500, HSP-250, HRP-75/100, HRP(G)-150/200/300/450/600
LED	CLG-60/100/150, PLN-20/30/45/60/100, PLC-30/45/60/100, ELN-30/60, LPH(C)-18, LPL(C)-18, LPV(C)-20/35/60, LPV-100, HLG-100/120/150/185/240(H), PLP-20/30/45/60, CEN-60/75/100, ULP-150
DIN	MDR-10/20/40/60/100, DR-15/30/45/60/75/100/120, DRH-120, DRP-240/480/480S, DRT-240/480/960, SDR-120/240/480(P), WDR-120/480, DR-RDN20, DR-UPS40
Modular	MP450/650/1K0, MS-75/150/300, MD-100
19" Rack Power	RCP-1000, RCP-1U, RCP-MU
Open Frame	NFM-05/10/15/20, PM-05/10/15/20, PS-05/15, PS/PD-25, PS-35, PS/PD/PT-45, PS/PD/PT-65, RPD/RPT-65, PD-110, PQ-100, PPQ-100, PPS/PPT-125, LPS-50/75/100, LPP-100/150, ASP-150, PPS-200, PID-250, MPS-30, MPS/MPD/MPT-45, RPS/RPD/RPT-60, MPS/MPD/MPT-65, RPS/RPD/RPT-75, RPS(G)/RPD(G)/RPT(G)-160, MPS/MPD/MPT/MPQ-120, MPS/MPD/MPT/MPQ-200, ELP-75,
Charger	GC-30/120/160/220, PA/PB/PS-120, ESC/ESP-120, ESC/ESP-240, PB-230/300/360/600/1000
Adaptor	GS06/12/15/18/25/40/60/90/120/160/220, GE12/18/24, ES18/25, P25, P50, MES-30/50, AS-120P
Security	SCP-35/50/75, ADS-55/155, AD-55/155, ADD-55/155, PSC-60/100
ATX / Gaming Power	ATX-100, YP-350J, YP-350A/400A/450A, IPC-200/250/300, MWP-610(P)
DC/DC Converter	SD-15/25/50/100/150/200/350/500/1000, SDM30, NSD05/10/15, PSD-05/15/30/45, SBT, SFT, DET, SRS, SUS, SPR, SMU, SMA, SPU, SPA, SPB, SCW, SLW, SKE, SKA, DCW, DLW, DKE, DKA, TKA, NID30/60
Inverter	TS-200/400/700/1000/1500/3000, TN-1500/3000, A301/A302, IRC1/2/3
Power Cord	YP** + YC**

ISO-9001 CERTIFIED
Your Reliable Power Partner

Jerry Lin / President
MEAN WELL Enterprises Co., Ltd.

ISO-9001 CERTIFIED
Your Reliable Power Partner



V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-대만(2)

Substance Identification			Date of Inclusion	Decision Number
Substance name	CAS number	EC number		
Anthracene	120-12-7	204-371-1	28/10/08	ED/67/2008
4,4'- Diaminodiphenylmethane (MDA)	101-77-9	202-974-4	28/10/08	ED/67/2008
Dibutyl phthalate (DBP)	84-74-2	201-557-4	28/10/08	ED/67/2008
Benzyl butyl phthalate (BBP)	85-68-7	201-622-7	28/10/08	ED/67/2008
Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	204-211-0	28/10/08	ED/67/2008
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4	28/10/08	ED/67/2008
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified	25637-99-4	247-148-4 and 221-695-9	28/10/08	ED/67/2008
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-5	28/10/08	ED/67/2008
Bis(tributyltin)oxide (TBTO)	56-35-9	200-268-0	28/10/08	ED/67/2008
Cobalt dichloride	7646-79-9	231-589-4	28/10/08	ED/67/2008
Diarsenic pentaoxide	1303-28-2	215-116-9	28/10/08	ED/67/2008
Diarsenic trioxide	1327-53-3	215-481-4	28/10/08	ED/67/2008
Triethyl arsenate	15606-95-8	427-700-2	28/10/08	ED/67/2008
Lead hydrogen arsenate	7784-40-9	232-064-2	28/10/08	ED/67/2008
Sodium dichromate	10588-01-9	-----	28/10/08	ED/67/2008

Substance Identification			Date of Inclusion	Decision Number
Substance name	CAS number	EC number		
Anthracene oil	90640-80-5	292-602-7	13/01/10	ED/68/2009
Anthracene oil, anthracene paste, distn. lights	91995-17-4	295-278-5	13/01/10	ED/68/2009
Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	295-275-9	13/01/10	ED/68/2009
Anthracene oil, anthracene-low	90640-82-7	292-604-8	13/01/10	ED/68/2009
Anthracene oil, anthracene paste	90640-81-6	292-603-2	13/01/10	ED/68/2009
Pitch, coal tar, high temp.	65996-93-2	266-028-2	13/01/10	ED/68/2009
Aluminosilicate Refractory Ceramic Fibres	-----	650-017-00-8**	13/01/10	ED/68/2009
Zirconia Aluminosilicate, Refractory Ceramic Fibres	-----	650-017-00-8**	13/01/10	ED/68/2009
2,4-Dinitrotoluene	121-14-2	204-450-0	13/01/10	ED/68/2009
Diisobutyl phthalate(DIBP)	84-69-5	201-553-2	13/01/10	ED/68/2009
Lead chromate	7758-97-6	231-846-0	13/01/10	ED/68/2009
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	235-759-9	13/01/10	ED/68/2009
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	215-693-7	13/01/10	ED/68/2009
tris(2-chloroethyl)phosphate	115-96-8	204-118-5	13/01/10	ED/68/2009
Acrylamide	201-173-7	79-06-1	30/03/10	ED/68/2009

REACH SVHC Test Report-홍콩

[illegible]

 <div> CMA Testing and Certification Laboratories <small>WARRINGTON</small> </div>		
<u>TEST REPORT</u>		
Report No.	AE031702461	Date: 2008-08-01
Applicant's No.	LC020107	
Applicant	ANGELENA FARMER ASSOCIATED LIMITED RM120JLJF, REGENT CTR, TOWER A, 61 WILYBROD RD, CRAIG MCTON, S.T. BIRMINGHAM	
Sample Description	One (1) extracted sample stored in 1x CRYSTAL STONE. Country of Origin: CHINA Country of Destination: UNITED KINGDOM	
		
Date Received	2008-08-01	
Test Period	2008-08-01 to 2008-08-08	
Test Requested	London (UK) Subsequence of Very High Carat (VHC) screening based on the List published by European Council of Experts (ECCA) on 2008 July 4 for public consultation, regarding Exemption (EC) No 347/2007 concerning the ELACN	
Test Method	In house method with reference to L2004, L201A, L200A (EC), L200A (EU), ISO 17103:2004 and confirmed by ICP-AES, ICP-MS, GC-MS and GC-ECD Remarks: The UK VHC screening method is performed with currently available screening techniques against the list published by ECCA on 2008 July 4, and shall refer to http://ec.europa.eu/consultations/information_enb_enb_enb_enb	
Test Result	Refer to the results on page 2	
Conclusion	According to the specified scope and analytical techniques, concentrations of 18 VHCs are <0.2% in the extracted sample(s).	
We warrant that of CMA International Development Procedures Limited		



V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form-DOC Sample

- **Company A's products/articles do not contain SVHC's or if there is SVHC in the product/article, the content is less than the 0.1% (wt/wt) as defined by REACH Article 57, Annex XIV, Directive 67/548/EEC.**
- **Therefore the requirement in REACH Article 7 (2) to notify ECHA if a product/article contains more than 0.1% wt/wt of an SVHC and tonnage exceeding 1 ton per importer per year is not applicable.**



V. REACH SVHC Declaration Form

▶ REACH SVHC Declaration Form- Example

Company Name, Address, Phone Number, Fax Number, Home page					
REACH SVHC Declaration Form					
Company Name					
REACH Contact:	Name / Position/ Phone number / Fax Number / E-mail address				
SUPPLIER					
Company Name:					
Address:					
Phone:		Fax:		email:	
REACH Contact:					
	(name / title / phone / fax / e-mail)				
Please copy this form as needed and provide separate completed table for each unique item supplied to Electrocube.					
The following substance, preparation, or article provided by Supplier to Company Name , DOES or DOES NOT , contain the indicated substance in a concentration greater than 0.1% w/w, (as indicated by annotation of the appropriate column and row of the SVHC Table).					
Supplier Part No.:			Company Part No.:		
Item Description:					
Substances of Very High Concern (SVHC) Table:			Please Provide Actual %w/w Please Provide Actual %w/w DOES (>0.1%w/w/v) DOES NOT (<=0.1%w/w/v)		
Substance Name	CAS No.	EC No.	DOES (>0.1%w/w/v)	DOES NOT (<=0.1%w/w/v)	COMMENTS
Anthracene	120-12-7	204-371-1			
4,4'-Diaminodiphenylmethane	101-77-9	202-974-4			
Dibutylphthalate	84-74-2	201-857-4			
Cobalt dichloride	7646-79-9	231-889-4			
Dibenzoyl peroxide	1303-28-2	215-116-9			
Dibenzoyl peroxide	1303-28-2	215-116-9			
Sodium dichromate, dihydrate	7789-12-0 and 10588-01-9	234-190-3			
5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	201-329-4			
Bis (2-ethylhexyl)phthalate (DEHP)	117-81-7	204-211-0			
Hexabromocyclopentadiene (HBCDD) and all major diastereoisomers (a-HBCDD, β-HBCDD, γ-HBCDD)	29537-99-4, 8,3194-85-6 (134237-51-7, 134237-50-6 and 134237-52-8)	247-148-4 and 221-695-9			
Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	287-476-6			
Bis (2-ethylhexyl)oxide	56-35-9	200-268-0			
Lead hydrogen arsenate	7784-40-9	232-064-2			
Benzylbutylphthalate	95-69-7	201-622-7			
Triethylarsenate	15905-95-8	427-700-2			
Supplier hereby certifies that the SVHC content of the noted substance, preparation or article provided to Company Name , as indicated in the above table, is accurate to the best of their knowledge and in accordance with the requirements of the REACH Regulation EC 1907/226.					
SUPPLIER Authorized Signature:			Date		
Name (printed)			Title		
Company Name reserves the right to review supplier's data used as proof of compliance with this requirement.					



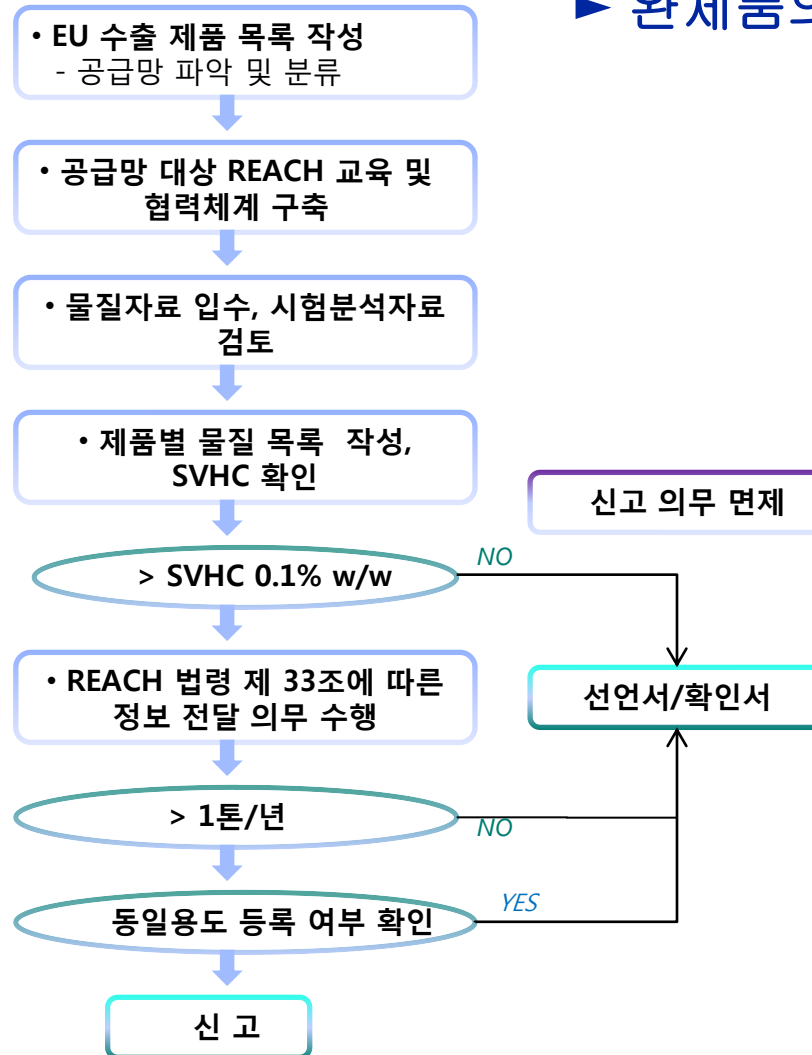
REACH SVHC Inventory Sample

제품명	총중량(g)	구성품 코드	구성부품명	구성부품 중량(g)	구성비1 (%)	균일 재질 물질 정보(Homogeneous part information)							SVHC (Yes or No)	제한물질 (Yes or No)	사전 등록번호	SVHC 사용용도	균일 재질 공급 협력사 Contact point
						균일 재질명	구성비2 (%)	화학물질명	구성비3 (%)	화학물질의 구성성분명	CAS No	구성비4 (%)					
ABC-1	XXXg	-	A										N	N			
		-	B										N	N			
		-	C										N	N			
		-	D										N	N			
		-	E										N	N			
		-	F										N	N			
		-	F										N	N			
		-	F										N	N			
		-	F										N	N			
		-	F										N	N			
		-	F										N	N			
		-	F										N	N			
		-	G										N	N			
		-	H										N	N			
		-	H										N	N			
		-	H										N	N			
		-	H										N	N			
		-	I										N	N			
		-	J										N	N			
		-	K										N	N			



VI. 결론

▶ 완제품의 REACH 대응 절차



출처: “REACH 대응은 우리기업생존의 문제입니다.
지식경제부, 환경부, 중소기업청



VI. 결론

▶ 완제품 업체의 REACH 대응 전략

- ◆ 공급망 내의 긴밀한 의사소통(상생차원)
- ◆ 완제품 내에 포함된 화학물질(물질, 혼합물)의 조성 등의
사업장내 통합 표준 관리 틀을 통한 정보 정보관리의 필요성
- ◆ 공급망 내 물질정보전달 표준 양식개발 및 보급 및 사실에 근거한 작성
- ◆ 제품의 및 수출 현황, 향후 수출량, 상위공급자의 등록현황 파악,
하위사용자의 수출현황 등의 지속적인 관리
- ◆ 효율적이고 과학적인 공급망 관리시스템(supply chain management system, SCM) 을 이용하여 체계적인 관리 개발



VI. 결론

- ◆ REACH는 법령(Regulation) : No data No market
- ◆ 국내실정상 어려움이 있으나 대상물질의 마감일 이전에 신고 이행
- ◆ REACH제도에 따라 이행하지 않으면 EU수출 불가
 - 벨기에, 네덜란드, 핀란드 세관의 통관보류 및 거부
 - 유럽 주요국가들의 강력한 처벌규정 마련

{영국: 벌금의 상한가 규정 무한(unlimited), 벨기에: 5,500만 유로(약 865억원)}
- ◆ 지속적인 EU 현지 모니터링(SVHC 목록 추가여부)
- ◆ 관련전문기관과 상담을 통해 대응전략 수립
- ◆ 기업에서 제품 내 원료물질 목록 작성 및 유지 관리
- ◆ 사내 전문인력 양성과 대응 준비 개시(ASAP)
- ◆ 세계 많은 나라도 유사한 제도 검토와 시행준비 (물질 규제 → 제품규제)



감사합니다 !