



폐기물 재활용 시 유해특성 제거 또는 안정화 기술에 관한 지침서

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환경부
자원재활용과

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제1장 일반 사항

제1조 (목적 및 배경) 이 지침서는 「폐기물관리법 시행령」 제7조의2에 따른 폐기물의 유해특성 제거 또는 안정화를 위해 확인해야 하는 폐기물의 종류 및 발생업종에 관한 규정 고시, 폐기물 유해특성의 성질 및 해당 기준과 UN, 바젤협약, OECD 및 EU, 미국, 일본 등 선진국에서의 폐기물 유해특성 관리에 대한 자료를 바탕으로 관계기관 및 산업계에서 관련 업무에 참고하기 위한 정보를 제공하고자 작성되었다.

제2조 (관련 법률 및 규정) 이 지침서와 관련한 법률 및 규정은 다음과 같다.

1. 「폐기물관리법」 제13조의2제1항제4호, 제13조의3제1항 및 제13조의5
2. 「폐기물관리법 시행령」 제7조의2 및 제7조의4
3. 「폐기물관리법 시행규칙」 [별표5의4] 폐기물을 재활용하는 자의 준수사항의 폐기물재활용에 따른 취급기준과 방법
4. 유해특성을 확인해야하는 폐기물의 종류 및 발생업종에 관한 규정 고시 (환경부 고시 제2016-182호, 2016.9.9.)
5. 폐기물 유해특성의 성질 및 해당 기준 (환경부 고시 제2016-146호, 2016.7.21.)
6. 「화학물질관리법」 제16조제1항
7. 「화학물질의 등록 및 평가 등에 관한 법률」 제12조제1항제1호 및 제14조제1항
8. 화학물질의 분류 및 표시 등에 관한 규정(국립환경과학원 고시 제2018-5호, 2018.2.28.)

제3조 (적용범위) 이 지침서는 폐기물의 재활용 시 유해특성의 제거 또는 안정화 기술을 적용하여야 하는 폐기물 유해특성을 대상으로 한다. 여기서 폐기물의 유해특성이라 함은 폐기물관리법 시행령 제7조의2에 따른 사항이며 다음 기술한 바와 같다.

1. “폭발성”이란 자체적으로 가스를 생성하는 화학반응을 일으키며, 반응 시 온도, 압력 및 반응속도가 주위에 피해를 유발할 수 있는 성질을 말한다.
2. “인화성”이란 운반 중 쉽게 연소가 일어나거나, 마찰 등이나 일정온도 이하에서도 화재가 유발되거나 인화성 증기를 발생하는 성질을 말한다.
3. “자연발화성”이란 운반 중 상온·상압에서 자연적으로 열을 발생하거나, 공기와 접촉하였을 경우 열이 발생하여 화재를 유발하는 성질을 말한다.
4. “금수성(禁水性)”이란 물과 상호작용하여 자연적으로 인화하거나, 인화성 가스를 지속적으로 방출하는 성질을 말한다.

5. “산화성”이란 그 자체는 연소되지 않으나 산소를 생성하여 다른 물질의 연소를 유발하거나 촉진하는 성질을 말한다.
6. “용출독성”이란 폐기물에 함유된 유해물질이 용출(溶出)되었을 경우 건강이나 생명에 유해한 성질을 말한다.
7. “감염성”이란 인체에 감염 등 위해를 줄 우려가 있는 성질을 말한다.
8. “부식성”이란 생체조직과 접촉했을 때 화학반응을 일으켜 피해를 유발하거나 누출되는 경우 다른 물품 또는 운반도구 등에 산화(酸化) 등 화학반응을 일으켜 피해를 유발하는 성질을 말한다.
9. “생태독성”이란 생태계에 방출될 경우 유해물질로 인하여 생체독성 또는 생물축적(蓄積) 효과에 의하여 생물에 즉시 또는 일정 시간이 지난 후 부정적인 영향을 미치는 성질을 말한다.

제4조 (폐기물 유해특성 제거 또는 안정화 기술 적용 절차) 폐기물 유해특성의 제거 또는 안정화 기술을 적용하기 위한 절차는 다음과 같다.

1. 폐기물의 종류 및 업종별 포함된 화학물질 정보 파악
2. 폐기물 종류별 유해특성 판정
3. 유해특성별 제거 또는 안정화 기술 적용

제2장 폐기물의 종류 및 업종별 함유 화학물질 정보 파악

제5조 (폐기물의 종류별 발생량 정보) 폐기물의 종류별 함유된 화학물질을 파악하기 위해서는 폐기물 종류별 발생량 정보를 파악하여야 하며, 폐기물 종류별 발생량 정보 파악을 위한 정보는 다음과 같다.

1. 폐기물관리법 시행령 별표 1 지정폐기물의 종류 11종의 대분류
2. 폐기물관리법 시행규칙 별표 4 폐기물의 종류별 세부분류
 - 가. 지정폐기물 (대분류 번호 : 01 ~ 30)
 - 나. 사업장일반폐기물 (대분류 번호 : 51)
3. 한국환경공단의 올바로 시스템의 정보
 - 가. 업체명 및 소재지
 - 나. 발생업종 (한국표준산업분류)
 - 다 제1~2호에 따른 폐기물별 분류번호 기준의 폐기물 발생량

제6조 (화학물질 배출·이동량 정보 검토) 폐기물의 종류별 유해특성을 파악하기 위해서는 폐기물에 포함된 화학물질의 정보를 파악하는 것이 필요하며, 폐기물에 포함된 화학물질 정보 파악을 위한 정보는 다음과 같다.

1. 화학물질관리법 대상 유독·제한물질
2. 화학물질 배출·이동량 정보 시스템 (PRTR)
 - 가. 업체명 및 소재지
 - 나. 화학물질의 종류별 배출량 (화학물질 배출량 조사대상 물질)

제7조 (폐기물 종류별 화학물질 목록화) 제5조와 제6조의 정보에서 올라로 시스템상의 업체명 및 소재지와 PRTR의 업체명 및 소재지의 연계를 통하여 폐기물 종류별 화학물질 목록화가 가능하다.

제3장 폐기물 종류별 유해특성 파악

제8조 (폐기물 종류별 유해특성 목록화) 폐기물 종류별 유해특성의 목록은 별표 1과 같다.

제9조 (유해특성별 대표 화학물질 목록화) 폐기물 유해특성별 대표 화학물질 목록은 별표 2와 같다.

제10조 (목록화 자료에서 폐기물의 유해특성을 파악할 수 없는 경우) ① 폐기물에 대한 유해특성을 파악할 수 없는 경우는 다음과 같다.

1. 화학물질 정보에 배출되는 화학물질 종류가 없는 경우
2. 폐기물에 신규 화학물질이 포함된 경우

② 제1항과 같은 경우 폐기물에 대한 유해특성의 판정은 다음의 절차를 거쳐 판정한다.

1. 화학물질은 「화학물질의 등록 및 평가 등에 관한 법률」에 따른 「화학물질의 분류 및 표시 등에 관한 규정(국립환경과학원 고시 제2017-46호)」에서 유해·위험문구로 분류·표기된다.
2. 제7조에 의하여 파악된 화학물질에 대하여 유해·위험문구를 물질보건안전자료 (Material Safety Data Sheet, MSDS)를 통해 확인한다.
3. 화학물질에 대하여 확인된 유해·위험문구를 별표 3의 폐기물 유해특성과 유해·위험문구 연계표를 이용하여 유해특성을 판정한다.

제4장 유해특성의 제거 또는 안정화 적용

제11조 (유해특성별 적용 가능한 기술 목록) 폐기물 유해특성을 제거하거나 안정화하는 기술은 크게 물리적 처리, 화학적 처리, 생물학적 처리, 열적 처리, 안정화 및 고형화의 범주로 나뉘지고 유해특성의 성질에 따라 적용하여야 하며, 폐기물 유해특성별 제거 또는 안정화 기술의 적용 가능성은 별표 4와 같다. 다만, 실제 적용 시에는 채택하고자 하는 방법이 폐기물관리법령에서 정한 재활용 방법에 해당하는지 여부를 추가 확인할 필요가 있다.

제12조 (물리적 처리) 물리적 처리는 입자의 크기나 상대적인 밀도를 변화시키는 방법으로 대부분의 물리적 분리 공정은 주로 회수를 위한 폐기물의 성분 분리 목적으로 이용되며, 최종처분에 있어서도 물리적 처리는 잔류물의 양 또는 유해성을 감소시키고 공정을 단순화하는 역할을 한다. 물리적 처리의 세부적인 공정 및 내용은 별표 5와 같다.

제13조 (화학적 처리) 화학적 처리는 폐기물에 다른 화학물질을 첨가하여 발생하는 화학반응을 이용하여 처리하는 공정으로 유해특성을 가지고 있는 폐기물을 위험하지 않은 상태로의 완전 분해, 위험한 화학종을 보다 쉽게 분리·제거 할 수 있는 형태로 전환하는 것 또는 추가 처리가 필요한 형태로 변환하는 것이며, 화학적 처리의 세부적인 공정 및 내용은 별표 6과 같다.

제14조 (생물학적 처리) 생물학적 처리는 미생물의 대사 작용을 이용하여 특정 화합물을 분해하여 처리하는 것으로 생물학적 처리를 효과적으로 적용하기 위해서는 처리하려는 대상물질에 적합한 미생물을 선택하고 온도, 습도 등 미생물의 대사활동에 적합한 조건을 조성하여 처리를 수행하여야 하며, 생물학적 처리의 세부적인 공정 및 내용은 별표 7과 같다.

제15조 (열적 처리) 열적 처리는 폐기물에 고온의 열을 가하여 유해물질을 처리하는 방법으로 주로 증발 및 증류, 살균 또는 용융 등의 과정을 거쳐 유해물질을 제거 또는 분해하는 방법이며, 열적 처리의 세부적인 공정 및 내용은 별표 8과 같다.

제16조 (안정화 및 고형화) 안정화 및 고형화는 오염된 토양, 퇴적물 또는 슬러지와 같은 폐기물에 대하여 유해물질이 방출되는 것을 방지하거나 지연시키는 방법이며,

일반적으로 폐기물에 포함된 유해물질을 파괴하거나 제거하지 않고 첨가제를 이용하여 반응시키거나 콘크리트와 같은 물질을 이용하여 주변 환경으로 침출되지 않도록 하는 공정이며, 안정화 및 고형화의 세부적인 공정 및 내용은 별표 9와 같다.

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[별표 1]

폐기물 종류별 유해특성 목록

코드	명칭	업종	CAS No.	물질명	유해특성
(01-01)	폐합성고분자화합물	25922	NA-(주3)	Nickel and its compounds	생태독성
		30302			
		17903	NA-(주10)	Aluminium and its compounds	생태독성
		22199			
		25121			
		27329			
		22199	NA-(주12)	Barium and its compounds	금수성
		20119	NA-(주15)	Copper and its compounds	생태독성
		20302			
		25922			
		27329			
		20119	NA-(주20)	Zinc and its compounds	자연발화성, 생태독성
		20302			
		20499			
		22199			
		13409	000064-19-7	Acetic acid	인화성, 부식성
		13409	001310-73-2	Sodium hydroxide	부식성
		18119	000067-63-0	2-Propanol	인화성
18119	000141-78-6	Ethyl acetate	인화성		
(01-01-07)	그 밖의 합성수지	26299	000141-78-6	Ethyl acetate	인화성
		26299	000108-88-3	Toluene	인화성
		26299	000078-93-3	Methyl ethyl ketone	인화성
(01-02-01)	폐수처리오니	25922	NA-(주3)	Nickel and its compounds	생태독성
		25922	001310-73-2	Sodium hydroxide	부식성
		25922	007664-93-9	Sulfuric acid	부식성, 생태독성
		36010	NA-(주10)	Aluminium and its compounds	생태독성
(02-01-01)	폐염산	26110	007775-09-9	Sodium chlorate	산화성
		26221			
		26222			
		26229			
		24222	007647-01-0	Hydrogen chloride	부식성
		25922			
		25923			

코드	명칭	업종	CAS No.	물질명	유해특성
(02-01-01)	폐염산	25941	007647-01-0	Hydrogen chloride	부식성
		26110			
		26221			
		26222			
		26299			
(02-01-02)	폐황산(폐황산이 포함된 2차폐축전지를 포함한다.)	24132	007664-93-9	Sulfuric acid	부식성, 생태독성
		24229			
		25113			
		25119			
(02-01-03)	그 밖의 폐산	26110	007647-01-0	Hydrogen chloride	부식성
		26221			
		26299			
		24111	007722-84-1	Hydrogen peroxide	산화성, 부식성
		26110	007775-09-9	Sodium chlorate	산화성
		26299			
(02-02-00)	폐알칼리	24222	NA-(주10)	Aluminium and its compounds	생태독성
		13402	001310-73-2	Sodium hydroxide	부식성
		24222			
(04-00-00)	폐유기용제	68119	NA-(주10)	Aluminium and its compounds	생태독성
(04-01-00)	할로겐족 폐유기용제	26292	000079-01-6	Trichloroethylene	생태독성
		26299			
		25922	000074-87-3	Methyl chloride	인화성
		25923			
		20499	000108-88-3	Toluene	인화성
		20499	000110-54-3	n-Hexane	인화성, 생태독성
		22199			
		20499	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		22199	000067-63-0	2-Propanol	인화성
		20499			
20499	NA-(주20)	Zinc and its compounds	자연발화성, 생태독성		
(04-02-00)	그 밖의 폐유기용제	20132	NA-(주1)	Lead and its compounds	생태독성
		25922	NA-(주3)	Nickel and its compounds	생태독성
		26293	NA-(주12)	Barium and its compounds	금수성
		23999	NA-(주15)	Copper and its compounds	생태독성
(04-02-00)	그 밖의 폐유기용제	13213	000078-93-3	Methyl ethyl ketone	인화성

코드	명칭	업종	CAS No.	물질명	유해특성
		13994			
		17400			
		17903			
		18129			
		20132			
		20423			
		20491			
		22212			
		22291			
		23121			
		41129			
		52942			
		20132			
		20499	000110-54-3	n-Hexane	인화성, 생태독성
		33999			
		13213			
		13994			
		17400			
		17903			
		17909			
		18129			
		20111			
		20119	000108-88-3	Toluene	인화성
		20129			
		20132			
		20423			
		20491			
		20499			
		21101			
		22212			
		22240			
		22291			
		22299			
		23121	000108-88-3	Toluene	인화성
		25932			
		26219			
		33999			

코드	명칭	업종	CAS No.	물질명	유해특성																																																													
(04-02-00)	그 밖의 폐유기용제	41129	000108-88-3	Toluene	인화성																																																													
		52942				17223	000141-78-6	Ethyl acetate	인화성	18129	20132	20423	20491	21101	21210	22212	22291	22299	26219	33999	41129	20423	000067-63-0	2-Propanol	인화성	21210	22291	58190	52942	000110-82-7	Cyclohexane	인화성, 생태독성	20423	21210	001319-77-3	Cresol(o-,m-,p- isomer mixture)	부식성	24211	24211	000108-95-2	Phenol	부식성	20119	000067-66-3	Chloroform	-	20132	17909	000067-56-1	Methyl alcohol	인화성	20119	20132	20421	20423	20499	21101	(04-02-00)	그 밖의 폐유기용제	21210	000067-56-1	Methyl alcohol	인화성		22212	
		17223	000141-78-6	Ethyl acetate	인화성																																																													
		18129																																																																
		20132																																																																
		20423																																																																
		20491																																																																
		21101																																																																
		21210																																																																
		22212																																																																
		22291																																																																
		22299																																																																
		26219																																																																
		33999																																																																
		41129																																																																
		20423				000067-63-0	2-Propanol	인화성																																																										
		21210																																																																
		22291																																																																
		58190																																																																
		52942	000110-82-7	Cyclohexane	인화성, 생태독성																																																													
		20423																																																																
		21210	001319-77-3	Cresol(o-,m-,p- isomer mixture)	부식성																																																													
		24211																																																																
		24211	000108-95-2	Phenol	부식성																																																													
		20119	000067-66-3	Chloroform	-																																																													
		20132																																																																
		17909	000067-56-1	Methyl alcohol	인화성																																																													
20119																																																																		
20132																																																																		
20421																																																																		
20423																																																																		
20499																																																																		
21101																																																																		
(04-02-00)	그 밖의 폐유기용제	21210	000067-56-1	Methyl alcohol	인화성																																																													
		22212																																																																
		22291																																																																
		23121																																																																

코드	명칭	업종	CAS No.	물질명	유해특성
		52942	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		20132			
		22240			
		22291			
		22299			
		52942			
		13409	000064-19-7	Acetic acid	인화성, 부식성
		20132			
		21210			
		20132	000107-06-2	1,2-Dichloroethane	인화성
		20132	000123-91-1	1,4-Dioxane	인화성
		20491			
		20132	007664-41-7	Ammonia(including Ammonium hydroxide)	인화성, 부식성, 생태독성
		20132	007697-37-2	Nitric acid	산화성, 부식성
		20302	025068-38-6	4,4'-(1-Methylethylidene)bis phenol polymer with (chloromethyl)oxirane	생태독성
		20499			
		23121			
		20421	026471-62-5	Toluene diisocyanate(2,4-,2,6-,mixed isomer mixture)	생태독성
		20302	000101-68-8	Diphenylmethane 4,4'-diisocyanate	-
		22250			
		28201	007719-09-7	Thionyl chloride	부식성
		20421	000100-42-5	Styrene	인화성
		20499			
22222					
52942					
(04-02-00)	그 밖의 폐유기용제	20132	000117-81-7	Di(2-ethylhexyl) phthalate	생태독성
		52942	000071-43-2	Benzene	인화성, 생태독성
		52942	000108-05-4	Vinyl acetate	인화성, 생태독성
		52942	000100-41-4	Ethylbenzene	인화성
		20111	000106-89-8	Epichlorohydrin	인화성, 부식성
52942					
(05-00-00)	페페인트 및 페락카	20421	000141-78-6	Ethyl acetate	인화성
		22232			
		20421	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		20421	000108-88-3	Toluene	인화성

코드	명칭	업종	CAS No.	물질명	유해특성
		20421	000078-93-3	Methyl ethyl ketone	인화성
		22232			
		20421	000067-56-1	Methyl alcohol	인화성
(05-01-00)	폐유성페인트	17129	NA-(주10)	Aluminium and its compounds	생태독성
		20423			
		25913			
		20423	NA-(주12)	Barium and its compounds	금수성
		25112			
		18119	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		20421			
		20423			
		22291			
		22299			
		24191			
		24199			
		25911			
		25922			
		25923			
		25991			
		28119			
30121					
30399					
(05-01-00)	폐유성페인트	13992	000078-93-3	Methyl ethyl ketone	인화성
		18119			
		20421			
		20423			
		24199			
		20421	000108-88-3	Toluene	인화성
		20423			
		22291			
		22299			
		24191			
		24199			
		25923			
		25991			
		25992			
		28119			
		30121			

코드	명칭	업종	CAS No.	물질명	유해특성
		30399			
		72111			
(05-01-00)	폐유성페인트	13992	000141-78-6	Ethyl acetate	인화성
		20421			
		20423			
		22299			
		18119	000067-63-0	2-Propanol	인화성
		20421			
		20423			
		24191			
		24199	000110-82-7	Cyclohexane	인화성, 생태독성
		20423			
		24191			
		28119			
		25913	000067-56-1	Methyl alcohol	인화성
		25923			
		28119			
28119					
25913	007647-01-0	Hydrogen chloride	부식성		
25923	000075-09-2	Dichloromethane	생태독성		
28119	001310-58-3	Potassium hydroxide	부식성		
(05-01-00)	폐유성페인트	28119	001897-45-6	Chlorothalonil	생태독성
		28119	119446-68-3	Difenoconazole	생태독성
		28119	008018-01-7	Mancozeb	생태독성
		28119	017804-35-2	Benomyl	생태독성
		28119	080060-09-9	Diafenthiuron	생태독성
		28119	003347-22-6	Dithianone	생태독성
		25923	007664-39-3	Hydrogen fluoride	부식성
		18119	025068-38-6	4,4'-(1-Methylethylidene)bis phenol polymer with (chloromethyl)oxirane	생태독성
		20421			
		30392			
20421	000100-42-5	Styrene	인화성		
(05-02-00)	수성페인트	17129	NA-(주1)	Lead and its compounds	생태독성
(06-01-00)	폐 광물유	25991	000110-80-5	2-Ethoxyethanol	인화성
		25991	000111-15-9	2-Ethoxyethyl acetate	인화성
(06-01-01)	폐윤활유(「자원의 절약과 재활용촉진에 관한 법률 시행령」 제18조에 따른 재활용의무 대상 제품·포장재인 기어유 및 내연기관용 윤활유)	25921	000079-01-6	Trichloroethylene	생태독성

코드	명칭	업종	CAS No.	물질명	유해특성
(06-01-02)	연마유·절삭유 (금속가공과정에서 발생하는 열처리용유 및 비수용성 절삭유 등)	25933	NA-(주3)	Nickel and its compounds	생태독성
		25934			
		29271			
		25934	NA-(주19)	Vanadium and its compounds	생태독성
(06-01-03)	폐기계유·폐작동유 (공업용 기계유·냉동기유·터어빈유·베어링윤활유·압축기유·유압작동유·열매체유 및 프로세스유 등)	25943	NA-(주3)	Nickel and its compounds	생태독성
		30399			
		22299	NA-(주10)	Aluminium and its compounds	생태독성
		25943			
		26299			
		35119			
(06-01-03)	폐기계유·폐작동유 (공업용 기계유·냉동기유·터어빈유·베어링윤활유·압축기유·유압작동유·열매체유 및 프로세스유 등)	13213	000108-88-3	Toluene	인화성
		18119			
		30201			
(06-01-05)	폐오일필터	19221	000108-88-3	Toluene	인화성
		19221	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		19221	000078-93-3	Methyl ethyl ketone	인화성
(06-01-06)	그 밖의 광물유[아스팔트유·전기 절연유·그리스(grease) 및 방청유와 달리 분류되지 아니하는 30퍼센트 이상의 수분이 함유되거나 20퍼센트 이상의 이물질이 함유된 폐유, 고체상태의 폐유등]	17129	NA-(주1)	Lead and its compounds	생태독성
		20502			
		26293			
		16299	NA-(주3)	Nickel and its compounds	생태독성
		24121			
		24199			
		29222			
		30310			
		10741			
		17129	NA-(주10)	Aluminium and its compounds	생태독성
		20499			
		24321			
		25121			
		28119			
		30310			
30399					
36020					
40502					

코드	명칭	업종	CAS No.	물질명	유해특성
		71532	NA-(주15)	Copper and its compounds	생태독성
		84219			
		96999			
		16299			
		17122			
		17129			
		25999			
		29222			
		30310			
(06-01-06)	그 밖의 광물유[아스팔트유·전기 절연유·그리스(grease) 및 방청유와 달리 분류되지 아니하는 30퍼센트 이상의 수분이 함유되거나 20퍼센트 이상의 이물질이 함유된 폐유, 고체상태의 폐유등]	25934	NA-(주19)	Vanadium and its compounds	생태독성
		17129	NA-(주20)	Zinc and its compounds	자연발화성, 생태독성
		24132			
		30310			
		41121			
		96999			
		13409	007647-01-0	Hydrogen chloride	부식성
		16299			
		26110			
		26221			
		33999	007697-37-2	Nitric acid	산화성, 부식성
		13409			
		16299	000067-56-1	Methyl alcohol	인화성
		25922			
		30399	000110-82-7	Cyclohexane	인화성, 생태독성
		16299			
		23999	007664-93-9	Sulfuric acid	부식성, 생태독성
		26221			
		26110	007775-09-9	Sodium chlorate	산화성
		26221			
		17902	000141-78-6	Ethyl acetate	인화성
		22212			
		52104			
		13409	007664-39-3	Hydrogen fluoride	부식성
		13409	007664-41-7	Ammonia(including Ammonium hydroxide)	인화성, 부식성, 생태독성
		13409	007782-50-5	Chlorine	산화성, 부식성, 생태독성
13409	007719-12-2	Phosphorus trichloride	부식성		

코드	명칭	업종	CAS No.	물질명	유해특성
		13409	000064-19-7	Acetic acid	인화성, 부식성
		13409	007722-84-1	Hydrogen peroxide	산화성, 부식성
		52104			
		13409	007803-57-8	Hydrazine hydrate	부식성, 생태독성
(06-01-06)	그 밖의 광물유[아스팔트유·전기 절연유·그리스(grease) 및 방청유와 달리 분류되지 아니하는 30퍼센트 이상의 수분이 함유되거나 20퍼센트 이상의 이물질이 함유된 폐유, 고체상태의 폐유등]	13409	000108-88-3	Toluene	인화성
		20111			
		22212			
		23999			
		13409	001310-58-3	Potassium hydroxide	부식성
		13409	001310-73-2	Sodium hydroxide	부식성
		24222			
		7210	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		23999			
		18111	000067-63-0	2-Propanol	인화성
		18119			
		22199	007704-34-9	Sulfur	부식성
		29222			
		29222	007723-14-0	Phosphorus	자연발화성, 생태독성
		22199	000110-54-3	n-Hexane	인화성, 생태독성
		23999			
		52104			
		23999	000071-43-2	Benzene	인화성, 생태독성
		52104	000107-13-1	Acrylonitrile	인화성, 생태독성
52104	000140-88-5	Ethyl acrylate	생태독성		
20111	000106-89-8	Epichlorohydrin	인화성, 부식성		
52104					
(06-03-00)	그 밖의 폐유	20132	NA-(주1)	Lead and its compounds	생태독성
		35112	NA-(주10)	Aluminium and its compounds	생태독성
		20132	000117-81-7	Di(2-ethylhexyl) phthalate	생태독성
		20132	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		20434			
		52104			
		52942	000067-63-0	2-Propanol	인화성
		20434			
		52942	000110-54-3	n-Hexane	인화성, 생태독성
20434					
(06-03-00)	그 밖의 폐유	52104			

코드	명칭	업종	CAS No.	물질명	유해특성
		20434	001310-73-2	Sodium hydroxide	부식성
		52104	000106-89-8	Epichlorohydrin	인화성, 부식성
		52942			
		52942	000100-41-4	Ethylbenzene	인화성
		52942	000071-43-2	Benzene	인화성, 생태독성
		20421	000108-05-4	Vinyl acetate	인화성, 생태독성
		52942			
		52104	000107-13-1	Acrylonitrile	인화성, 생태독성
		52104	000140-88-5	Ethyl acrylate	생태독성
(51-01-01)	폐수처리오니	10213	NA-(주10)	Aluminium and its compounds	생태독성
		22240			
		29269			
		36010			
		37012			
		72122			
		10213	001310-73-2	Sodium hydroxide	부식성
		17129			
		29269			
(51-02-01)	폐수처리오니	7290	NA-(주3)	Nickel and its compounds	생태독성
		22240			
		25922			
		25933			
		26221			
		28202			
		28202	NA-(주6)	Cadmium and its compounds	생태독성
		7290	NA-(주7)	Chromium and its compounds	-
		25922			
		22240	NA-(주15)	Copper and its compounds	생태독성
		25922			
		13409	007664-93-9	Sulfuric acid	부식성, 생태독성
		24132			
		24212			
		25119			
26299					
(51-02-01)	폐수처리오니	24132	007664-39-3	Hydrogen fluoride	부식성
		26221	007722-84-1	Hydrogen peroxide	산화성, 부식성
		24212	007697-37-2	Nitric acid	산화성, 부식성

코드	명칭	업종	CAS No.	물질명	유해특성
		25933	NA-(주10)	Aluminium and its compounds	생태독성
		10213			
		29269			
		37012			
		72122			
		10213	001310-73-2	Sodium hydroxide	부식성
		17129			
		29269			
(51-02-02)	공정오니	33999	NA-(주16)	Manganese and its compounds	생태독성
		25999	NA-(주22)	Silver and its compounds	생태독성
		21101	000108-88-3	Toluene	인화성
		25923			
		25923	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		21101	000067-56-1	Methyl alcohol	인화성
		21101	000141-78-6	Ethyl acetate	인화성
		21101	000068-12-2	N,N-Dimethylformamide	-
		21101	000078-93-3	Methyl ethyl ketone	인화성
		21101	000067-63-0	2-Propanol	인화성
		21101	000075-09-2	Dichloromethane	-
		(51-02-03)	정수처리오니	36010	NA-(주10)
37011					
41223					
84219					
84199					
(51-03-01)	폐합성수지류(폐염화비닐수지류는 제외한다.)	20302	NA-(주1)	Lead and its compounds	생태독성
		20303			
		20499			
		20501			
		22223			
		26299			
		33309			
(51-03-01)	폐합성수지류(폐염화비닐수지류는 제외한다.)	7290	NA-(주3)	Nickel and its compounds	생태독성
		24191			
		24219			
		25922			
		25933			

코드	명칭	업종	CAS No.	물질명	유해특성		
		26221		Aluminium and its compounds	생태독성		
		30302					
		31114					
		33999					
		17903	NA-(주10)				
		20302					
		20422					
		20493					
		22199					
		20499					
		22299					
		23229					
		24212					
		25121					
		27329					
		29269					
		30310					
		30399					
		33999					
		72122					
96999							
		20302	NA-(주12)	Barium and its compounds	금수성		
		20499					
		22199					
		22240					
		25112					
		26299					
		30399					
		20119	NA-(주15)				
		20302				Copper and its compounds	생태독성
		21230					
(51-03-01)	폐합성수지류(폐염화비닐수지류는 제외한다.)	24191	NA-(주15)	Zinc and its compounds	생태독성		
		25922					
		27929					
		7290	NA-(주20)		자연발화성, 생태독성		
20119							
20302							

코드	명칭	업종	CAS No.	물질명	유해특성
		20493			
		20499			
		21230			
		22199			
		26299			
		33309			
		96999			
		20302	000117-81-7	Di(2-ethylhexyl) phthalate	생태독성
		22199			
		22211			
		33309	000110-80-5	2-Ethoxyethanol	인화성
		16211	000050-00-0	Formaldehyde	부식성, 생태독성
		17124			
		20493	025068-38-6	4,4'-(1-Methylethylidene)bis phenol polymer with (chloromethyl)oxirane	생태독성
		30392			
		24191	007664-93-9	Sulfuric acid	부식성, 생태독성
		24132			
		26120			
		13992	000078-93-3	Methyl ethyl ketone	인화성
		15220			
		13994			
		20423			
		20491			
		20499			
22212					
22223					
22231					
22291					
26299					
29172					
41129					
(51-03-01)	폐합성수지류(폐염화비닐수지류는 제외한다.)	10800	001310-73-2	Sodium hydroxide	부식성
		13409			
		17129			
		27216	001310-73-2	Sodium hydroxide	부식성
		29269			
21101	007647-01-0	Hydrogen chloride	부식성		

코드	명칭	업종	CAS No.	물질명	유해특성					
		24191	000108-88-3	Toluene	인화성					
		26221								
		17909								
		18119								
		20423								
		20491								
		20499								
		21101								
		22212								
		22223								
		22240								
		22250								
		22291								
		29172								
		33999								
		41129								
		96999								
							17909	000067-56-1	Methyl alcohol	인화성
							20422			
							20423			
21101										
22212										
22231										
22291										
29172										
		18119	000067-63-0	2-Propanol	인화성					
		20422								
		22291								
		13992	000141-78-6	Ethyl acetate	인화성					
		18119								
		20423								
(51-03-01)	폐합성수지류(폐염화비닐수지류는 제외한다.)	20491	000141-78-6	Ethyl acetate	인화성					
		21101								
		21300								
		22212								
		22291								
		29172	000141-78-6	Ethyl acetate	인화성					

코드	명칭	업종	CAS No.	물질명	유해특성
		33999	000064-19-7	Acetic acid	인화성, 부식성
		41129			
		13402			
		13409			
		20499	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		24212	007697-37-2	Nitric acid	산화성, 부식성
		25933			
(51-03-02)	폐합성고무류	22191	NA-(주20)	Zinc and its compounds	자연발화성, 생태독성
(51-04-03)	기타 광재류	24329	NA-(주10)	Aluminium and its compounds	생태독성
		24222	NA-(주20)	Zinc and its compounds	자연발화성, 생태독성
		24329			
		25922			
		25942			
		31114			
		31114	000100-41-4	Ethylbenzene	인화성
		31114	000067-63-0	2-Propanol	인화성
		31114	000067-56-1	Methyl alcohol	인화성
		31114	025068-38-6	4,4'-(1-Methylethylidene)bis phenol polymer with (chloromethyl)oxirane	생태독성
		31114	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
(51-05-00)	분진류(대기오염방지시설에서 포집된 것으로 한정하되, 소각시설에서 발생하는 것은 제외한다)	30399	NA-(주12)	Barium and its compounds	금수성
		24211	NA-(주15)	Copper and its compounds	생태독성
		24311			
		20119	NA-(주20)	Zinc and its compounds	자연발화성, 생태독성
		22199			
		24199			
		29176			
		24311	000067-63-0	2-Propanol	인화성
24191	000100-41-4	Ethylbenzene	인화성		
(51-06)	폐주물사	24211	NA-(주3)	Nickel and its compounds	생태독성
		24312			
		29133			
		29230			
		30399			
		31114			

코드	명칭	업종	CAS No.	물질명	유해특성
		24211	NA-(주10)	Aluminium and its compounds	생태독성
		24311			
		24321			
		31114			
		31114	NA-(주15)	Copper and its compounds	생태독성
		23323	000067-56-1	Methyl alcohol	인화성
		24311			
		24312			
		24312	001310-73-2	Sodium hydroxide	부식성
		24312	007723-14-0	Phosphorus	자연발화성, 생태독성
		23999	007664-93-9	Sulfuric acid	부식성, 생태독성
(51-07-00)	폐내화물 및 폐도자기조각	31114	NA-(주3)	Nickel and its compounds	생태독성
(51-07-01)	폐내화물	24191	007647-01-0	Hydrogen chloride	부식성
(51-08-06)	그 밖의 폐기물 소각시설 소각재 (바닥재와 비산재가 혼합된 경우)	22250	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
(51-11-01)	폐흡착제	20421	NA-(주1)	Lead and its compounds	생태독성
		28111			
		22291	NA-(주3)	Nickel and its compounds	생태독성
		25922			
		36010	NA-(주10)	Aluminium and its compounds	생태독성
		84219			
		18118	000141-78-6	Ethyl acetate	인화성
		20421			
		22291			
		33999			
		18119	000108-88-3	Toluene	인화성
		20421			
		20499			
(51-11-01)	폐흡착제	22240	000108-88-3	Toluene	인화성
		22291			
		30399			
		33999			
		72111	000078-93-3	Methyl ethyl ketone	인화성
		20421			
		20499			
		22231			

코드	명칭	업종	CAS No.	물질명	유해특성
		22291			
		26299			
		22291	007697-37-2	Nitric acid	산화성, 부식성
		20499	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		20421	000100-42-5	Styrene	인화성
(51-17-00)	동·식물성 잔재물(식료품 및 음료제조업 등에서 발생하는 잔재물을 포함하며, 음식물류 폐기물은 제외한다)	10749	NA-(주20)	Zinc and its compounds	자연발화성, 생태독성
(51-20-04)	폐목재 1등급	41226	001330-20-7	Xylene(o-,m-,p- isomer mixture)	인화성
		41226	000067-63-0	2-Propanol	인화성
(51-22-00)	폐콘크리트류	23326	NA-(주20)	Zinc and its compounds	자연발화성, 생태독성
(51-27-00)	폐섬유류	13402	007722-84-1	Hydrogen peroxide	산화성, 부식성
		13409			
		13992	000141-78-6	Ethyl acetate	인화성
		13992	000108-88-3	Toluene	인화성
		13992	000108-05-4	Vinyl acetate	인화성, 생태독성
		13992	000110-54-3	n-Hexane	인화성
		13992	000067-56-1	Methyl alcohol	인화성
		13992	000140-88-5	Ethyl acrylate	생태독성
		13992	000100-42-5	Styrene	인화성
		13992	000107-13-1	Acrylonitrile	인화성, 생태독성
		13992	000067-63-0	2-Propanol	인화성
(51-27-02)	폐합성섬유	23129	NA-(주10)	Aluminium and its compounds	생태독성

[별표 2]

폐기물 유해특성별 대표 화학물질 목록

구분	P	G	E	생태독성 중 괄호
세부 설명	화학물질 배출량 조사제도 대상물질 (415 종)	화학물질 관리법에 따른 유독물질 및 제한 물질 (959종)	EU Regulation of (EC) No 1272/2008의 화학물질 (4,231종)	괄호: 물벼룩 시험법이 아닌 것

○ 폭발성 물질 (CAS No. 有)

유해 특성	CAS	목록	구분	물질수
폭발성	6202-15-9	1,2,3,4-tetranitrocarbazole	E	35
	99-35-4	1,3,5-trinitrobenzene	E	
	162241-33-0	1-hydroxy-4-fluoro-1,4-diazoniabicyclo[2.2.2]octane bis(tetrafluoroborate)	E	
	2592-95-2	1-hydroxybenzotriazole, anhydrous	E	
	123333-53-9	1-hydroxybenzotriazole, monohydrated	E	
	69094-18-4	2,2-dibromo-2-nitroethanol	E	
	606-35-9	2,4,6-trinitroanisole	E	
	602-99-3	2,4,6-trinitro-m-cresol	E	
	632-92-8	2,4,6-trinitro-m-xylene	E	
	82-71-3	2,4,6-trinitroresorcinol; styphnic acid	E	
	118-96-7	2,4,6-trinitrotoluene; TNT	E	
	27624-67-5	2,4-diamino-5-[4-[(2-sulfoxyethyl)sulfonyl]phenylazo]benzenesulfonic acid	E	
	51-28-5	2,4-Dinitrophenol	P	
	96-91-3	2-amino-4,6-dinitrophenol; picramic acid	E	
	88-88-0	2-chloro-1,3,5-trinitrobenzene	E	
	7456-68-0	4,4'-oxybis(benzenesulfonylazide)	E	
	7790-98-9	ammonium perchlorate; [containing ≥ 80 % of 0-30 μm particles]	E	
	131-73-7	bis(2,4,6-trinitrophenyl)amine; hexyl	E	
	121-82-4	Cyclonite	P, G	
	7572-29-4	dichloroacetylene	E	
1335-31-5	Dimercury dicyanide oxide	G, E		
2844-92-0	dipicrylamine, ammonium salt	E		
625-58-1	ethyl nitrate	E		
628-96-6	ethylene dinitrate; ethylene glycol dinitrate	E		
7803-49-8	Hydroxylamine	P, G, E		

유해 특성	CAS	목록	구분	물질수
	53933-48-5	hydroxylamine4-methylbenzenesulfonate	E	
	19098-16-9	hydroxylaminedihydrogenphosphate	E	
	20845-01-6	hydroxylaminephosphate	E	
	13465-08-2	hydroxylammonium nitrate	E	
	10046-00-1	hydroxylammoniumhydrogensulfate;hydroxylaminesulfate(1:1)	E	
	81-15-2	musk xylene; 5-tert-butyl-2,4,6-trinitro-m-xylene	E	
	479-45-8	N-methyl-N-2,4,6-tetranitroaniline; tetryl	E	
	88-89-1	Picric acid	P, G, E	
	163879-69-4	reaction mass of: 5-[(4-[(7-amino-1-hydroxy-3-sulfo-2-naphthyl)azo]-2,5-dihydroxyphenyl)azo]-2-[(3-phosphonophenyl)azo]benzoic acid; 5-[(4-[(7-amino-1-hydroxy-3-sulfo-2-naphthyl)azo]-2,5-dihydroxyphenyl)azo]-3-[(3-phosphonophenyl)azo]benzoic acid	E	
	117409-78-6	trilithium-1-hydroxy-7-(3-sulfonatoanilino)-2-(3-methyl-4-(2-methoxy-4-(3-sulfonatophenylazo)phenylazo)phenylazo)naphthalene-3-sulfonate	E	

○ 인화성 물질 (CAS No. 有)

유해 특성	CAS	목록	구분	물질수
인화성	7705-14-8	(±)-1-methyl-4-(1-methylvinyl)cyclohexene	E	393
	15892-23-6	(±)-butan-2-ol	E	
	141645-23-0	(2-butyl-5-nitrobenzofuran-3-yl)[4-(3-dibutylaminopropoxy)phenyl]methanone	E	
	110-57-6	(2E)-1,4-Dichloro-2-butene	G	
	110-46-3	(E)-2-butenal;(E)-crotonaldehyde	E	
	14898-79-4	(R)-butan-2-ol	E	
	13250-12-9	(R)-sec-butylamine;(R)-2-aminobutane	E	
	4221-99-2	(S)-butan-2-ol	E	
	73246-45-4	(S)-methyl-2-chloropropionate	E	
	5989-54-8	(S)-p-mentha-1,8-diene;l-limonene	E	
	513-49-5	(S)-sec-butylamine;(S)-2-aminobutane	E	
	10061-01-5	(Z)-1,3-dichloropropene	E	
	64485-90-1	(Z)-2-methoxymino-2-[2-(tritylamino)thiazol-4-yl]acetic acid	E	
	169104-71-6	[N-(1,1-dimethylethyl)-1,1-dimethyl-1-[(1,2,3,4,5-η)-2,3,4,5-tetramethyl-2,4-cyclopentadien-1-yl]silanaminato(2-)-κN][(1,2,3,4-η)-1,3-pentadiene]-titanium	E	
	406-58-6	1,1,1,3,3-pentafluorobutane	E	
	22288-41-1	1,1,3,3-tetramethylbutylperoxypivalate	E	
	75-34-3	1,1-dichloroethane	E	
	75-35-4	1,1-Dichloroethene	P, E	
	563-58-6	1,1-dichloropropene	E	
	105-57-7	1,1-diethoxyethane; acetal	E	
	534-15-6	1,1-dimethoxyethane; dimethyl acetal	E	
	57-14-7	1,1-Dimethylhydrazine	P, E	
	95-63-6	1,2,4-trimethylbenzene	E	
	107-06-2	1,2-Dichloroethane	P, G, E	
	540-59-0	1,2-dichloroethylene	E	
	78-87-5	1,2-Dichloropropane	G, E	
	629-14-1	1,2-diethoxyethane	E	
	10221-57-5	1,2-diethoxypropane	E	
	110-71-4	1,2-dimethoxyethane; ethylene glycol dimethyl ether; EGDME	E	
	7778-85-0	1,2-dimethoxypropane	E	
	106-88-7	1,2-Epoxybutane	P, E	
	110-88-3	1,3,5-trioxan; trioxymethylene	E	
	30417-37-9	1,3-Bis[(acrylamidomethoxy)methyl]urea	G	
	117663-11-3	1,3-di(prop-2,2-diyl)benzene bis(neodecanoylperoxide)	E	
	542-75-6	1,3-Dichloropropene	P, G, E	
	3459-83-4	1,3-diethoxypropane	E	
	646-06-0	1,3-dioxolane	E	
	503-30-0	1,3-propylene oxide	E	
	589-90-2	1,4-dimethylcyclohexane	E	
	123-91-1	1,4-Dioxane	P, E	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	158894-67-8	1-bromo-2-methylpropyl propionate	E	393
	138526-69-9	1-bromo-3,4,5-trifluorobenzene	E	
	461-96-1	1-bromo-3,5-difluorobenzene	E	
	106-94-5	1-bromopropane; n-propyl bromide	E	
	109-69-3	1-chlorobutane; butyl chloride	E	
	543-59-9	1-chloropentane	E	
	540-54-5	1-chloropropane	E	
	108-16-7	1-dimethylaminopropan-2-ol; dimepranol (INN)	E	
	1569-02-4	1-ethoxypropan-2-ol;2PG1EE;1-ethoxy-2-propanol;propylene glycolmonoethylether	E	
	107-98-2	1-methoxy-2-propanol; monopropylene glycol methyl ether	E	
	37143-54-7	1-methoxy-2-propylamine	E	
	1329-99-3	1-Methyl-4-(1-methylethyl) cyclohexane, tetrahydro deriv.	G	
	626-38-0	1-methylbutylacetate	E	
	13952-84-6	1-Methylpropylamine	G, E	
	120-94-5	1-Methylpyrrolidine	G	
	108-03-2	1-nitropropane	E	
	71-41-0	1-pentanol	E	
	57018-52-7	1-tert-butoxypropan-2-ol	E	
	112-56-1	2-(2-butoxyethoxy)ethyl thiocyanate	E	
	99610-72-7	2-(2-hydroxy-3,5-dinitroanilino)ethanol	E	
	83056-32-0	2-(isocyanatosulfonylmethyl)benzoic acid methyl ester; (alt.):methyl 2-(isocyanatosulfonylmethyl)benzoate	E	
	84145-37-9	2(or3)-methylbutylacetate	E	
	75-89-8	2,2,2-Trifluoroethanol	G	
	594-82-1	2,2,3,3-tetramethylbutane	E	
	464-06-2	2,2,3-trimethylbutane	E	
	564-02-3	2,2,3-trimethylpentane	E	
	540-84-1	2,2,4-trimethylpentane	E	
	2032-75-9	2,2-dichloro-1,3-benzodioxol	E	
	75-83-2	2,2-dimethylbutane	E	
	590-73-8	2,2-dimethylhexane	E	
	590-35-2	2,2-dimethylpentane	E	
	560-21-4	2,3,3-trimethylpentane	E	
	565-75-3	2,3,4-trimethylpentane	E	
	78-88-6	2,3-dichloropropene; 2,3-dichloropropylene	E	
	79-29-8	2,3-dimethylbutane	E	
	584-94-1	2,3-dimethylhexane	E	
	565-59-3	2,3-dimethylpentane	E	
	107-39-1	2,4,4-trimethylpent-1-ene	E	
	25167-70-8	2,4,4-trimethylpentene	E	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	123-63-7	2,4,6-trimethyl-1,3,5-trioxane; paraldehyde	E	393
	589-43-5	2,4-dimethylhexane	E	
	565-80-0	2,4-dimethylpentan-3-one; di-isopropyl ketone	E	
	108-08-7	2,4-dimethylpentane	E	
	592-13-2	2,5-dimethylhexane	E	
	108-83-8	2,6-dimethylheptan-4-one; di-isobutyl ketone	E	
	108-00-9	2-aminoethyldimethylamine; 2-dimethylaminoethylamine	E	
	75-31-0	2-aminopropane; isopropylamine	E	
	75-26-3	2-bromopropane	E	
	920-37-6	2-Chloroacrylonitrile	G	
	107-07-3	2-Chloroethanol	P, G	
	625-29-6	2-chloropentane	E	
	75-29-6	2-chloropropane	E	
	100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine	E	
	108-01-0	2-dimethylaminoethanol; N,N-dimethylethanolamine	E	
	54839-24-6	2-ethoxy-1-methylethylacetate;2PG1EEA	E	
	110-80-5	2-Ethoxyethanol	P, G, E	
	111-15-9	2-Ethoxyethyl acetate	P, E	
	69045-82-5	2-fluoro-5-trifluoromethylpyridine	E	
	94239-04-0	2-fluoro-6-trifluoromethylpyridine	E	
	108-65-6	2-methoxy-1-methylethyl acetate	E	
	994-05-8	2-methoxy-2-methylbutane; tert-amyl methyl ether	E	
	109-86-4	2-Methoxyethanol	P, G, E	
	110-49-6	2-Methoxyethyl acetate	P	
	1589-47-5	2-methoxypropanol	E	
	70657-70-4	2-methoxypropyl acetate	E	
	4524-95-2	2-methyl-2-azabicyclo[2.2.1]heptane	E	
	920-46-7	2-Methyl-2-propenoyl chloride	G	
	125804-20-8	2-methyl-3-(trimethoxysilyl)propyl-2-propenoate hydrolysis product with silica	E	
	75-55-8	2-methylaziridine; propyleneimine	E	
	75-85-4	2-methylbutan-2-ol; tert-pentanol	E	
	624-41-9	2-methylbutylacetat	E	
	2438-20-2	2-methylbutylpropionate	E	
	583-60-8	2-methylcyclohexanone	E	
	592-27-8	2-methylheptane	E	
	591-76-4	2-methylhexane	E	
	78-83-1	2-methylpropan-1-ol; iso-butanol	E	
	75-65-0	2-methylpropan-2-ol; tert-butyl alcohol	E	
	78-82-0	2-Methylpropanenitrile	P, G	
	109-06-8	2-methylpyridine; 2-picoline	E	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	79-46-9	2-Nitropropane	P, E	393
	98-83-9	2-phenylpropene; α-methylstyrene	E	
	67-63-0	2-Propanol	P, E	
	107-19-7	2-Propyn-1-ol	P, G, E	
	100-69-6	2-Vinylpyridine	P, G	
	563-16-6	3,3-dimethylhexane	E	
	562-49-2	3,3-dimethylpentane	E	
	583-48-2	3,4-dimethylhexane	E	
	77-73-6	3a,4,7,7a-tetrahydro-4,7-methanoindene	E	
	104-78-9	3-aminopropyldiethylamine; N,N-diethyl-1,3-diaminopropane	E	
	109-55-7	3-aminopropyldimethylamine; N,N-dimethyl-1,3-diaminopropane	E	
	563-47-3	3-chloro-2-methylpropene	E	
	77227-99-7	3-chloro-4,5,α, α,α-pentafluorotoluene	E	
	616-20-6	3-chloropentane	E	
	6291-85-6	3-Ethoxypropylamine	P, G	
	609-26-7	3-ethyl-2-methylpentane	E	
	1067-08-9	3-ethyl-3-methylpentane	E	
	619-99-8	3-ethylhexane	E	
	617-78-7	3-ethylpentane	E	
	556-56-9	3-iodpropene; allyl iodide	E	
	563-80-4	3-methylbutan-2-one; methyl isopropyl ketone	E	
	589-81-1	3-methylheptane	E	
	589-34-4	3-methylhexane	E	
	96-14-0	3-methylpentane	E	
	584-02-1	3-pentanol	E	
	107-70-0	4-methoxy-4-methylpentan-2-one	E	
	589-53-7	4-methylheptane	E	
	141-79-7	4-methylpent-3-en-2-one; mesityl oxide	E	
	108-11-2	4-methylpentan-2-ol; methyl isobutyl carbinol	E	
	108-10-1	4-methylpentan-2-one; isobutyl methyl ketone	E	
	108-89-4	4-methylpyridine; 4-picoline	E	
	100-40-3	4-Vinylcyclohexene	P	
	100-43-6	4-vinylpyridine	G	
	89402-43-7	5-chloro-2,3-difluoropyridine	E	
	541-85-5	5-methylheptan-3-one	E	
	110-12-3	5-methylhexan-2-one; isoamyl methyl ketone	E	
	42152-47-6	7-methylocta-1,6-diene	E	
	75-07-0	Acetaldehyde	P, E	
	64-19-7	Acetic acid	P, E	
	108-24-7	acetic anhydride	E	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	67-64-1	acetone; propan-2-one; propanone	E	393
	75-05-8	acetonitrile; cyanomethane	E	
	75-36-5	acetyl chloride	E	
	107-02-8	Acrolein	P, G, E	
	79-10-7	acrylic acid; prop-2-enoic acid	E	
	107-13-1	Acrylonitrile	P, G, E	
	107-18-6	Allyl alcohol	P, G, E	
	107-05-1	Allyl chloride	P, E	
	106-92-3	allyl glycidyl ether; allyl 2,3-epoxypropyl ether; prop-2-en-1-yl 2,3-epoxypropyl ether	E	
	96-05-9	allyl methacrylate; 2-methyl-2-propenoic acid 2-propenyl ester	E	
	107-11-9	allylamine	E	
	7429-90-5	aluminium powder (pyrophoric)	E	
	555-31-7	aluminium-tri-isopropoxide	E	
	97148-39-5	ammonium (Z)- α -methoxyimino-2-furylacetate	E	
	71-43-2	Benzene	P, G, E	
	103-83-3	benzyl dimethylamine	E	
	18230-61-0	bis(1-methylethyl)-dimethoxysilane	E	
	107667-02-7	bis(2,4,4-trimethylpentyl)dithiophosphonic acid	E	
	111-96-6	bis(2-methoxyethyl) ether	E	
	42405-40-3	bis(3,5-di-tert-butylsalicylato-O1,O2)zinc	E	
	542-88-1	Bis(chloromethyl)ether	G, E	
	27804-64-4	Bis(diethylamino)silane	G	
	618-26-8	bis(N-methyl-N-phenylhydrazine)sulfate	E	
	125051-32-3	bis(η^5 -cyclopentadienyl)-bis(2,6-difluoro-3-[pyrrol-1-yl]-ph enyl)titanium	E	
	108-86-1	bromobenzene	E	
	74-96-4	bromoethane; ethyl bromide	E	
	52-51-7	Bronopol	P	
	71-36-3	butan-1-ol; n-butanol	E	
	78-92-2	butan-2-ol	E	
	109-74-0	Butanenitrile	G, E	
	34681-10-2	butocarboxim (ISO); 3-(methylthio)-2-butanone O-[(methylamino)carbonyl]oxime	E	
	109-21-7	butyl butyrate	E	
	592-34-7	butyl chloroformate; chloroformic acid butyl ester	E	
	2426-08-6	butyl glycidyl ether; butyl 2,3-epoxypropyl ether	E	
	544-16-1	butyl nitrite	E	
	109-73-9	butylamine	E	
	592-84-7	butylformate	E	
	123-72-8	butyraldehyde	E	
	141-75-3	butyryl chloride	E	
	6804-07-5	carbadox (INN); methyl 3-(quinoxalin-2-ylmethylene)carbazate 1,4-dioxide; 2-(methoxycarbonylhydrazonomethyl)quinoxaline 1,4-dioxide	E	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	75-15-0	Carbon disulfide	P, G, E	393
	108-90-7	chlorobenzene	E	
	1066-35-9	Chlorodimethylsilane	G	
	107-30-2	Chloromethyl methyl ether	P, G, E	
	126-99-8	Chloroprene	P, E	
	51229-78-8	cis-1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	E	
	156-59-2	cis-dichloroethylene	E	
	4170-30-3	Crotonaldehyde	P, G	
	123-73-9	Crotonaldehyde	G	
	463-04-7	crotonaldehyde;2-butenal	E	
	98-82-8	cumene	E	
	110-82-7	Cyclohexane	P, E	
	108-94-1	cyclohexanone	E	
	108-91-8	Cyclohexylamine	P, G, E	
	287-92-3	cyclopentane	E	
	120-92-3	cyclopentanone	E	
	50715-28-1	cyclopentyl chloroformate	E	
	124-70-9	Dichloroethenylmethylsilane	G	
	60-29-7	diethyl ether; ether	E	
	109-89-7	Diethylamine	P, E	
	108-18-9	diisopropylamine	E	
	108-20-3	diisopropylether	E	
	674-82-8	diketene; diketen	E	
	617-55-0	dimethyl (2S)-2-hydroxysuccinate	E	
	616-38-6	dimethyl carbonate	E	
	13292-87-0	Dimethyl sulfide borane	G	
	124-40-3	di-methylamine	E	
	74-94-2	Dimethylamine borane	P, G	
	75-78-5	dimethyldichlorosilane	E	
	142-96-1	di-n-butyl ether; dibutyl ether	E	
	111-92-2	Di-n-butylamine	P, G, E	
	138-86-3	dipentene;limonene	E	
	142-84-7	dipropylamine	E	
	111-43-3	dipropylether	E	
	626-23-3	di-sec-butylamine	E	
	125078-60-6	di-tert-(C12-14)-alkylammonium 2-benzothiazolythiosuccinate	E	
	110-05-4	di-tert-butyl peroxide	E	
	5989-27-5	d-Limonene	G, E	
	106-89-8	Epichlorohydrin	P, G, E	
	2104-64-5	EPN	G	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	75-08-1	ethanethiol; ethyl mercaptan	E	393
	64-17-5	ethanol; ethyl alcohol	E	
	67567-23-1	ethyl 3,3-bis(tert-pentylperoxy)butyrate	E	
	141-78-6	Ethyl acetate	P, G, E	
	140-88-5	ethyl acrylate	E	
	541-41-3	ethyl chloroformate	E	
	109-94-4	ethyl formate	E	
	97-63-2	ethyl methacrylate	E	
	105-37-3	ethyl propionate	E	
	687-47-8	ethyl(S)-2-hydroxypropionate; ethylL-lactate; ethyl-(S)-lactate	E	
	100-41-4	Ethylbenzene	P, E	
	598-56-1	ethyldimethylamine	E	
	107-15-3	ethylenediamine; 1,2-diaminoethane	E	
	151-56-4	Ethyleneimine	P, E	
	97-64-3	ethylactate; ethylDL-lactate	E	
	6746-94-7	ethynyl cyclopropane	E	
	110-00-9	furan	E	
	110-43-0	heptan-2-one; methyl amyl ketone	E	
	106-35-4	heptan-3-one; butyl ethyl ketone	E	
	123-19-3	heptan-4-one; di-n-propyl ketone	E	
	142-82-5	heptane; n-heptane	E	
	591-78-6	hexan-2-one; methyl butyl ketone; butyl methyl ketone; methyl-n-butyl ketone	E	
	107-83-5	hexane(containing <5% n-hexane(203-777-6)); 2-methylpentane	E	
	302-01-2	Hydrazine	P, G, E	
	74-90-8	Hydrogen cyanide	P, G, E	
	106-63-8	isobutyl acrylate	E	
	24342-03-8	isobutyl but-3-enoate	E	
	97-86-9	isobutyl methacrylate	E	
	542-56-3	isobutyl nitrite	E	
	110-19-0	isobutylacetate	E	
	78-81-9	Isobutylamine	G	
	542-55-2	isobutylformate	E	
	111439-76-0	isobutylisopropyldimethoxysilane	E	
	79-30-1	isobutyryl chloride	E	
	31394-54-4	isoheptane	E	
	26635-64-3	isooctane	E	
	78-78-4	isopentane; 2-methylbutane	E	
	123-92-2	isopentylacetate	E	
	110-45-2	isopentylformate	E	
	105-68-0	isopentylpropionate	E	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	78-79-5	Isoprene	P, E	393
	105-48-6	isopropyl chloroacetate	E	
	637-78-5	isopropyl propionate	E	
	108-21-4	isopropylacetate	E	
	625-55-8	isopropylformate	E	
	108-67-8	mesitylene; 1,3,5-trimethylbenzene	E	
	108-62-3	Metaldehyde	G, E	
	126-98-7	Methacrylonitrile	P, G, E	
	100-97-0	methenamine; hexamethylenetetramine	E	
	79-20-9	methyl acetate	E	
	96-33-3	methyl acrylate; methyl propenoate	E	
	67-56-1	Methyl alcohol	P, G, E	
	96-34-4	Methyl chloroacetate	G, E	
	79-22-1	methyl chloroformate	E	
	624-92-0	Methyl disulfide	P	
	78-93-3	Methyl ethyl ketone	P, G, E	
	107-31-3	methyl formate	E	
	624-83-9	methyl isocyanate	E	
	556-61-6	Methyl isothiocyanate	P, G	
	80-62-6	methyl methacrylate; methyl 2-methylprop-2-enoate; methyl 2-methylpropenoate	E	
	554-12-1	methyl propionate	E	
	75-18-3	Methyl sulfide	P	
	1634-04-4	Methyl tert-butyl ether	P, E	
	78-94-4	Methyl vinyl ketone	G	
	2155-30-8	methyl(±)-lactate	E	
	17392-83-5	methyl(R)-lactate	E	
	27871-49-4	methyl(S)-(-)-lactate	E	
	108-87-2	methylcyclohexane	E	
	60-34-4	Methylhydrazine	P, G	
	547-64-8	methyllactate	E	
	74-89-5	mono-methylamine	E	
	110-91-8	morpholine	E	
	108-38-3	m-Xylene	P, G, E	
	110-18-9	N,N,N',N'-tetramethylethylenediamine	E	
	53803-13-7	N,N,N-Trimethylmethanaminium salt with 2,2-dimethylpropanoic acid (1:1)	G	
	62478-82-4	N,N-diethyl-N',N'-dimethylpropan-1,3-diyl-diamine	E	
	124-02-7	N-2-Propenyl-2-pro-pen-1-amine	G	
	8030-30-6	Naphtha	P	
	91-20-3	Naphthalene	P	
	1338-02-9	Naphthenic acids, copper salts; copper naphthenate	E	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	123-86-4	n-butyl acetate	E	393
	141-32-2	n-butyl acrylate	E	
	97-88-1	n-butyl methacrylate	E	
	590-01-2	n-butylpropionate	E	
	110-54-3	n-Hexane	P, E	
	13463-39-3	Nickel carbonyl	G, E	
	79-24-3	nitroethane	E	
	75-52-5	Nitromethane	P, E	
	109-61-5	n-Propyl chloroformate	G, E	
	111-65-9	octane;n-octane	E	
	624-86-2	O-ethylhydroxylamine	E	
	103122-66-3	O-isobutyl-N-ethoxy carbonylthiocarbamate	E	
	95-47-6	o-Xylene	P, G, E	
	298-00-0	parathion - methyl (ISO); O,O-dimethyl O-4-nitrophenyl phosphorothioate	E	
	608-93-5	pentachlorobenzene	E	
	96-22-0	pentan-3-one; diethyl ketone	E	
	109-66-0	pentane	E	
	123-54-6	pentane-2,4-dione; acetylacetone	E	
	638-29-9	Pentanoyl chloride	G	
	638-49-3	pentyl formate	E	
	628-63-7	pentylacetate	E	
	35073-27-9	pentylformate	E	
	624-54-4	pentylpropionate	E	
	79-21-0	peracetic acid . . . %	E	
	1314-80-3	Phosphorus pentasulfide	P, G, E	
	110-89-4	piperidine	E	
	12091-08-6	potassium mu-fluoro-bis(triethylaluminium)	E	
	71-23-8	propan-1-ol; n-propanol	E	
	123-38-6	propanal; propionaldehyde	E	
	107-12-0	Propiononitrile	P, G	
	79-03-8	propionyl chloride	E	
	106-36-5	propyl propionate	E	
	109-60-4	propylacetate	E	
	103-65-1	propylbenzene	E	
	75-56-9	Propylene oxide	P, G, E	
	78-90-0	propylenediamine	E	
	110-74-7	propylformate	E	
	106-42-3	p-Xylene	P, G, E	
	110-86-1	pyridine	E	
	51594-55-9	R-1-chloro-2,3-epoxypropane	E	

○ 인화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
인화성	7723-14-0	red phosphorus	E	393
	85702-90-5	S-(3-trimethoxysilyl)propyl 19-isocyanato-11-(6-isocyanatohexyl)-10,12-dioxo-2,9,11,13-tetraazanadecanethioate	E	
	924-43-6	sec-butyl nitrite	E	
	105-46-4	sec-butylacetate	E	
	591-34-4	sec-butylpropionate	E	
	38411-13-1	sodium 2-ethylhexanolate	E	
	100-42-5	Styrene	P, E	
	1663-39-4	tert-butyl acrylate	E	
	540-80-7	tert-butyl nitrite	E	
	20487-40-5	tert-butyl propionate	E	
	540-88-5	tert-butylacetate	E	
	762-75-4	tert-butylformate	E	
	540-42-1	tert-butylpropionate	E	
	78-10-4	tetraethyl silicate; ethyl silicate	E	
	109-99-9	tetrahydrofuran	E	
	110-01-0	tetrahydrothiophene	E	
	116810-46-9	tetrakis(trimethylhexadecylammonium) hexa-mu-oxotetra-mu3-oxodi-mu5-oxotetradecaooxoocta molybdate(4-)	E	
	75-74-1	Tetramethyl lead	G	
	1314-85-8	tetraphosphorus trisulphide; phosphorus sesquisulphid	E	
	108-88-3	Toluene	P, G, E	
	6876-12-6	trans-1-methyl-4-(1-methylvinyl)cyclohexene	E	
	156-60-5	trans-dichloroethylene	E	
	101226-85-1	trans-methyl-2-ethyl-but-2-enoate	E	
	688-73-3	Tributyl tin hydride	G	
	75-79-6	trichloro(methyl)silane; methyltrichlorosilane	E	
	10025-78-2	trichlorosilane	E	
	121-44-8	triethylamine	E	
	121-43-7	trimethyl borate	E	
	75-50-3	tri-methylamine	E	
	13862-16-3	Trisilylamine	G	
	8006-64-2	turpentine, oil	E	
	108-05-4	Vinyl acetate	P, E	
	1330-20-7	Xylene(o-,m-,p- isomer mixture)	P, G, E	
98-08-8	α,α,α-trifluorotoluene; benzotrifluoride	E		

○ 자연발화성 물질 (CAS No. 有)

유해 특성	CAS	목록	구분	물질수
자연발화성	920-36-5	(2-methylpropyl)lithium; isobutyl lithium	E	25
	7429-90-5	aluminium powder (pyrophoric)	E	
	7440-43-9	cadmium (pyrophoric)	E	
	55426-95-4	diethyl(ethyl dimethylsilanolato)aluminium	E	
	7397-46-8	diethylmethoxyborane	E	
	557-20-0	diethylzinc	E	
	544-97-8	dimethylzinc	E	
	7585-14-0	di-n-octylaluminium iodide	E	
	865-34-9	lithiummethanolate;lithiummethoxide	E	
	7439-95-4	magnesium powder (pyrophoric)	E	
	12427-38-2	Maneb	P	
	21369-64-2	n-hexyllithium	E	
	7723-14-0	Phosphorus	P	
	917-58-8	potassiummethanolate;potassiummethoxide	E	
	865-33-8	potassiummethanolate;potassiummethoxide	E	
	7775-14-6	sodium dithionite; sodium hydrosulphite	E	
	141-52-6	sodiummethanolate;sodiummethoxide	E	
	124-41-4	sodiummethanolate;sodiummethoxide	E	
	4262-43-5	tert-butylarsine	E	
	2501-94-2	tert-Butylphosphine	G	
	10025-78-2	trichlorosilane	E	
	15573-38-3	Tris(trimethylsilyl)phosphine	G	
	12185-10-3	White phosphorus	G, E	
	7440-66-6	zinc powder - zinc dust (pyrophoric)	E	
	7440-67-7	zirconium powder (pyrophoric)	E	

○ 금수성 물질 (CAS No. 有)

유해 특성	CAS	목록	구분	물질수
금수성	920-36-5	(2-methylpropyl)lithium; isobutyllithium	E	30
	11135-81-2	Alloy of potassium and sodium	G	
	16853-85-3	aluminium lithium hydride	E	
	7429-90-5	aluminium powder (pyrophoric)	E	
	20859-73-8	Aluminum phosphide	G, E	
	27804-64-4	Bis(diethylamino)silane	G	
	7440-70-2	calcium	E	
	75-20-7	calcium carbide	E	
	7789-78-8	calcium hydride	E	
	1305-99-3	calcium phosphide; tricalcium diphosphide	E	
	55426-95-4	diethyl(ethyl(dimethyl)silanolato)aluminium	E	
	557-20-0	diethylzinc	E	
	544-97-8	dimethylzinc	E	
	13014-29-4	ethyl propoxy aluminium chloride	E	
	7439-93-2	lithium	E	
	12057-74-8	magnesium phosphide; trimagnesium diphosphide	E	
	7439-95-4	magnesium powder (pyrophoric)	E	
	12427-38-2	Maneb	P	
	21369-64-2	n-hexyllithium	E	
	1314-80-3	Phosphorus pentasulfide	P, G, E	
	7440-09-7	Potassium	P, G, E	
	12091-08-6	potassium mu-fluoro-bis(triethylaluminium)	E	
	7440-23-5	Sodium	P, G, E	
	7646-69-7	sodium hydride	E	
	1314-85-8	tetraphosphorus trisulphide; phosphorus sesquisulphid	E	
	15573-38-3	Tris(trimethylsilyl)phosphine	G	
	13862-16-3	Trisilylamine	G	
	1314-84-7	Zinc phosphide	G, E	
	7440-66-6	zinc powder - zinc dust (pyrophoric)	E	
	7440-67-7	zirconium powder (pyrophoric)	E	

○ 산화성 물질 (CAS No. 有)

유해 특성	CAS	목록	구분	물질수
산화성	89415-87-2	1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione	E	49
	7789-09-05	Ammonium dichromate	G, E	
	7790-98-9	ammonium perchlorate; [containing $\geq 80\%$ of 0-30 μm particles]	E	
	60347-66-2	Ammonium silver dinitrate	G	
	13477-00-4	barium chlorate	E	
	13465-95-7	barium perchlorate	E	
	1304-29-6	barium peroxide	E	
	13765-19-0	Calcium chromate	G	
	14307-33-6	Calcium dichromate	G	
	7778-54-3	calcium hypochlorite	E	
	1333-82-0	Chromic anhydride	G, E	
	14977-61-8	chromyl dichloride; chromic oxychloride	E	
	23606-32-8	Diamminesilver(1+) nitrate	G	
	7727-54-0	diammonium peroxodisulphate; ammonium persulphate	E	
	2782-57-2	dichloro-1,3,5-triazinetrione; dichloroisocyanuric acid	E	
	13530-68-2	Dichromic acid	G, E	
	24613-89-6	dichromium tris(chromate); chromium III chromate; chromic chromate	E	
	7727-21-1	dipotassium peroxodisulphate; potassium persulphate	E	
	7722-84-1	Hydrogen peroxide	P, G, E	
	13138-45-9	Nickel dinitrate	G, E	
	7697-37-2	Nitric acid	P, G, E	
	14216-75-2	Nitric acid, nickel salt	G, E	
	11138-47-9	perboric acid, sodium salt; [containing $< 0,1\%$ (w/w) of particles with an aerodynamic diameter of below 50 μm]	E	
	10332-33-9	perboricacid(HBO(O2)),sodiumsalt,monohydrate;sodiumperoxoborate;[containing $<0,1\%$ (w/w)ofparticleswithanaerodynamicdiameterofbelow50 μm]	E	
	12040-72-1	perboricacid,sodiumsalt,monohydrate;[containing $<0,1\%$ (w/w)ofparticleswithanaerodynamicdiameterofbelow50 μm]	E	
	7601-90-3	perchloric acid ... %	E	
	7758-01-2	Potassium bromate	P, E	
	3811-04-9	potassium chlorate	E	
	7778-50-9	Potassium dichromate	G, E	
	7758-09-0	potassium nitrite	E	
7778-74-7	potassium perchlorate	E		
7722-64-7	potassium permanganate	E		

○ 산화성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
산화성	7761-88-8	Silver nitrate	G, E	50
	7783-93-9	Silver perchlorate	G	
	7783-98-4	Silver permanganate	G	
	7775-09-9	Sodium chlorate	P, E	
	7758-19-2	Sodium chlorite	P, G	
	10588-01-9	Sodium dichromate	G, E	
	7632-00-0	sodium nitrite	E	
	15120-21-5	sodium perborate; [containing = 0,1 % (w/w) of particles with an aerodynamic diameter of below 50 µm]	E	
	7601-89-0	sodium perchlorate	E	
	1313-60-6	Sodium peroxide	P, G, E	
	7632-04-04	sodiumperoxometaborate;sodiumperoxoborate;[containing=0,1%(w/w)ofparticleswithanaerodynamicdiameterofbelow50µm]	E	
	87-90-1	Symclosene; 1,3,5-Trichloro-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	G, E	
	10102-45-1	Thallium nitrate	G	
	2893-78-9	Troclosene sodium; 1,3-Dichloro-1,3,5-triazine-2,4,6(1H,3H,5H)-trione sodium salt	G, E	
	2244-21-5	troclosenepotassium	E	
	124-43-6	Urea peroxide	G	
13530-65-9	Zinc chromate	G		

○ 부식성 물질 (CAS No. 有)

유해 특성	CAS	목록	구분	물질수
부식성	133636-82-5	(+)-(1S,2S,3S,5R)-2,6,6-trimethylbicyclo[3.1.1]heptane-3-s piro-1'-(cyclohex-2'-en-4'-one)	E	437
	83918-57-4	(±)-1-[2-(allyloxy)ethyl-2-(2,4-dichlorophenyl)]-1H-imidazolium hydrogen sulphate	E	
	16610-63-2	(1-hydroxydodecylidene)diphosphonic acid	E	
	61807-67-8	(2-(aminomethyl)phenyl)acetylchloride hydrochloride	E	
	110-57-6	(2E)-1,4-Dichloro-2-butene	G	
	920-36-5	(2-methylpropyl)lithium: isobutyllithium	E	
	15396-00-6	(3-Isocyanatopropyl)trimethoxysilane	G	
	151213-39-7	(4aS-cis-)-6-benzyl-octahydropyrrolo[3.4-b]pyridine	E	
	178277-55-9	(N-benzyl-N,N,N-tributyl)ammonium 4-dodecylbenzenesulfonate	E	
	13250-12-9	(R)-sec-butylamine;(R)-2-aminobutane	E	
	36394-75-9	(S)-(-)-2-acetoxypropionylchloride; (1S)-2-chloro-1-methyl-2-oxoethyl acetate	E	
	29617-66-1	(S)-2-chloropropionic acid	E	
	513-49-5	(S)-sec-butylamine;(S)-2-aminobutane	E	
	120086-58-0	(Z)-13-docosenyl-N,N-bis(2-hydroxyethyl)-N-methyl-am monium-chloride	E	
	112-90-3	(Z)-octadec-9-enylamine	E	
	33271-88-4	(η ⁵ -2,4-Cyclopentadien-1-yl)tris(N-methylmethanaminato)zirconium	G	
	959974-09-5	[(1,2,3,4,5-η)-1-Methyl-2,4-cyclopentadien-1-yl]tris(N-me thylmethanaminato)zirconium	G	
	167678-46-8	[3-(chlorocarbonyl)-2-methylphenyl]acetate	E	
	569-64-2	[4-[α-[4-(Dimethylamino)phenyl benzylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride	P, G	
	7378-99-6	[Dimethyl(octyl)amine]	G	
	169104-71-6	[N-(1,1-dimethylethyl)-1,1-dimethyl-1-[(1,2,3,4,5-η)-2,3,4,5-tetramethyl-2,4-cyclopentadien-1-yl]silanaminato(2-)-κN] [(1,2,3,4-η)-1,3-pentadiene]-titanium	E	
	214353-17-0	1-(2-amino-5-chlorophenyl)-2,2,2-trifluoro-1,1-ethanedi ol, hydrochloride; [containing < 0.1 % 4-chloroaniline (EC No 203-401-0)]	E	
	179474-79-4	1-(3-methoxypropyl)-4-piperidinamine	E	
	162515-68-6	1-(mercaptomethyl)cyclopropylacetic acid	E	
	90076-65-6	1,1,1-Trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfon amidelithium salt	G, E	
	206760-59-0	1,1,2,2-Tetrafluorodiborane(4)	G	
	13965-73-6	1,1,2,2-Tetrafluorodiborane(4)	G	
	56533-00-7	1,1,3,3-tetrabutyl-1,3-ditinoxycaprylate	E	
	2407-94-5	1,1'-dioxybiscyclohexan-1-ol	E	
	1132-95-2	1,1-diisopropoxycyclohexane	E	
57-14-7	1,1-Dimethylhydrazine	P, E		

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	5124-30-1	1,1'-Methylenebis[4-isocyanato cyclohexane]	P, G	437
	771-29-9	1,2,3,4-tetrahydro-1-naphthyl hydroperoxide	E	
	106-88-7	1,2-Epoxybutane	P	
	89415-87-2	1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione	E	
	294-90-6	1,4,7,10-tetraazacyclododecane	E	
	764-41-0	1,4-dichlorobut-2-ene	E	
	136122-15-1	1,4-Dithiane-2,5-di(methanethiol)	G, E	
	771478-66-1	1,6-bis(3,3-bis((1-methylpentylideneimino)propyl)ureido)hexane	E	
	32047-53-3	1-amino-2-methyl-2-propanethiol hydrochloride	E	
	78-96-6	1-aminopropan-2-ol; isopropanolamine	E	
	158894-67-8	1-bromo-2-methylpropyl propionate	E	
	108-16-7	1-dimethylaminopropan-2-ol; dimepranol (INN)	E	
	2687-96-9	1-dodecyl-2-pyrrolidone	E	
	78-18-2	1-hydroperoxycyclohexyl 1-hydroxycyclohexyl peroxide	E	
	37143-54-7	1-methoxy-2-propylamine	E	
	616-47-7	1-methylimidazole	E	
	13952-84-6	1-Methylpropylamine	G, E	
	120-94-5	1-Methylpyrrolidine	G	
	19485-03-1	1-methyltrimethylene diacrylate; 1,3-butylene glycol diacrylate	E	
	59227-88-2	1-octylazepin-2-one	E	
	98-84-0	1-phenylethylamine	E	
	51390-14-8	2-(1-methylpropyl)-4-tert-butylphenol	E	
	119154-86-8	2-(2-amino-1,3-thiazol-4-yl)-(Z)-2-methoxyiminoacetyl chloride hydrochloride	E	
	111-41-1	2-(2-aminoethylamino)ethanol; (AEEA)	E	
	2094-99-7	2-(3-(prop-1-en-2-yl)phenyl)prop-2-yl isocyanate	E	
	51395-42-7	2-(diphosphonomethyl)succinic acid	E	
	25307-17-9	2,2'-(9-Octadecenylimino)bisethanol	G	
	661476-43-3	2,2,3,3,4,4-Hexafluoro-4-[(trifluoroethenyl)oxy]butanoic acid,methyl ester homopolymer,hydrolyzed	G	
	1464-53-5	2,2'-bioxirane; 1,2:3,4-diepoxybutane	E	
	69094-18-4	2,2-dibromo-2-nitroethanol	E	
	2032-75-9	2,2-dichloro-1,3-benzodioxol	E	
	6864-37-5	2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	E	
	111-40-0	2,2'-iminodiethylamine; diethylenetriamine	E	
	42221-52-3	2,3,4,5-tetrachlorobenzoylchloride	E	
108-77-0	2,4,6-trichloro-1,3,5-triazine; cyanuric chloride	E		

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	68957-94-8	2,4,6-tri-n-propyl-2,4,6-trioxo-1,3,5,2,4,6-trioxatriphosphorinane	E	437
	120-83-2	2,4-dichlorophenol	E	
	140623-89-8	2,6-dichloro-1-fluoropyridiniumtetrafluoroborate	E	
	83016-70-0	2-[(2-[2-(dimethylamino)ethoxy]ethyl)methylamino]ethanol	E	
	4274-38-8	2-amino-4-(trifluoromethyl)benzenethiol hydrochloride	E	
	68910-05-4	2-Aminoethanol reaction products with ammonia by-products from	G	
	141-43-5	2-aminoethanol; ethanolamine	E	
	108-00-9	2-aminoethyldimethylamine; 2-dimethylaminoethylamine	E	
	137-07-5	2-Aminothiophenol	G	
	35950-52-8	2-bromo-1-(2-furyl)-2-nitroethylene	E	
	24403-04-1	2-bromo-2-nitropropanol	E	
	137605-95-9	2-butyl-2-ethyl-1,5-diaminopentane	E	
	110-65-6	2-Butyne-1,4-diol	P, G, E	
	65753-47-1	2-chloro-3-trifluoromethylpyridine	E	
	105827-91-6	2-chloro-5-chloromethylthiazole	E	
	2040-90-6	2-chloro-6-fluoro-phenol	E	
	89-98-5	2-chlorobenzaldehyde; o-chlorobenzaldehyde	E	
	598-78-7	2-chloropropionic acid	E	
	42413-03-6	2-chloro-p-toluenesulfochloride	E	
	100-37-8	2-diethylaminoethanol; N,N-diethylethanolamine	E	
	108-01-0	2-dimethylaminoethanol; N,N-dimethylethanolamine	E	
	112-25-4	2-hexyloxyethanol; ethylene glycol monoethyl ether; n-hexylglycol	E	
	2918-23-2	2-hydroxy-1-methylethylacrylate	E	
	818-61-1	2-hydroxyethyl acrylate	E	
	999-61-1	2-hydroxypropylacrylate	E	
	123-88-6	2-Methoxyethyl mercury chloride	G, E	
	2527-66-4	2-Methyl-1,2-benzisothiazolin-3-one	G	
	4524-95-2	2-methyl-2-azabicyclo[2.2.1]heptane	E	
	2682-20-4	2-Methyl-4-isothiazolin-3-one	G	
	109-83-1	2-methylaminoethanol; N-methylethanolamine; N-methyl-2-ethanolamine; N-methyl-2-amino ethanol; 2-(methylamino)ethanol	E	
	4299-07-04	2-n-Butyl-benzo[d]isothiazol-3-one	G, E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	26530-20-1	2-Octyl-3(2H)-isothiazolone	G, E	437
	1943-82-4	2-phenylethylisocyanate	E	
	140-31-8	2-piperazin-1-ylethylamine	E	
	156105-38-3	2-Propanone reaction products with 5-amino-1,3,3-trimethylcyclohexanemethanamine, reduced	G	
	107-19-7	2-Propyn-1-ol	P, G, E	
	105254-85-1	3-(bis(2-ethylhexyl)aminomethyl)benzothiazole-2(3H)-thione	E	
	56-18-8	3,3'-Iminodi(propylamine)	G, E	
	95-65-8	3,4-xylenol	E	
	101513-70-6	3,5-dichloro-2,4-difluorobenzoyl fluoride	E	
	6613-44-1	3,5-dimethylbenzoyl chloride	E	
	4067-16-7	3,6,9,12-tetra-azatetradecamethylenediamine; pentactylenhexamine	E	
	112-57-2	3,6,9-triazaundecamethylenediamine; tetraethylenepentamine	E	
	112-24-3	3,6-diazaoctanethylenediamin; triethylenetetramine	E	
	4403-70-7	3-aminobenzylamine	E	
	2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	E	
	104-78-9	3-aminopropyldiethylamine; N,N-diethyl-1,3-diaminopropane	E	
	109-55-7	3-aminopropyldimethylamine; N,N-dimethyl-1,3-diaminopropane	E	
	919-30-2	3-aminopropyltriethoxysilane	E	
	1458-98-6	3-Bromo-2- methyl-1-propene	G	
	16499-88-0	3-Butoxypropylamine	G	
	3847-58-3	3-chloro-2,4-difluoronitrobenzene	E	
	563-47-3	3-chloro-2-methylpropene	E	
	106917-30-0	3-dodecyl-(1-(1,2,2,6,6-pentamethyl-4-piperidin)-yl)-2,5-pyrrolidindione	E	
	79720-19-7	3-Dodecyl-1-(2,2,6,6-tetramethyl-4-piperidinyl)-2,5-pyrrolidinedione	G	
	6291-85-6	3-Ethoxypropylamine	P, G	
	143860-04-2	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	E	
	556-56-9	3-iodpropene; allyl iodide	E	
	18759-96-1	3-methylaminomethylphenylamine	E	
	22432-68-4	4,4,5,5-tetrachloro-1,3-dioxolan-2-one	E	
	19060-15-2	4,4-dimethoxybutylamine	E	
	13474-64-1	4,4'-methylenebis(N,N'-dimethylcyclohexanamine)	E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	154279-60-4	4,4'-Methylenebis[N-(1-methylpropyl)cyclohexanamine]	G	437
	64359-81-5	4,5-Dichloro-2-N-octyl-4-isothizaolin-3-one	G	
	1193-21-1	4,6-Dichloropyrimidine	G	
	159939-85-2	4-[(3-chlorophenyl)(1H-imidazol-1-yl)methyl]-1,2-benzene diamine dihydrochloride	E	
	93-05-0	4-amino-N,N-diethylaniline; N,N-diethyl-p-phenyldiamine	E	
	1570-64-5	4-chloro-o-cresol; 4-chloro-2-methyl phenol	E	
	137796-06-6	4-ethyl-2-methyl-2-isopentyl-1,3-oxazolidine	E	
	61721-07-1	4-fluoro-3-trifluoromethylphenol	E	
	697-83-6	5-Chloro-2,4,6-trifluoropyrimidine	G	
	26172-55-4	5-Chloro-2-methyl-4-isothiazolin-3-one	G	
	2833-30-9	5-ethoxy-5H-furan-2-one	E	
	1862-07-3	6-dimethylaminohexan-1-ol	E	
	80-47-7	8-p-menthyl hydroperoxide; p-menthane hydroperoxide	E	
	64-19-7	Acetic acid	P, G, E	
	64-19-7	Acetic acid	P, G, E	
	108-24-7	acetic anhydride	E	
	75-36-5	acetyl chloride	E	
	107-02-8	Acrolein	P, G, E	
	4369-14-6	acrylic acid, 3-(trimethoxysilyl)propyl ester	E	
	79-10-7	acrylic acid; prop-2-enoic acid	E	
	25584-83-2	acrylicacid,monoesterwithpropane-1,2-diol	E	
	11135-81-2	Alloy of potassium and sodium	G	
	7446-70-0	aluminium chloride, anhydrous	E	
	16853-85-3	aluminium lithium hydride	E	
	61788-46-3	amines, coco alkyl	E	
	68131-73-7	amines, polyethylenepoly-; HEPA	E	
	61790-33-8	amines, tallow alkyl	E	
	1336-21-6	ammonia%	E	
	7664-41-7	Ammonia(including Ammonium hydroxide)	P, G, E	
	1341-49-7	Ammonium bifluoride	P, G, E	
	7789-09-05	Ammonium dichromate	G, E	
	9080-17-5	ammonium polysulphides	E	
	60347-66-2	Ammonium silver dinitrate	G	
	7647-18-9	Antimony pentachloride	G, E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	10025-91-9	Antimony trichloride	G, E	437
	10294-40-3	Barium chromate	G	
	2229198	basicphenylmercurynitrate	E	
	98-88-4	benzoyl chloride	E	
	501-53-1	benzyl chloroformate	E	
	113694-52-3	benzyl-2-hydroxydodecyldimethylammonium benzoate	E	
	100-46-9	benzylamine	E	
	103-83-3	benzyl dimethylamine	E	
	107667-02-7	Bis(2,4,4-trimethylpentyl)phosphinodithioic acid	G, E	
	3030-47-5	bis(2-dimethylaminoethyl)(methyl)amine	E	
	106-20-7	Bis(2-ethylhexyl)amine	G	
	27804-64-4	Bis(diethylamino)silane	G	
	10039-54-0	Bis(hydroxylammonium) sulfate	P, G, E	
	10294-33-4	boron tribromide	E	
	10294-34-5	boron trichloride	E	
	84852-15-3	Branched 4-nonylphenol	P, G, E	
	7726-95-6	Bromine	P, G, E	
	79-08-3	bromoacetic acid	E	
	592-34-7	butyl chloroformate; chloroformic acid butyl ester	E	
	109-73-9	butylamine	E	
	107-92-6	butyric acid	E	
	141-75-3	butyryl chloride	E	
	119415-07-5	C12-14-tert-alkylamine, methylphosphonic acid salt	E	
	68132-19-4	C8-18alkylbis(2-hydroxyethyl)ammonium bis(2-ethylhexyl)phosphate	E	
	13765-19-0	Calcium chromate	G	
	7778-54-3	calcium hypochlorite	E	
	7782-50-5	Chlorine	P	
	10049-04-4	Chlorine dioxide	G, E	
	770722-46-8	chloro(3-(3-chloro-4-fluorophenyl)propyl)dimethylsilane	E	
	107-20-0	chloroacetaldehyde	E	
	79-11-8	Chloroacetic acid	P, G, E	
	79-04-9	chloroacetyl chloride	E	
	1066-35-9	Chlorodimethylsilane	G	
	3724-43-4	chloro-N,N-dimethylformiminium chloride	E	
	7790-94-5	Chlorosulfonic acid	P, G, E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	1333-82-0	Chromic anhydride	G, E	437
	14977-61-8	chromyl dichloride; chromic oxychloride	E	
	1319-77-3	Cresol(o-,m-,p- isomer mixture)	P, G, E	
	506-77-4	Cyanogen chloride	G	
	12262-58-7	cyclohexanone,peroxide	E	
	108-91-8	Cyclohexylamine	P, G, E	
	292142	cyclohexylidenehydroperoxide	E	
	13763-19-4	Decachlorotetra silane	G	
	23606-32-8	Diamminesilver(1+) nitrate	G	
	1327-53-3	diarsenic trioxide; arsenic trioxide	E	
	683-18-1	dibutyltin dichloride; (DBTC)	E	
	770722-36-6	dichloro-(3-(3-chloro-4-fluorophenyl)propyl)methylsilane	E	
	1558-33-4	Dichloro(chloromethyl)methylsilane	G	
	644-97-3	Dichloro(phenyl)phosphine	P, G	
	79-43-6	Dichloroacetic acid	G, E	
	79-36-7	dichloroacetyl chloride	E	
	124-70-9	Dichloroethenylmethylsilane	G	
	13530-68-2	Dichromic acid	G	
	24613-89-6	dichromium tris(chromate); chromium III chromate; chromic chromate	E	
	101-83-7	dicyclohexylamine	E	
	7173-51-5	Didecyldimethylammonium chloride	G, E	
	64-67-5	Diethyl sulfate	P, G, E	
	55426-95-4	diethyl(ethyltrimethylsilanolato)aluminium	E	
	109-89-7	Diethylamine	P, E	
	95500-19-9	diethyltrimethylammonium hydroxide	E	
	7397-46-8	diethylmethoxyborane	E	
	557-20-0	diethylzinc	E	
	108-18-9	diisopropylamine	E	
	77-78-1	Dimethyl sulfate	P, G, E	
	124-40-3	Dimethylamine	P, E	
	13360-57-1	Dimethylsulfamoyl chloride	G, E	
	753-73-1	dimethyltin dichloride	E	
	544-97-8	dimethylzinc	E	
10544-72-6	dinitrogen tetraoxide	E		
7585-14-0	di-n-octylaluminium iodide	E		

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	1312-73-8	dipotassium sulphide; potassium sulphide	E	437
	142-84-7	dipropylamine	E	
	10294-26-5	Disilver(1+) sulfate	G	
	13465-98-0	Disilver(1+) sulfite	G	
	46492-07-3	disodium 9,10-anthracenedioxide	E	
	6834-92-0	disodium metasilicate	E	
	1313-82-2	disodium sulfide; sodium sulfide	E	
	618-36-0	DI- α -methylbenzylamine	E	
	1593-77-7	dodemorph (ISO); 4-cyclododecyl-2,6-dimethylmorpholine	E	
	31717-87-0	dodemorph acetate; 4-cyclododecyl-2,6-dimethylmorpholin-4-ium acetate	E	
	106-89-8	Epichlorohydrin	P, G, E	
	16672-87-0	ethephon; 2-chloroethylphosphonic acid	E	
	541-41-3	ethyl chloroformate	E	
	13014-29-4	ethyl propoxy aluminium chloride	E	
	598-56-1	ethyldimethylamine	E	
	107-15-3	ethylenediamine; 1,2-diaminoethane	E	
	151-56-4	Ethyleneimine	P, E	
	7782-41-4	fluorine	E	
	16872-11-0	Fluoroboric acid	P, G, E	
	16961-83-4	Fluorosilicic acid	P, G, E	
	7789-21-1	fluorosulphonic acid	E	
	50-00-0	Formaldehyde	P, G, E	
	64-18-6	formic acid ... %	E	
	8014-95-7	Fuming sulfuric acid	P, G	
	111-30-8	Glutaraldehyde	P, G, E	
	106-90-1	Glycidyl acrylate	G, E	
	16079-88-2	Halogenated hydantoin	P, G	
	111-14-8	heptanoic acid	E	
	77-47-4	Hexachlorocyclopentadiene	P, G, E	
	16941-12-1	hexachloroplatinic acid	E	
	124-09-4	hexamethylenediamine	E	
	302-01-2	Hydrazine	P, G, E	
	7803-57-8	Hydrazine hydrate	P, G	
	10034-93-2	Hydrazine sulfate	P	
	10035-10-6	Hydrogen bromide	P, G, E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	7647-01-0	Hydrogen chloride	P, G, E	437
	10034-85-2	Hydrogen iodide	P, G, E	
	7722-84-1	Hydrogen peroxide	P, G, E	
	61420-92-6	hydroxydisulfito platinum(II) acid	E	
	7803-49-8	Hydroxylamine	P, G, E	
	5470-11-1	Hydroxylammonium chloride	P, G, E	
	23783-26-8	hydroxyphosphonoacetic acid	E	
	58594-72-2	imazalil sulphate (ISO) powder; 1-[2-(allyloxy)ethyl-2-(2,4-dichlorophenyl)]-1H-imidazolium hydrogen sulphate	E	
	288-32-4	imidazole	E	
	64-69-7	iodoacetic acid	E	
	78-81-9	Isobutylamine	G	
	148348-13-4	isobutylidene-(2-(2-isopropyl-4,4-dimethyloxazolidine-3-yl)-1,1-dimethylethyl)amine	E	
	79-30-1	isobutyryl chloride	E	
	7439-93-2	lithium	E	
	111337-53-2	lithium 3-oxo-1,2(2H)-benzothiazol-2-ide	E	
	171611-11-3	Lithium bis(fluorosulfonyl)imide	G	
	678966-16-0	Lithium bis[ethanedioato(2-)-κO1,κO2]difluorophosphate(1-)	G	
	24389-25-1	Lithium difluorophosphate	G	
	13453-75-3	Lithium fluorosulfate	G	
	409071-16-5	Lithiumdifluoro(oxalato)borate(1-)	G	
	865-34-9	lithiummethanolate:lithiummethoxide	E	
	108-31-6	maleic anhydride	E	
	108-39-4	m-Cresol	P, G, E	
	68-11-1	Mercaptoacetic acid	P, G, E	
	7487-94-7	mercury dichloride; mercuric chloride	E	
	137-42-8	metam-sodium (ISO); sodium methylthiocarbamate	E	
	79-41-4	methacrylic acid; 2-methylpropenoic acid	E	
	75-75-2	Methanesulfonic acid	G, E	
	625-45-6	methoxyacetic acid	E	
	90886-53-6	methyl 3-amino-2,2,3-trimethylbutyrate	E	
	77402-05-2	methyl acrylamidoglycolate (containing ≥ 0,1 % acrylamide)	E	
	79-22-1	methyl chloroformate	E	
	556-61-6	Methyl isothiocyanate	P, G, E	
	6317-18-6	Methylene bithiocyanate	G, E	
	74-89-5	mono-methylamine	E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	110-91-8	morpholine	E	437
	2687-94-7	N-(n-octyl)-2-pyrrolidone	E	
	110-18-9	N,N,N',N'-tetramethylethylenediamine	E	
	91273-04-0	N,N-Bis(2-ethylhexyl)-[(1,2,4-triazol-1-yl)methyl]amine	G, E	
	10563-26-5	N,N'-Bis(3-aminopropyl)-1,2-ethanediamine	G	
	105-83-9	N,N-bis(3-aminopropyl)methylamine	E	
	62478-82-4	N,N-diethyl-N',N'-dimethylpropan-1,3-diyl-diamine	E	
	70693-57-1	N-[3-[(2-acetyloxy)ethyl](phenyl-methyl)amino]-4-methoxyphenylacetamide	E	
	2372-82-9	N1-(3-Aminopropyl)-N1-dodecyl-1,3-propanediamine	G	
	25952-53-8	N3-(Ethylcarbonimidoyl)-N1,N1-dimethyl-1,3-propanedia mine, hydrochloride (1:1)	G	
	40292-82-8	neodecanoyl chloride	E	
	21369-64-2	n-hexyllithium	E	
	13637-71-3	nickel diperchlorate; perchloric acid, nickel(II) salt	E	
	4995-91-9	nickel(II) octanoate	E	
	7697-37-2	Nitric acid	P, G, E	
	10102-44-0	nitrogendioxide	E	
	25154-52-3	Nonylphenol	P, G, E	
	139-84-4	Nonylphenol	G	
	136-83-4	Nonylphenol	G	
	104-40-5	Nonylphenol	G	
	109-61-5	n-Propyl chloroformate	G, E	
	95-48-7	o-Cresol	P, G, E	
	124-07-2	octanoic acid	E	
	20816-12-0	Osmium tetroxide	P, G, E	
	106-44-5	p-Cresol	P, G, E	
	638-29-9	Pentanoyl chloride	G	
	79-21-0	peracetic acid . . . %	E	
	7601-90-3	perchloric acid ... %	E	
	107-32-4	Performic acid	G	
	108-95-2	Phenol	P, G, E	
	74499-35-7	phenol,(tetrapropenyl)derivatives	E	
	210555-94-5	phenol,4-dodecyl-,branched	E	
	121158-58-5	phenol,dodecyl-,branched	E	
	62-38-4	phenylmercury acetate	E	
	100-57-2	Phenylmercury hydroxide	G, E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	55-68-5	Phenylmercury nitrate	G, E	437
	75-44-5	Phosgene	P, G, E	
	7803-51-2	Phosphine	P, G, E	
	13598-36-2	phosphonicacid	E	
	7664-38-2	phosphoric acid ... %, orthophosphoric acid ... %	E	
	10294-56-1	phosphorousacid	E	
	10025-87-3	Phosphorus oxychloride	P, G, E	
	10026-13-8	Phosphorus pentachloride	P, G, E	
	1314-56-3	Phosphorus pentoxide	P, G, E	
	7789-60-8	phosphorus tribromide	E	
	7719-12-2	Phosphorus trichloride	P, G, E	
	110-85-0	piperazine; [solid]	E	
	110-89-4	piperidine	E	
	7440-09-7	Potassium	P, G, E	
	120447-91-8	potassium 2-amino-2-methylpropionate octahydrate	E	
	7789-29-9	potassium bifluoride; potassium hydrogen difluoride	E	
	7789-00-6	Potassium chromate	G	
	7778-50-9	Potassium dichromate	G, E	
	917-58-8	potassium ethanolate; potassium ethoxide	E	
	12160-44-0	potassium ferrite	E	
	7646-93-7	potassium hydrogensulphate	E	
	1310-58-3	Potassium hydroxide	P, G, E	
	12091-08-6	potassium mu-fluoro-bis(triethylaluminium)	E	
	37199-66-9	potassium polysulphides	E	
	865-33-8	potassiummethanolate;potassiummethoxide	E	
	79-09-4	propionic acid ... %	E	
	123-62-6	propionic anhydride	E	
	79-03-8	propionyl chloride	E	
	78-90-0	propylenediamine	E	
	63449-41-2	quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides	E	
	51594-55-9	R-1-chloro-2,3-epoxypropane	E	
	57044-25-4	R-2,3-epoxy-1-propanol	E	
	87025-52-3	reaction mass of pentyl methylphosphinate and 2-methylbutyl methylphosphinate	E	
	202420-04-0	reaction mass of: 4-chloro-7-methylbenzotriazole sodium salt; 4-chloro-5-methylbenzotriazole sodium salt; 5-chloro-4-methylbenzotriazole sodium salt	E	
	55965-84-9	reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7]; and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7]; and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)	E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	220444-73-5	reaction products of diisopropanolamine with formaldehyde (1:4)	E	437
	26042-64-8	Silver hexafluoroantimonate(1-)	G	
	7761-88-8	Silver nitrate	G, E	
	7783-93-9	Silver perchlorate	G	
	7783-98-4	Silver permanganate	G	
	7783-95-1	Silver(2+) fluoride	G	
	26042-63-7	Silver(I) hexafluorophosphate	G	
	7440-23-5	Sodium	P, G, E	
	150522-10-4	sodium [29H,31H-phthalocyaninato-(2-)-N29,N30,N31,N32]-((3-(N-methyl-N-(2-hydroxyethyl)amino)propyl)amino)sulfonyl-sulfonato, copper complex	E	
	38411-13-1	sodium 2-ethylhexanolate	E	
	118685-34-0	sodium 5-n-butylbenzotriazole	E	
	1333-83-1	sodium bifluoride; sodium hydrogen difluoride	E	
	7758-19-2	Sodium chlorite	P	
	7775-11-03	Sodium chromate	G, E	
	10588-01-9	Sodium dichromate	G, E	
	7681-52-9	sodium hypochlorite, solution ... % Cl active	E	
	124-41-4	sodium methanolate; sodium methoxide	E	
	132-27-4	Sodium o-phenylphenate	P	
	1313-60-6	Sodium peroxide	P, G, E	
	1344-08-7	sodium polysulphides	E	
	141-52-6	sodiummethanolate;sodiummethoxide	E	
	7704-34-9	Sulfur	P	
	10025-67-9	Sulfur chloride	G, E	
	19287-89-9	Sulfuric acid silver salt	G	
	10545-99-0	sulphur dichloride	E	
	7446-09-5	sulphur dioxide	E	
	13451-08-6	sulphur tetrachloride	E	
	7791-25-5	sulphuryl chloride	E	
	75-59-2	Tetramethylammonium hydroxide	G	
	1070-70-8	tetramethylene diacrylate; 1,4-butyleneglycol diacrylate	E	
	7719-09-7	Thionyl chloride	P, G, E	
	89-83-8	thymol	E	
	7646-78-8	tin tetrachloride; stannic chloride	E	
	53408-94-9	tin(II) methanesulphonate	E	
	7550-45-0	titanium tetrachloride	E	

○ 부식성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
부식성	127-65-1	tosylchloramide sodium	E	437
	76-03-9	Trichloroacetic acid	P, G, E	
	10025-78-2	trichlorosilane	E	
	121-44-8	triethylamine	E	
	73602-61-6	Triethylammonium fluoride	G	
	1493-13-6	Triflic acid	G	
	76-05-1	trifluoroacetic acid . . . %	E	
	7637-07-2	Trifluoroborane	P, G, E	
	75-50-3	tri-methylamine	E	
	15573-38-3	Tris(trimethylsilyl)phosphine	G	
	7784-09-0	Trisilver orthophosphate	G	
	13862-16-3	Trisilylamine	G	
	129050-62-0	trisodium N,N-bis(carboxymethyl)-β-alanine	E	
	124-43-6	Urea peroxide	G	
	166242-53-1	UVCB condensation product of: tetrakis-hydroxymethylphosphonium chloride, urea and distilled hydrogenated C16-18 tallow alkylamine	E	
	109-52-4	valeric acid	E	
	12185-10-3	White phosphorus	G, E	
	1300-71-6	Xylenol	P, G, E	
	95-87-4	Xylenol	G, E	
	71975-58-1	Xylenol	G, E	
	576-26-1	Xylenol	G, E	
	526-75-0	Xylenol	G, E	
	108-68-9	Xylenol	G, E	
	105-67-9	Xylenol	G, E	
	7646-85-7	Zinc chloride	G, E	
	13530-65-9	Zinc chromate	G	
	14018-95-2	Zinc dichromate	G	
	80-15-9	α,α-dimethylbenzyl hydroperoxide; cumene hydroperoxide	E	
	144736-29-8	α[2-[[[(2-hydroxyethyl)methylamino]acetyl]amino]propyl]-ω-(nonylphenoxy)poly[oxo(methyl-1,2-ethanediyl)]	E	
	176022-82-5	α-[2-[Bis(2-hydroxyethyl)amino]propyl]-ω-hydroxypoly[oxy(methyl-1,2-ethanediyl)]etherwitha-hydro-ω-hydroxypoly(oxy -1,2-ethanediyl)(1:2),mono-C12-16-alkylethers	G	

○ 생태독성 물질 (CAS No. 有)

유해 특성	CAS	목록	구분	물질수
생태독성	105813-13-6	(-)(3S,4R)-4-(4-fluorophenyl)-3-(3,4-methylenedioxy-phenoxymethyl)-N-benzylpiperidine hydrochloride	(E)	2,330
	105812-81-5	(-)-trans-4-(4'-fluorophenyl)-3-hydroxymethyl-N-methylpiperidine	(E)	
	133636-82-5	(+)-(1S,2S,3S,5R)-2,6,6-trimethylbicyclo[3.1.1]heptane-3-spiro-1'-(cyclohex-2'-en-4'-one)	(E)	
	119738-06-6	(±) tetrahydrofurfuryl (R)-2-[4-(6-chloroquinoxalin-2-yloxy)phenoxy]propionate	(E)	
	107898-54-4	(±) trans-3,3-dimethyl-5-(2,2,3-trimethyl-cyclopent-3-en-1-yl)-pent-4-en-2-ol	(E)	
	793669-26-8	(±)-(R*,S*)-6-fluoro-3,4-dihydro-2-oxiranyl-2H-1-benzopyran	(E)	
	99199-90-3	(±)-[(R*,R*) and (R*,S*)]-6-fluoro-3,4-dihydro-2-oxiranyl-2H-1-benzopyran	(E)	
	83918-57-4	(±)-1-[2-(allyloxy)ethyl-2-(2,4-dichlorophenyl)]-1H-imidazolium hydrogen sulphate	(E)	
	7705-14-8	(±)-1-methyl-4-(1-methylvinyl)cyclohexene	(E)	
	109887-53-8	(±)-trans-4-(4-fluorophenyl)-3-hydroxymethyl-N-methylpiperidine	(E)	
	16610-63-2	(1-hydroxydodecylidene)diphosphonic acid	(E)	
	42978-66-5	(1-methyl-1,2-ethanediyl)bis[oxy(methyl-2,1-ethanediyl)] diacrylate	(E)	
	25640-78-2	(1-Methylethyl)-1,1NULL-biphenyl	(G)	
	40043-73-0	(1R,4aS,10aR)-1,2,3,4,4a,9,10,10a-Octahydro-1,4a-dimethyl-7-(1-methylethyl)-1-phenanthrenemethanamine, hydrobromide (1:1)	(G)	
	172015-79-1	(1S-cis)-4-(2-amino-6-chloro-9H-purin-9-yl)-2-cyclopentene-1-methanol hydrochloride	(E)	
	79617-97-3	(1S-cis)-4-(3,4-dichlorophenyl)-1,2,3,4-tetrahydro-N-methyl-1-naphthalenamine 2-hydroxy-2-phenylacetate	(E)	
	86608-70-0	(2-(1,3-dioxolan-2-yl)ethyl)triphenylphosphonium bromide	(E)	
	159604-94-1	(2,2'-(3,3'-dioxidobiphenyl-4,4'-diyldiazo)bis(6-(4-(3-(diethylamino)propylamino)-6-(3-(diethylammonio)propylamino)-1,3,5-triazin-2-ylamino)-3-sulfonato-1-naphtholato))dicopper(II) acetate lactate	(E)	
	142877-45-0	(2,3-dimethylbut-2-yl)-trimethoxysilane	(E)	
	76145-91-0	(2,4-diaminopteridin-6-yl)methanol hydrobromide	(E)	
82911-69-1	(2,5-dioxopyrrolidin-1-yl)-9H-fluoren-9-ylmethyl carbonate	(E)		
13335-71-2	(2,6-xylyloxy) acetic acid	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	141645-23-0	(2-butyl-5-nitrobenzofuran-3-yl)[4-(3-dibutylaminopropoxy)phenyl]methanone	(E)	2,330
	40722-80-3	(2-chloroethyl)(3-hydroxypropyl)ammonium chloride	(E)	
	110-57-6	(2E)-1,4-Dichloro-2-butene	(G)	
	84852-39-1	(2-ethylhexanoato-O)(isodecanoato-O)nickel	(E)	
	85508-45-8	(2-ethylhexanoato-O)(isononanoato-O)nickel	(E)	
	85135-77-9	(2-ethylhexanoato-O)(neodecanoato-O)nickel	(E)	
	920-36-5	(2-methylpropyl)lithium; isobutyllithium	(E)	
	76855-69-1	(2R,3R)-3-((R)-1-(tert-butyl dimethylsiloxy)ethyl)-4-oxoazetidin-2-yl acetate	(E)	
	217324-98-6	(3-(4-(2-(butyl-(4-methylphenylsulfonyl)amino)phenylthio)-5-oxo-1-(2,4,6-trichlorophenyl)-4,5-dihydro-1H-pyrazol-3-ylamino)-4-chlorophenyl)tetradecanamide; N-[3-({4-[(2-{butyl[(4-methylphenyl)sulfonyl]amino}phenyl)thio]-5-oxo-1-(2,4,6-trichlorophenyl)-4,5-dihydro-1H-pyrazol-3-yl}amino)-4-chlorophenyl]tetradecanamide	(E)	
	79568-06-2	(3-aminophenyl)pyridin-3-ylmethanone	(E)	
	3327-22-8	(3-chloro-2-hydroxypropyl) trimethylammonium chloride ...%	(E)	
	66938-41-8	(3-chlorophenyl)-(4-methoxy-3-nitrophenyl)methanone	(E)	
	409325-06-0	(3-Phenoxyphenyl)methyl 2-propenoate	(G)	
	136522-17-3	(3S,4aS,8aS)-2-[(2R,3S)-3-amino-2-hydroxy-4-phenylbutyl]-N-tert-butyldecahydroisoquinoline-3-carboxamide	(E)	
	136465-81-1	(3S,4aS,8aS)-N-tert-butyldecahydro-3-isoquinolinecarboxamide	(E)	
	104872-06-2	(3S,4S)-3-hexyl-4-[(R)-2-hydroxytridecyl]-2-oxetanone	(E)	
	133413-70-4	(3S,6R,9S,12R,15S,18R,21S,24R)-6,18-dibenzyl-3,9,15,21-tetraisobutyl-4,10,12,16,22,24-hexamethyl-1,7,13,19-tetraoxa-4,10,16,22-tetraazacyclo-tetracosane-2,5,8,11,14,17,20,23-octane	(E)	
	4229-69-0	(3β, 5α, 6β)-3-(acetyloxy)-5-bromo-6-hydroxy-androstan-17-one	(E)	
	178233-72-2	(4-(1-methylethyl)phenyl)-(4-methylphenyl)iodonium tetrakis(pentafluorophenyl)borate (1-)	(E)	
	117573-89-4	(4-(4-(4-dimethylaminobenzyliden-1-yl)-3-methyl-5-oxo-2-pyrazolin-1-yl)benzoic acid	(E)	
	88918-84-7	(4-aminophenyl)-N-methylmethanesulfonamide hydrochloride	(E)	
	25646-77-9	(4-ammonio-m-tolyl)ethyl(2-hydroxyethyl)ammonium sulphate; 4-(N-ethyl-N-2-hydroxyethyl)-2-methylphenylenediamine sulphate	(E)	
	1668-86-6	(4aR*,8aR*)-4a,5,9,10,11,12-hexahydro-3-methoxy-11-methyl-6H-benzofuro[3a,3,2-ef][2]benzazepin-6-one	(E)	
	151213-39-7	(4aS-cis-)-6-benzyl-octahydropyrrolo[3.4-b]pyridine	(E)	
	105024-66-6	(4-ethoxyphenyl)(3-(4-fluoro-3-phenoxyphenyl)propyl)dimethylsilane	(E)	
	81880-96-8	(4-hydrazinophenyl)-N-methylmethanesulfonamide hydrochloride	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	67811-06-7	(4-methylphenyl)mesitylene sulfonate	(E)	2,330
	108225-03-2	(6-(4-hydroxy-3-(2-methoxyphenylazo)-2-sulfonato-7-naphthylamino)-1,3,5-triazin-2,4-diyl)bis[(amino-1-methylethyl)ammonium] formate	(E)	
	100988-63-4	(6R-trans)-1-((7-ammonio-2-carboxylato-8-oxo-5-thia-1-azabicyclo-[4.2.0]oct-2-en-3-yl)methyl)pyridinium iodide	(E)	
	6563-83-3	(6β)-6,19-epoxyandrost-4-ene-3,17-dione	(E)	
	850918-68-2	(8-Quinolinolato-κN1,κO8)lithium	(G)	
	26116-56-3	(9S)-9-amino-9-deoxyerythromycin	(E)	
	21564-17-0	(benzothiazol-2-ylthio)methyl thiocyanate; TCMTB	(E)	
	85491-26-5	(chloromethyl)bis(4-fluorophenyl)methylsilane	(E)	
	20407-84-5	(E)-2-Dodecenal	(G)	
	177964-68-0	(E)-3-(4-(4-fluorophenyl)-5-methoxymethyl-2,6-bis(1-methoxymethyl)pyridin-3-yl)prop-2-enal	(E)	
	3681-73-0	(E)-3,7-dimethyl-2,6-octadienylhexadecanoate	(E)	
	82413-20-5	(E)-3-[1-[4-[2-(dimethylamino)ethoxy]phenyl]-2-phenylbut-1-enyl]phenol	(E)	
	164058-20-2	(E)-5[(4-chlorophenyl)methylene]-2,2-dimethylcyclopentane	(E)	
	135410-20-7	(E)-N-[(6-Chloro-3-pyridyl)methyl]-N-cyano-N-methylacetamidine	(G,E)	
	125474-34-2	(E,E)-3,7,11-trimethyldodeca-1,4,6,10-tetraen-3-ol	(E)	
	94097-88-8	(E,Z)-4-chlorophenyl(cyclopropyl)ketone O-(4-nitrophenylmethyl)oxime	(E)	
	96-09-3	(Epoxyethyl)benzene	(P,G)	
	84852-36-8	(isodecanoato-O)(isononanoato-O)nickel	(E)	
	85166-19-4	(isodecanoato-O)(isooctanoato-O)nickel	(E)	
	85508-46-9	(isononanoato-O)(isooctanoato-O)nickel	(E)	
	85551-28-6	(isononanoato-O)(neodecanoato-O)nickel	(E)	
	84852-35-7	(isooctanoato-O)(neodecanoato-O)nickel	(E)	
	118658-99-4	(methylenebis(4,1-phenylenazo(1-(3-(dimethylamino)propyl)-1,2-dihydro-6-hydroxy-4-methyl-2-oxopyridine-5,3-diy)))-1,1'-dipyridinium dichloride dihydrochloride	(E)	
	178277-55-9	(N-benzyl-N,N,N-tributyl)ammonium 4-dodecylbenzenesulfonate	(E)	
	55845-90-4	(N-benzyl-N-ethyl)amino-3-hydroxyacetophenone hydrochloride	(E)	
	54417-53-7	(R)-1,2,3,4-tetrahydro-6,7-dimethoxy-1-veratrylisoquinoline hydrochloride	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	178961-20-1	(R)-2-chloro-N-(2-ethyl-6-methyl-phenyl)-N-(2-methoxy-1-methyl-ethyl)-acetamide(0-20 %)	(E)	2,330
	219861-18-4	(R)-4-(4-dimethylamino-1-(4-fluorophenyl)-1-hydroxybutyl)-3-(hydroxymethyl)benzotrile	(E)	
	143322-57-0	(R)-5-bromo-3-(1-methyl-2-pyrrolidinyl methyl)-1H-indole	(E)	
	13250-12-9	(R)-sec-butylamine;(R)-2-aminobutane	E	
	25383-07-7	(R)- α -phenylethylammonium (-)-(1R, 2S)-(1,2-epoxypropyl)phosphonate monohydrate	(E)	
	103146-25-4	(R,S)-4-(4-dimethylamino-1-(4-fluorophenyl)-1-hydroxybutyl)-3-(hydroxymethyl)benzotrile	(E)	
	167944-94-7	(S)-1-[2-tert-butoxycarbonyl-3-(2-methoxyethoxy)propyl]-1-cyclopentanecarboxylic acid, cyclohexylamine salt	(E)	
	194602-27-2	(S)-2,2-diphenyl-2-(3-pyrrolidinyl)acetonitrile hydrobromide	(E)	
	77497-97-3	(S)-3-benzyloxycarbonyl-1,2,3,4-tetrahydro-isoquinolinium 4-methylbenzenesulfonate	(E)	
	124379-29-9	(S)-4-(3,4-dichlorophenyl)-3,4-dihydro-2H-naphthalen-1-one	(E)	
	128173-52-4	(S)-4-(4-dimethylamino-1-(4-fluorophenyl)-1-hydroxybutyl)-3-(hydroxymethyl)benzotrile	(E)	
	149182-72-9	(S)-N-tert-butyl-1,2,3,4-tetrahydro-3-isoquinolinecarboxamide	(E)	
	5989-54-8	(S)-p-mentha-1,8-diene;l-limonene	(E)	
	513-49-5	(S)-sec-butylamine;(S)-2-aminobutane	E	
	61826-76-4	(S)- α -hydroxy-3-phenoxy-benzeneacetonitrile	(E)	
	120298-38-6	(S,S)-trans-4-(acetylamino)-5,6-dihydro-6-methyl-7,7-dioxo-4H-thieno[2,3-b]thiopyran-2-sulfonamide	(E)	
	138271-16-6	(Z)-(2,4-difluorophenyl)piperidin-4-ylmethanone oxime monohydrochloride	(E)	
	10061-01-5	(Z)-1,3-dichloropropene	(E)	
	120086-58-0	(Z)-13-docosenyl-N,N-bis(2-hydroxyethyl)-N-methyl-ammonium-chloride	(E)	
	64485-90-1	(Z)-2-methoxymino-2-[2-(tritylamino)thiazol-4-yl]acetic acid	(E)	
	112-90-3	(Z)-octadec-9-enylamine	(E)	
	100011-37-8	(η -cumene)-(η -cyclopentadienyl)iron(II) hexafluoroantimonate	(E)	
	117549-13-0	(η -cumene)-(η -cyclopentadienyl)iron(II) trifluoromethane-sulfonate	(E)	
	32760-80-8	(η -cyclopentadienyl)(η -cumenyl)iron(1+)hexafluorophosphate(1-)	(E)	
	28698-31-9	[(1-methyl-1,2-ethanediyl)bis[nitrilobis(methylene)]]tetrakis(phosphonic acid)	(E)	
	2186-25-6	[(m-tolyloxy)methyl]oxirane	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	2186-24-5	[(p-tolyloxy)methyl]oxirane	(E)	2,330
	26447-14-3	[(tolyloxy)methyl]oxirane:cresylglycidylether	(E)	
	65405-96-1	[μ-[carbonato(2-)-O:O']] dihydroxy trinickel	(E)	
	1892-03-1	[1,3,3,4, 4,5,5-Heptafluorocyclopentene	(G)	
	27080-42-8	[2-[(4-nitrophenyl)amino]ethyl]urea	(E)	
	250578-38-2	[3-(2-Ethylhexyloxy)propylamine]triphenylboron	(G)	
	874299-52-2	[3-(hydroxy-kO)-4-[[2-(hydroxy-kO)-1-naphthalenyl]azo-kN1]-7-nitro-1-naphthalenesulfonato(3-)][4-(hydroxy-kO)-3-[[2-(hydroxy-kO)-5-nitrophenyl]azo-kN1]-8-[(2-hydroxy-5-nitrophenyl)azo]-7-(phenylamino)-2-naphthalenesulfonato(3-)]chromate(3-), sodium dihydrogen	(G)	
	874299-51-1	[3-(Hydroxy-kO)-4-[[2-(hydroxy-kO)-1-naphthalenylazo-kN1]-7-nitro-1-naphthalenesulfonato(3-)][4-(hydroxy-kO)-3-[[2-(hydroxy-kO)-5-nitrophenylazo-kN1]-7-(phenylamino)-2-naphthalenesulfonato(3-)]chromate(3-), sodium dihydrogen	(G)	
	2094-99-7	[3-[(Prop-1-en-2-yl)phenyl]prop-2-yl isocyanate]	(G,E)	
	236408-49-4	[4-(1,1-Dimethylethyl)phenyl]triphenylphosphonium chloride	(G)	
	13080-86-9	[4,4'-[Isopropylidenebis(4,1-phenyleneoxy)]dianiline]	(G)	
	569-64-2	[4-[α-[4-(Dimethylamino)phenyl benzylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride	(P,G,E)	
	12607-70-4	[carbonato(2-)]tetrahydroxytrinickel	(E)	
	30785-74-1	[Disodium[3-hydroxy-4-[(2-hydroxy-1-naphthyl)azo]-1-naphthalenesulfonato(3-)][1-[[2-hydroxy-5-[(r-methoxyphenyl)azo]phenyl]azo]-2-naphtholato(2-)]chromate(2-)]	(G,E)	
	169104-71-6	[N-(1,1-dimethylethyl)-1,1-dimethyl-1-[(1,2,3,4,5-η)-2,3,4,5-tetramethyl-2,4-cyclopentadien-1-yl]silanaminato(2-)-κN][(1,2,3,4-η)-1,3-pentadiene]-titanium	(E)	
	197179-61-6	[phosphinyldynetris(oxy)] tris[3-aminopropyl-2-hydroxy-N,N-dimethyl-N-(C6-18)-alkyl] trichlorides	(E)	
	137590-32-0	[R-(R*,S*)]-[[2-methyl-1-(1-oxopropoxy)propoxy]-(4-phenylbutyl)phosphinyl] acetic acid, (-)-cinchonidine (1:1) salt	(E)	
	874299-53-3	[μ-[4-(Hydroxy-kO)-3,8-bis[[2-(hydroxy-kO)-5-nitrophenyl]azo-kN1]-7-(phenylamino-kN)-2-naphthalenesulfonato](5-)]bis[3-(hydroxy-kO)-4-[[2-(hydroxy-kO)-1-naphthalenyl]azo-kN1]-7-nitro-1-naphthalenesulfonato(3-)]dichromate(5-), disodium trihydrogen	(G)	
	121626-74-2	1-((3-(3-chloro-4-fluorophenyl)propyl)dimethylsilyl)-4-ethoxybenzene	(E)	
	70918-74-0	1-(1,4-benzodioxan-2-ylcarbonyl)piperazine hydrochloride	(E)	
65322-65-8	1-(1-naphthylmethyl)quinolinium chloride	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	92836-10-7	1-(2,3-dihydro-1,3,3,6-tetramethyl-1-(1-methylethyl)-1H-inden-5-yl)ethanone	(E)	2,330
	154486-26-7	1-(2,4-dichlorophenyl)-2-(1H-imidazol-1-yl)ethanone methanesulfonate	(E)	
	214353-17-0	1-(2-amino-5-chlorophenyl)-2,2,2-trifluoro-1,1-ethanedio 1, hydrochloride; [containing < 0.1 % 4-chloroaniline (EC No 203-401-0)]	(E)	
	98377-35-6	1-(2-chlorophenyl)-1,2-dihydro-5H-tetrazol-5-one	(E)	
	55612-11-8	1-(2-deoxy-5-O-trityl-β-D-threopentofuranosyl)thymine	(E)	
	155601-30-2	1-(2-hydroxyethyl)-1H-pyrazol-4,5-diyldiammoniumsulfate	(E)	
	116256-11-2	1-(3-(4-fluorophenoxy)propyl)-3-methoxy-4-piperidinone	(E)	
	478695-70-4	1-(3,3-Dimethylcyclohexyl)ethyl ethyl malonate	(G)	
	56973-87-6	1-(3,3-dimethylcyclohexyl)pent-4-en-1-one	(E)	
	152630-47-2	1-(3-cyclopentyloxy-4-methoxyphenyl)-4-oxo-cyclohexanecarbonitrile	(E)	
	160194-26-3	1-(3-iodo-4-aminobenzyl)-1H-1,2,4-triazole	(E)	
	104218-44-2	1-(3-mesyloxy-5-trityloxymethyl-2-D-threofuryl)thymine	(E)	
	179474-79-4	1-(3-methoxypropyl)-4-piperidinamine	(E)	
	10551-42-5	1-(3-phenylpropyl)-2-methylpyridinium bromide	(E)	
	83626-30-6	1-(4-(trans-4-butylcyclohexyl)phenyl)ethanone	(E)	
	78531-60-9	1-(4-(trans-4-heptylcyclohexyl)phenyl)ethanone	(E)	
	78531-59-6	1-(4-(trans-4-pentylcyclohexyl)phenyl)ethanone	(E)	
	484-33-3	1-(4-methoxy-5-benzofuranyl)-3-phenyl-1,3-propanedione	(E)	
	41870-52-4	1-(chlorophenylmethyl)-2-methylbenzene	(E)	
	162515-68-6	1-(mercaptomethyl)cyclopropylacetic acid	(E)	
	110895-43-7	1-(N,N-dimethylcarbamoyl)-3-tert-butyl-5-carbethoxymethylthio-1H-1,2,4-triazole	(E)	
	38668-48-3	1,1'-(p-Tolylimino) dipropan-2-ol	(G)	
	756-13-8	1,1,1,2,2,4,5,5,5-nonafluoro-4-(trifluoromethyl)-3-pentanone	(E)	
	90076-65-6	1,1,1-Trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfonamidelithium salt	(G,E)	
	15290-77-4	1,1,2,2,3,3,4-heptafluorocyclopentane	(E)	
	79-27-6	1,1,2,2-Tetrabromoethane	(P,G,E)	
	79-34-5	1,1,2,2-tetrachloroethane	(E)	
	16627-68-2	1,1,2,2-Tetrafluoro-3-(1,1,2,2-tetrafluoroethoxy)propane	(G)	
	206760-59-0	1,1,2,2-Tetrafluorodiborane(4)	(G)	
	13965-73-6	1,1,2,2-Tetrafluorodiborane(4)	(G)	
	56533-00-7	1,1,3,3-tetrabutyl-1,3-ditinoxycaprylate	(E)	
	22288-41-1	1,1,3,3-tetramethylbutylperoxyvalate	(E)	
	66-71-7	1,10-phenanthroline	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	1571-75-1	1,1-bis(4-hydroxyphenyl)-1-phenylethane	(E)	2,330
	1717-00-6	1,1-dichloro-1-fluoroethane	(E)	
	75-34-3	1,1-dichloroethane	(E)	
	75-35-4	1,1-Dichloroethene	(P)	
	563-58-6	1,1-dichloropropene	(E)	
	4482-55-7	1,1-dimethyl-3-phenyluronium trichloroacetate; fenuron-TCA	(E)	
	114772-40-6	1,1-dimethylethyl 4'-(bromomethyl)biphenyl-2-carboxylate	(E)	
	57-14-7	1,1-Dimethylhydrazine	(P,E)	
	24307-26-4	1,1-dimethylpiperidinium chloride; mepiquat chloride	(E)	
	68860-54-8	1,1-dimethylpropyl 3,5,5-trimethylperoxyhexanoate	(E)	
	5124-30-1	1,1'-Methylenebis[4-isocyanato cyclohexane]	(P,G)	
	771-29-9	1,2,3,4-tetrahydro-1-naphthyl hydroperoxide	(E)	
	41959-35-7	1,2,3,4-tetrahydro-6-nitro-quinoxaline	(E)	
	119-64-2	1,2,3,4-tetrahydronaphthalene	(E)	
	85-43-8	1,2,3,6-tetrahydrophthalic anhydride	(E)	
	120-82-1	1,2,4-trichlorobenzene	(E)	
	95-63-6	1,2,4-trimethylbenzene	(E)	
	615-28-1	1,2-Benzenediamine dihydrochloride	(G,E)	
	84777-06-0	1,2-benzenedicarboxylic acid, dipentylester, branched and linear	(E)	
	2634-33-5	1,2-benzisothiazol-3(2H)-one; 1,2-benzisothiazolin-3-one	E	
	54914-85-1	1,2-bis(3-methylphenoxy)ethane	(E)	
	10403-74-4	1,2-bis(phenoxyethyl)benzene	(E)	
	96-12-08	1,2-Dibromo-3-chloropropane	(G,E)	
	106-93-4	1,2-Dibromoethane	(P,G,E)	
	95-50-1	1,2-dichlorobenzene; o-dichlorobenzene	(E)	
	540-59-0	1,2-dichloroethylene	(E)	
	78-87-5	1,2-Dichloropropane	(G)	
	94346-09-5	1,2-dimethyl-3-(1-methylethenyl)cyclopentyl acetate	(E)	
	43222-48-6	1,2-dimethyl-3,5-diphenylpyrazolium methylsulphate; difenzoquat methyl sulfate	(E)	
	540-73-8	1,2-dimethylhydrazine	(E)	
	528-29-0	1,2-dinitrobenzene	(E)	
	1222-05-5	1,3,4,6,7,8-hexahydro-4,6,6,7,8,8-hexamethylindeno[5,6-c]pyran; galaxolide; (HHCb)	(E)	
	99-35-4	1,3,5-trinitrobenzene	(E)	
	41563-69-3	1,3-Benzenedimethanethiol	(G)	
119462-56-5	1,3-bis(3-methyl-2,5-dioxo-1H-pyrrolinylmethyl)benzene	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	135756-61-5	1,3-bis(dimethylcarbamoyl)-imidazolium chloride	(E)	2,330
	93629-90-4	1,3-Bis(vinylsulfonylacetamido)propane	(E)	
	117663-11-3	1,3-di(prop-2,2-diyl)benzene bis(neodecanoylperoxide)	(E)	
	541-73-1	1,3-dichlorobenzene	(E)	
	1435-48-9	1,3-dichloro-4-fluorobenzene	(E)	
	89415-87-2	1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione	E	
	542-75-6	1,3-Dichloropropene	(P,G,E)	
	128275-31-0	1,3-Dihydro-1,3-dioxo-2H-isoindole-2-hexaneperoxoic acid	(G,E)	
	99-65-0	1,3-dinitrobenzene	(E)	
	102-06-7	1,3-diphenylguanidine	(E)	
	541-69-5	1,3-Phenylenediamine hydrochloride	(G,E)	
	294-90-6	1,4,7,10-tetraazacyclododecane	(E)	
	112193-77-8	1,4,7,10-tetraazacyclododecane disulfate	(E)	
	52667-88-6	1,4,7,10-tetrakis(p-toluensulfonyl)-1,4,7,10-tetraazacyclododecane	(E)	
	624-18-0	1,4-Benzenediamine dihydrochloride	(G,E)	
	106-51-4	1,4-benzoquinone	(P,G,E)	
	99788-75-7	1,4-bis(2,3-dihydroxypropylamino)anthraquinone	(E)	
	17351-75-6	1,4-bis[(vinylloxy)methyl]cyclohexane	(E)	
	84563-49-5	1,4-bis[2-(vinylloxy)ethoxy]benzene	(E)	
	93686-63-6	1,4-diamino-2-(2-butyltetrazol-5-yl)-3-cyanoanthraquinone	(E)	
	130841-23-5	1,4-Dichloro-2-(1,1,2,3,3,3-hexafluoropropoxy)-5-nitrobenzene	(G,E)	
	106-46-7	1,4-Dichlorobenzene	(P,G,E)	
	764-41-0	1,4-dichlorobut-2-ene	(E)	
	1897-41-2	1,4-Dicyano-2,3,5,6-tetra-chloro-benzene	(E)	
	589-90-2	1,4-dimethylcyclohexane	(E)	
	100-25-4	1,4-dinitrobenzene	(E)	
	136122-15-1	1,4-Dithiane-2,5-di(methanethiol)	(G,E)	
	3173-72-6	1,5-naphthylene diisocyanate	(E)	
	2243-62-1	1,5-naphthylenediamine	(E)	
	151900-44-6	1,6-bis((dibenzylthiocarbamoyl)disulfanyl)hexane	(E)	
	771478-66-1	1,6-bis(3,3-bis((1-methylpentylideneimino)propyl)ureido)hexane	(E)	
	115-31-1	1,7,7-trimethylbicyclo(2,2,1)hept-2-yl thiocyanatoacetate; isobornyl thiocyanatoacetate	(E)	
	139504-68-0	1-[(2-tert-butyl)cyclohexyloxy]-2-butanol	(E)	
163831-67-2	1-[2-[Ethyl[4-[4-[4-[ethyl(2-pyridinoethyl)amino]-2-methylphenylazo]benzoylamino]phenylazo]-3-methylphenyl]amino]ethyl]pyridinium dichloride	(G,E)		
73096-98-7	1-[3-[(dimethylamino)methyl]-4-hydroxyphenyl]ethanone	(E)		
59493-72-0	1-[3-[4-((heptadecafluorononyl)oxy)-benzamido]propyl]-N,N,N-trimethylammonium iodide	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	272460-97-6	1-[4-(4-benzoylphenylsulfanyl)phenyl]-2-methyl-2-(4-methylphenylsulfonyl)propan-1-one	(E)	2,330
	119126-15-7	1-[4-chloro-3-((2,2,3,3,3-pentafluoropropoxy)methyl)phenyl]-5-phenyl-1H-1,2,4-triazole-3-carboxamide	(E)	
	72955-94-3	1-{benzyl[2-(2-methoxyphenoxy)ethyl]amino}-3-(9H-carbazol-4-yloxy)propan-2-ol	(E)	
	363138-44-7	11-amino-3-chloro-6,11-dihydro-5,5-dioxo-6-methyl-dibenzo[c,f][1,2]thiazepine hydrochloride	(E)	
	220926-97-6	12-hydroxyoctadecanoic acid, reaction products with 1,3-benzenedimethanamine and hexamethylenediamine	(E)	
	13258-43-0	17-spiro(5,5-dimethyl-1,3-dioxan-2-yl)androsta-1,4-diene-3-one	(E)	
	125496-22-2	18-methylnonadecyl 2,2-dimethylpropanoate	(E)	
	106917-31-1	1-acetyl-4-(3-dodecyl-2,5-dioxo-1-pyrrolidinyl)-2,2,6,6-tetramethylpiperidine	(E)	
	121626-73-1	1-allyl-3-chloro-4-fluorobenzene	(E)	
	19450-38-5	1-amino-1-cyanamino-2,2-dicyanoethylene, sodium salt	(E)	
	32047-53-3	1-amino-2-methyl-2-propanethiol hydrochloride	(E)	
	500717-36-2	1-amino-4-[(4-amino-2-sulfofenyl)amino]-9,10-dihydro-9,10-dioxo-2-anthracenesulfonic acid, disodium salt, reaction products with 2-[[3-[(4,6-dichloro-1,3,5-triazin-2-yl)ethylamino]phenyl]sulfonyl]ethyl hydrogen sulfate, sodium salts	(E)	
	158574-65-3	1-benzyl-5-(hexadecyloxy)-2,4-imidazolidinedione	(E)	
	138526-69-9	1-bromo-3,4,5-trifluorobenzene	(E)	
	461-96-1	1-bromo-3,5-difluorobenzene	(E)	
	148757-89-5	1-bromo-9-(4,4,5,5,5-pentafluoropentylthio)nonane	(E)	
	26576-84-1	1-butyl-2-methylpyridinium bromide	(E)	
	88-73-3	1-Chloro-2-nitrobenzene	(P,G)	
	2425-66-3	1-Chloro-2-nitropropane	(G)	
	100-00-5	1-chloro-4-nitrobenzene	(E)	
	140681-55-6	1-chloromethyl-4-fluoro-1,4-diazoniabicyclo[2.2.2]octane bis(tetrafluoroborate)	(E)	
	82857-68-9	1-chloro-N,N-diethyl-1,1-diphenyl-1-(phenylmethyl)phosphoramine	(E)	
	1631-25-0	1-Cyclohexyl-1H-pyrrole-2,5-dione	(G)	
	161462-35-7	1-cyclopropyl-3-(2-methylthio-4-trifluoromethylphenyl)-1,3-propanedione	(E)	
	93107-30-3	1-cyclopropyl-6,7-difluoro-1,4-dihydro-4-oxoquinoline-3-carboxylic acid	(E)	
	20627-73-0	1-dimethoxymethyl-2-nitrobenzene	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	644-64-4	1-dimethylcarbamoyl-5-methylpyrazol-3-yl dimethylcarbamate; dimetilan (ISO)	(E)	2,330
	2687-96-9	1-dodecyl-2-pyrrolidone	(E)	
	121219-07-6	1-ethoxy-2,3-difluorobenzene	(E)	
	223436-99-5	1-Ethyl-1-methylpyrrolidinium salt with 1,1,1-trifluoro-N-[(trifluoromethyl)sulfonyl]methanesulfonamide(1:1)	(G)	
	162241-33-0	1-hydroxy-4-fluoro-1,4-diazoniabicyclo[2.2.2]octane bis(tetrafluoroborate)	(E)	
	110560-22-0	1-hydroxy-5-(2-methylpropyloxycarbonylamino)-N-(3-dodecyloxypropyl)-2-naphthoamide	(E)	
	37143-54-7	1-methoxy-2-propylamine	(E)	
	198404-98-7	1-Methyl-2-[(1,2,2-trimethylbicyclo[3.1.0]hex-3-yl)methyl]cyclopropanemethanol	(G)	
	70-25-7	1-methyl-3-nitro-1-nitrosoguanidine	(E)	
	5271-27-2	1-methyl-3-phenyl-1-piperazine	(E)	
	1329-99-3	1-Methyl-4-(1-methylethyl) cyclohexane, tetrahydro deriv.	(G)	
	139481-22-4	1-methyl-4-(2-methyl-2H-tetrazol-5-yl)-1H-pyrazole-5-sulfonamide	(E)	
	66327-54-6	1-Methyl-4-(4-methylpentyl)-3-cyclohexene-1-carboxaldehyde	(G)	
	139756-01-7	1-methyl-4-nitro-3-propyl-1H-pyrazole-5-carboxamide	(E)	
	13952-84-6	1-Methylpropylamine	(G,E)	
	134-32-7	1-naphthylamine	(E)	
	59227-88-2	1-octylazepin-2-one	(E)	
	13909-63-2	1-phenyl-3-(p-toluenesulfonyl)urea	(E)	
	92-43-3	1-phenyl-3-pyrazolidone	(E)	
	136213-73-5	2-((4-(ethyl-(2-hydroxyethyl)amino)-2-methylphenyl)azo)-6-methoxy-3-methyl-benzothiazolium methylsulfate	(E)	
	163661-77-6	2-((4,6-bis(4-(2-(1-methylpyridinium-4-yl)vinyl)phenylamino)-1,3,5-triazin-2-yl)(2-hydroxyethyl)amino)ethanol dichloride	(E)	
	117907-43-4	2-((4-amino-2-nitrophenyl)amino)benzoic acid	(E)	
	100418-33-5	2-((4-methyl-2-nitrophenyl)amino)ethanol	(E)	
	123968-25-2	2-(1-(2-hydroxy-3,5-di-tert-pentyl-phenyl)ethyl)-4,6-di-tert-pentylphenyl acrylate	(E)	
	141773-73-1	2-(1-(3',3'-dimethyl-1'-cyclohexyl)ethoxy)-2-methyl propyl propanoate	(E)	
	63562-33-4	2-(10-oxo-10H-9-oxa-10-phosphaphenanthren-10-ylmethyl)succinic acid	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	118020-93-2	2-(1-butyl-3,5-dioxo-2-phenyl-(1,2,4)-triazolidin-4-yl)-4,4-dimethyl-3-oxo-N-(2-methoxy-5-(2-(dodecyl-1-sulfonyl)propionylamino)-phenyl)-pentanamide	(E)	2,330
	95737-68-1	2-(1-methyl-2-(4-phenoxyphenoxy)ethoxy)pyridine	(E)	
	51390-14-8	2-(1-methylpropyl)-4-tert-butylphenol	(E)	
	99141-89-6	2-(2,4-bis(1,1-dimethylethyl)phenoxy)-N-(3,5-dichloro-4-ethyl-2-hydroxyphenyl)-hexanamide	(E)	
	89544-40-1	2-(2,4-dichlorophenyl)-1-(1H-1,2,4-triazol-1-yl)pent-4-en-2-ol	(E)	
	89544-48-9	2-(2,4-dichlorophenyl)-2-(2-propenyl)oxirane	(E)	
	117933-89-8	2-(2,4-Dimethyl-3-cyclohexen-1-yl)-5-methyl-5-(1-methylpropyl)-1,3-dioxane	(G)	
	4463-59-6	2-(2-bromoethoxy)anisole	(E)	
	193486-83-8	2-(2-chloroacetoxy)ethyl 3-((4-(2,5-dichloro-4-fluorosulfonylphenylazo)-3-methylphenyl)ethylamino)propionate	(E)	
	106359-94-8	2'-(2-cyano-4,6-dinitrophenylazo)-5'-(N,N-dipropylamino)propionanilide	(E)	
	202483-62-3	2-(2-hexyldecyloxy)benzamide	(E)	
	3147-77-1	2-(2-hydroxy-4-octyloxyphenyl)-2H-benzotriazole	(E)	
	127047-77-2	2-(2-iodoethyl)-1,3-propanediol diacetate	(E)	
	216698-07-6	2-(2-oxo-5-(1,1,3,3-tetramethylbutyl)-2,3-dihydro-1-benzofuran-3-yl)-4-(1,1,3,3-tetramethylbutyl)phenyl acetate	(E)	
	20354-26-1	2-(3,4-dichlorophenyl)-4-methyl-1,2,4-oxadiazolidinedione; methazole	(E)	
	10217-34-2	2-(3,4-epoxycyclohexyl)ethyltriethoxy silane	(E)	
	57999-49-2	2-(3-bromophenoxy)tetrahydro-2H-pyran	(E)	
	88128-57-8	2-(3-chloropropyl)-2,5,5-trimethyl-1,3-dioxane	(E)	
	88558-41-2	2-(3-iodoprop-2-yn-1-yloxy)ethyl phenylcarbamate	(E)	
	106359-93-7	2-(4-(3-(4-chlorophenyl)-4,5-dihydropyrazolyl)phenylsulphonyl)ethyl dimethylammonium hydrogen phosphonate	(E)	
	173838-67-0	2-(4-(4-(3-pyridinyl)-1H-imidazol-1-yl)butyl)-1H-isoindole-1,3(2H)-dione	(E)	
	157362-53-3	2-(4-(4-(butyl-(1-methylhexyl)amino)phenyl)-3-cyano-5-oxo-1,5-dihydropyrrol-2-ylidene)propandinitrile	(E)	
	97460-76-9	2-(4-(N-butyl-N-phenethylamino)phenyl)ethylene-1,1,2-tricarbonitrile	(E)	
	136213-74-6	2-(4-(N-ethyl-N-(2-hydroxy)ethyl)amino-2-methylphenyl)azo-6-methoxy-3-methyl-benzothiazolium chloride	(E)	
	54942-74-4	2-(4,4-dimethyl-2,5-dioxooxazolidin-1-yl)-2-chloro-5-(2-(2,4-di-tert-pentylphenoxy)butylamido)-4,4-dimethyl-3-oxovalerianilide	(E)	
	137658-79-8	2-(4,6-bis(2,4-dimethylphenyl)-1,3,5-triazin-2-yl)-5-(3-((2-ethylhexyl)oxy)-2-hydroxypropoxy)phenol	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	147315-50-2	2-(4,6-diphenyl-1,3,5-triazin-2-yl)-5-((hexyl)oxy)-phenol	(E)	2,330
	152828-25-6	2-(4-aminophenyl)-6-tert-butyl-1H-pyrazolo[1,5-b][1,2,4]triazole	(E)	
	122371-93-1	2'-(4-chloro-3-cyano-5-formyl-2-thienylazo)-5'-diethylamino-2-methoxyacetanilide	(E)	
	71308-16-2	2-(4-methyl-3-pentenyl)anthraquinone	(E)	
	444065-11-6	2-(4-tert-butylphenyl)-6-cyano-5-[bis(ethoxycarbonylmethyl)carbamoyloxy]-1H-pyrrolo[1,2-b][1,2,4]triazole-7-carboxylic acid 2,6-di-tert-butyl-4-methylcyclohexylester	(E)	
	5406-86-0	2-(4-tert-butylphenyl)ethanol	(E)	
	221215-20-9	2-(5,5-dimethyl-2,4-dioxooxazolidin-3-yl)-4,4-dimethyl-3-oxo-N-(2-methoxy-5-octadecanoylamino)pentanoic acid amide	(E)	
	41340-36-7	2-(7-ethyl-1H-indol-3-yl)ethanol	(E)	
	36362-09-1	2-(decylthio)ethylammonium chloride	(E)	
	146925-83-9	2-(hydroxymethyl)-2-[[2-hydroxy-3-(isooctadecyloxy)propoxy]methyl]-1,3-propanediol	(E)	
	102-77-2	2-(morpholiniothio)benzothiazole	(E)	
	54527-73-0	2-(N-benzyl-N-methylamino)ethyl 3-amino-2-butenate	(E)	
	37866-45-8	2-(O-aminoxy)ethylamine dihydrochloride	(E)	
	613-62-7	2-(phenylmethoxy)naphthalene	(E)	
	148935-94-8	2,2'-(1,3-phenylene)bis[5-chloro-1H-isoindole]-1,3(2H)-dione	(E)	
	18600-59-4	2,2-(1,4-phenylene)bis((4H-3,1-benzoxazine-4-one)	(E)	
	25307-17-9	2,2'-(9-Octadecenylimino)bisethanol	(G)	
	594-82-1	2,2,3,3-tetramethylbutane	(E)	
	464-06-2	2,2,3-trimethylbutane	(E)	
	564-02-3	2,2,3-trimethylpentane	(E)	
	75490-39-0	2,2,4-trimethyl-4-phenyl-butane-nitrile	(E)	
	540-84-1	2,2,4-trimethylpentane	(E)	
	109678-33-3	2,2,6,6-tetrakis(bromomethyl)-4-oxaheptane-1,7-diol	(E)	
	93705-66-9	2,2'-[Methylenebis[(2,6-dimethyl-4,1-phenylene)oxymethylene]]bisoxirane	(G)	
	61551-69-7	2,2'-azobis[N-(2-hydroxyethyl)-2-methylpropionamide]	(E)	
	10097-02-6	2,2-bis(hydroxymethyl)butanoic acid	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	41481-66-7	2,2'-diallyl-4,4'-sulfonyldiphenol	(E)	2,330
	69094-18-4	2,2-dibromo-2-nitroethanol	(E)	
	73003-80-2	2,2-Dibromopropanediamide	(G)	
	23911-85-5	2,2''-dihydroxy-4,4''-(2-hydroxy-propane-1,3-diylidioxy)di benzophenone	(E)	
	104468-21-5	2,2-dimethyl 3-methyl-3-butenyl propanoate	(E)	
	78-67-1	2,2'-dimethyl-2,2'-azodipropionitrile; ADZN	(E)	
	6864-37-5	2,2'-dimethyl-4,4'-methylenebis(cyclohexylamine)	(E)	
	75-83-2	2,2-dimethylbutane	(E)	
	590-73-8	2,2-dimethylhexane	(E)	
	590-35-2	2,2-dimethylpentane	(E)	
	463-82-1	2,2-dimethylpropane; neopentane	(E)	
	694-64-4	2,2-ethylmethylthiazolidine	(E)	
	70-30-4	2,2'-methylenebis-(3,4,6-trichlorophenol); hexachlorophene	(E)	
	126050-54-2	2,2'-methylenebis(4,6-di-tert-butyl-phenyl)-2-ethylhexyl phosphite	(E)	
	103597-45-1	2,2'-methylenebis(6-(2H-benzotriazol-2-yl)-4-(1,1,3,3-tetra methylbutyl)phenol)	(E)	
	560-21-4	2,3,3-trimethylpentane	(E)	
	58-90-2	2,3,4,6-tetrachlorophenol	(E)	
	2431-50-7	2,3,4-trichlorobut-1-ene	(E)	
	3862-73-5	2,3,4-trifluoroaniline	(E)	
	565-75-3	2,3,4-trimethylpentane	(E)	
	118712-89-3	2,3,5,6-Tetrafluorobenzyl trans-2-(2,2-dichlorovinyl)-3,3-dimethylcyclopropane carboxylate	(G,E)	
	82633-79-2	2,3,5,6-tetrahydro-2-methyl-2H-cyclopenta[d]-1,2-thiazol-3-one	(E)	
	16063-70-0	2,3,5-trichloropyridine	(E)	
	700-13-0	2,3,5-trimethylhydroquinone	(E)	
	50-31-7	2,3,6-TBA (ISO); 2,3,6-trichlorobenzoic acid	(E)	
	96-13-9	2,3-dibromopropan-1-ol; 2,3-dibromo-1-propanol	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	69045-84-7	2,3-dichloro-5-trifluoromethyl-pyridine	(E)	2,330
	78-88-6	2,3-dichloropropene; 2,3-dichloropropylene	(E)	
	6364-17-6	2,3-dihydro-2,2-dimethyl-1H-perimidine	(E)	
	79-29-8	2,3-dimethylbutane	(E)	
	584-94-1	2,3-dimethylhexane	(E)	
	565-59-3	2,3-dimethylpentane	(E)	
	66-56-8	2,3-dinitrophenol	(E)	
	602-01-7	2,3-dinitrotoluene	(E)	
	3033-77-0	2,3-Epoxypropyl trimethyl ammonium chloride	(P,G,E)	
	2210-79-9	2,3-epoxypropylo-tolyether	(E)	
	71629-74-8	2,4(or2,6)-dinitrophenol	(E)	
	74338-72-0	2,4,4,7-tetramethyl-6-octen-3-one	(E)	
	107-39-1	2,4,4-trimethylpent-1-ene	(E)	
	93-76-5	2,4,5-T	(G,E)	
	95-95-4	2,4,5-trichlorophenol	(E)	
	137-17-7	2,4,5-trimethylaniline	(E)	
	21436-97-5	2,4,5-trimethylanilinehydrochloride	(E)	
	88-06-2	2,4,6-Trichlorophenol	(P,E)	
	954-16-5	2,4,6-trimethylbenzophenone	(E)	
	606-35-9	2,4,6-trinitroanisole	(E)	
	118-96-7	2,4,6-trinitrotoluene; TNT	(E)	
	161717-32-4	2,4,6-tri-tert-butylphenyl 2-butyl-2-ethyl-1,3-propanediolphosphite	(E)	
	118208-02-9	2,4-bis[2,2'-[2-(N,N-dimethylamino)ethyloxycarbonyl]phenyl azo]-1,3-dihydroxybenzene, dihydrochloride	(E)	
	94-75-7	2,4-D	(P,G,E)	
	94-82-6	2,4-DB (ISO); 4-(2,4-dichlorophenoxy)butyric acid	(E)	
	2095-02-5	2,4-diamino-3,5-diethyltoluene;2,4-diethyl-6-methyl-1,3-be nzenediamine	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	27624-67-5	2,4-diamino-5-[4-[(2-sulfoxyethyl)sulfonyl]phenylazo]benzenesulfonic acid	(E)	2,330
	615-05-4	2,4-diaminoanisole; 4-methoxy-m-phenylenediamine	(E)	
	39156-41-7	2,4-diaminoanisolesulphate	(E)	
	95-80-7	2,4-Diaminotoluene	(P,G,E)	
	99817-36-4	2,4-dichloro-3-ethyl-6-nitrophenol	(E)	
	86393-34-2	2,4-dichloro-5-fluorobenzoylchloride	(E)	
	67669-19-6	2,4-dichloro-5-hydroxyacetanilide	(E)	
	120-83-2	2,4-dichlorophenol	(E)	
	106461-41-0	2,4-dihydro-4-(4-(4-(4-hydroxyphenyl)-1-piperazinyl)phenyl)-2-(1-methylpropyl)-3H-1,2,4-triazol-3-one	(E)	
	129205-19-2	2,4-dihydroxy-N-(2-methoxyphenyl)benzamide	(E)	
	131812-67-4	2,4-Dimethyl-2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)-1,3-dioxolane	(G)	
	131812-52-7	2,4-Dimethyl-2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)-1,3-dioxolane	(G)	
	131812-51-6	2,4-Dimethyl-2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-2-naphthalenyl)-1,3-dioxolane	(G)	
	589-43-5	2,4-dimethylhexane	(E)	
	108-08-7	2,4-dimethylpentane	(E)	
	97-02-09	2,4-Dinitroaniline	(G,E)	
	51-28-5	2,4-Dinitrophenol	(P,G,E)	
	121-14-2	2,4-Dinitrotoluene	(P,G,E)	
	13019-04-0	2,4-di-tert-butylcyclohexanone	(E)	
	114119-97-0	2,5,7,7-tetramethyloctanal	(E)	
	93672-52-7	2,5-dibutoxy-4-(morpholin-4-yl)benzenediazonium 4-methylbenzenesulfonate	(E)	
	114625-74-0	2,5-dihydroxy-5-methyl-3-(morpholin-4-yl)-2-cyclopentan-1-one	(E)	
	592-13-2	2,5-dimethylhexane	(E)	
	329-71-5	2,5-dinitrophenol	(E)	
	619-15-8	2,5-dinitrotoluene	(E)	
	7078-98-0	2,6-bis(1,1-dimethylethyl)-4-(phenylenemethylene)cyclohexa-2,5-dien-1-one	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	174514-06-8	2,6-bis-(2-(4-(4-amino-phenylamino)-phenylazo)-1,3-dimethyl-3H-imidazolium)-4-dimethylamino-1,3,5-triazine, dichloride	(E)	2,330
	28365-08-4	2,6-diamino-3-((pyridine-3-yl)azo)pyridine	(E)	
	2095-01-04	2,6-diamino-3,5-diethyltoluene; 4,6-diethyl-2-methyl-1,3-benzenediamine	(E)	
	823-40-5	2,6-Diaminotoluene	(P,G,E)	
	140623-89-8	2,6-dichloro-1-fluoropyridiniumtetrafluoroborate	(E)	
	17742-69-7	2,6-dichloro-4-nitroanisole	(E)	
	24279-39-8	2,6-dichloro-4-trifluoromethylaniline	(E)	
	87-62-7	2,6-Dimethylaniline	(P,E)	
	573-56-8	2,6-dinitrophenol	(E)	
	606-20-2	2,6-Dinitrotoluene	(P,E)	
	128-37-0	2,6-Di-tert-butyl-4-hydroxytoluene	P	
	1638-05-7	2,7,11-trimethyl-13-(2,6,6-trimethylcyclohex-1-en-1-yl)tridecahexaen-2,4,6,8,10,12-al	(E)	
	72319-19-8	2,7-naphthalenedisulfonicacid,nickel(II)salt	(E)	
	83016-70-0	2-[(2-[2-(dimethylamino)ethoxy]ethyl)methylamino]ethanol	(E)	
	59320-13-7	2-[(4-chloro-2-nitrophenyl)amino]ethanol	(E)	
	41620-33-1	2-[[2-(acetyloxy)-3-(1,1-dimethyl-ethyl)-5-methylphenyl]methyl]-6-(1,1-dimethylethyl)-4-methylphenol	(E)	
	98809-11-1	2-[[4[[4,6-bis[[3-(diethylamino)propyl]amino]-1,3,5-triazine-2-yl]amino]phenyl]azo]-N-(2,3-dihydro-2-oxo-1H-benzimidazol-5-yl)-3-oxobutanamide	(E)	
	727678-39-9	2-[2-(3-butoxypropyl)-1,1-dioxo-1,2,4-benzothiadiazin-3-yl]-5'-tert-butyl-2-(5,5-dimethyl-2,4-dioxo-1,3-oxazolidin-3-yl)-2'-[(2-ethylhexyl)thio]acetanilide	(E)	
	104541-33-5	2-[2,4-bis(1,1-dimethyl-ethyl)phenoxy]-N-(2-hydroxy-5-methyl-phenyl)hexanamide	(E)	
	117646-83-0	2-[2-[(2-Ethylhexyl)oxy]ethoxy]ethyl 2-propenoate	(G)	
	151798-26-4	2-[2-hydroxy-3-(2-chlorophenyl)carbamoyl-1-naphthylazo]-7-[2-hydroxy-3-(3-methylphenyl)carbamoyl-1-naphthylazo]fluoren-9-one	(E)	
	64137-52-6	2-[3-(methylamino)propyl]-1H-benzimidazole	(E)	
	154825-62-4	2-[4-(4-methoxyphenyl)-6-phenyl-1,3,5-triazin-2-yl]-phenol	(E)	
	135937-20-1	2-[4-[(4-hydroxyphenyl)sulfonyl]phenoxy]-4,4-dimethyl-N-[5-[(methylsulfonyl)amino]-2-[4-(1,1,3,3-tetramethylbutyl)phenoxy]phenyl]-3-oxopentanamide	(E)	
131266-10-9	2-acetoxymethyl-4-benzyloxybut-1-yl acetate	(E)		
24085-06-1	2-acetoxymethylene-4-acetylphenylacetate	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	102387-48-4	2-acetylamino-6-chloro-4-[(4-diethylamino)2-methylphenyl-imino]-5-methyl-1-oxo-2,5-cyclohexadiene	(E)	2,330
	124-68-5	2-amino-2-methylpropanol	(E)	
	4274-38-8	2-amino-4-(trifluoromethyl)benzenethiol hydrochloride	E	
	96-91-3	2-amino-4,6-dinitrophenol; picramic acid	(E)	
	145963-84-4	2-amino-4-dimethylamino-6-trifluoroethoxy-1,3,5-triazine	(E)	
	7305-71-7	2-amino-5-methylthiazole	(E)	
	112006-75-4	2-aminosulfonyl-N,N-dimethylnicotinamide	(E)	
	137-07-5	2-Aminothiophenol	(G)	
	93071-94-4	2'-anilino-6'-((3-ethoxypropyl)ethylamino)-3'-methylspiro (isobenzo-3-oxofuran)-1-(1H)-9'-xanthene	(E)	
	98809-58-6	2-benzotriazol-2-yl-4-methyl-6-(2-methylallyl)phenol	(E)	
	119313-12-1	2-benzyl-2-dimethylamino-4-morpholinobutyrophenone	(E)	
	97384-48-0	2-benzyl-2-methyl-3-butenitrile	(E)	
	35950-52-8	2-bromo-1-(2-furyl)-2-nitroethylene	(E)	
	24403-04-1	2-bromo-2-nitropropanol	(E)	
	444-14-4	2-bromo-4,6-difluoroaniline	(E)	
	2973-59-3	2-bromo-5-hydroxy-4-methoxybenzaldehyde	(E)	
	34036-80-1	2-butanone-O,O'-O''-(phenylsilylidyne)trioxime	(E)	
	137605-95-9	2-butyl-2-ethyl-1,5-diaminopentane	(E)	
	133909-99-6	2-butyl-4-chloro-4,5-dihydro-5-hydroxymethyl-1-[2'-(2-triphenylmethyl-1,2,3,4-2H-tetrazol-5-yl)-1,1'-biphenyl-4-methyl]-1H-imidazole	(E)	
	83857-96-9	2-butyl-4-chloro-5-formylimidazole	(E)	
	94723-86-1	2-butyryl-3-hydroxy-5-thiocyclohexan-3-yl-cyclohex-2-en-1-one	(E)	
	88-88-0	2-chloro-1,3,5-trinitrobenzene	(E)	
	65753-47-1	2-chloro-3-trifluoromethylpyridine	(E)	
	141772-37-4	2-chloro-4-fluoro-5-nitrophenyl (isobutyl)carbonate	(E)	
	121-87-9	2-chloro-4-nitroaniline	(E)	
	105827-91-6	2-chloro-5-chloromethylthiazole	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	18368-64-4	2-chloro-5-methyl-pyridine	(E)	2,330
	137193-60-3	2-chloro-5-sec-hexadecylhydroquinone	(E)	
	131657-78-8	2-chloro-6-(ethylamino)-4-nitrophenol	(E)	
	2040-90-6	2-chloro-6-fluoro-phenol	(E)	
	95-51-2	2-Chlorobenzenamine	(P,G)	
	72830-09-2	2-chloromethyl-3,4-dimethoxypyridinium chloride	(E)	
	16634-82-5	2-chloro-N-(4-methylphenyl)acetamide	(E)	
	95-57-8	2-chlorophenol	(E)	
	42413-03-6	2-chloro-p-toluenesulfochloride	(E)	
	95-49-8	2-chlorotoluene	(E)	
	118562-73-5	2-cyclododecylpropan-1-ol	(E)	
	10461-98-0	2-cyclohexylidene-2-phenylacetonitrile	(E)	
	2109-22-0	2-cyclohexylpropanal	(E)	
	57374-49-9	2-cyclopentene-1-acetic acid, 3-hydroxy-2-pentyl-, methyl ester acetate	(E)	
	6261-30-9	2-cyclopentylidene cyclopentanol; 1,1'-bi(cyclopentylidene)-2-ol	(E)	
	4826-62-4	2-Dodecenal	(G)	
	33027-66-6	2-Ethoxy-2,4,4,6,6-pentafluoro-2λ5,4λ5,6λ5-1,3,5,2,4,6-triazatriphosphorine	(G)	
	287933-44-2	2-ethyl-1-(2-(1,3-dioxanyl)ethyl)-pyridinium bromide	(E)	
	43057-68-7	2-ethyl-2,3-dihydro-2-methyl-1H-perimidine	(E)	
	7580-31-6	2-ethylhexanoicacid,nickelsalt	(E)	
	26218-04-2	2-ethylhexyl 4-aminobenzoate	(E)	
	80387-97-9	2-ethylhexyl[[[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]methyl]thio]acetate	(E)	
	406488-30-0	2-ethyl-N-methyl-N-(3-methylphenyl)butanamide	(E)	
	19398-06-2	2-ethylphenylhydrazine hydrochloride	(E)	
	82380-18-5	2-fluoro-4-hydroxybenzotrile	(E)	
	69045-82-5	2-fluoro-5-trifluoromethylpyridine	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	94239-04-0	2-fluoro-6-trifluoromethylpyridine	(E)	2,330
	379268-96-9	2-hexyldecanoic acid [4-(6-tert-butyl-7-chloro-1H-pyrazolo[1,5-b][1,2,4]triazol-2-yl)phenylcarbamoyl]methylester	(E)	
	148348-12-3	2-hexyldecyl-p-hydroxybenzoate	(E)	
	474510-57-1	2-hydroxy-1-(4-(4-(2-hydroxy-2-methylpropionyl)benzyl)phenyl)-2-methylpropan-1-one	(E)	
	141890-30-4	2-hydroxy-3-[(2-hydroxyethyl)-[2-(1-oxotetradecyl)amino]ethyl]amino]-N,N,N-trimethyl-1-propanammonium chloride	(E)	
	3380-30-1	2-Hydroxy-4,4'-dichlorodiphenyl ether	(G,E)	
	190085-41-7	2-hydroxybenzoic acid 2-butyloctyl ester	(E)	
	818-61-1	2-hydroxyethyl acrylate	E	
	103577-66-8	2-hydroxymethyl-3-methyl-4-(2,2,2-trifluoroethoxy)pyridine	(E)	
	63187-91-7	2-hydroxymethyl-9-methyl-6-(1-methylethyl)-1,4-dioxaspiro[4.5]decane	(E)	
	129228-21-3	2-isobutyl-2-isopropyl-1,3-dimethoxypropane	(E)	
	129228-11-1	2-isopropyl-2-(1-methylbutyl)-1,3-dimethoxypropane	(E)	
	154212-60-9	2-isopropyl-4-(N-methyl)aminomethylthiazole	(E)	
	156324-82-2	2-isopropyl-5-methylcyclohexyloxy-carbonyloxy-2-hydroxypropane	(E)	
	89604-92-2	2-mercaptobenzothiazolyl-(Z)-(2-aminothiazol-4-yl)-2-(tert-butoxycarbonyl) isopropoxyiminoacetate	(E)	
	123-88-6	2-Methoxyethyl mercury chloride	(G,E)	
	71868-10-5	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	(E)	
	2527-66-4	2-Methyl-1,2-benzisothiazolin-3-one	(G)	
	95-70-5	2-Methyl-1,4-benzenediamine	(G,E)	
	2682-20-4	2-Methyl-4-isothiazolin-3-one	(G)	
	157661-93-3	2-methyl-4-(1,1-dimethylethyl)-6-(1-methyl-pentadecyl)-phenol	(E)	
	2980-64-5	2-Methyl-4,6-nitrophenol ammonium salt	(G,E)	
	121-21-1	2-methyl-4-oxo-3-(penta-2,4-dienyl)cyclopent-2-enyl[1R-[1α[S*(Z)],3β]]-chrysanthemate; pyrethrin I	(E)	
	121-29-9	2-methyl-4-oxo-3-(penta-2,4-dienyl)cyclopent-2-enyl[1R-[1α[S*(Z)](3β)]]-3-(3-methoxy-2-methyl-3-oxoprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate; pyrethrin II	(E)	
	92585-24-5	2-methyl-4-phenylpentanol	(E)	
	75-55-8	2-methylaziridine; propyleneimine	(E)	
	592-27-8	2-methylheptane	(E)	
	591-76-4	2-methylhexane	(E)	
	611-15-4	2-methylstyrene; 2-vinyltoluene	(E)	
	135-19-3	2-naphthol	E	
	91-59-8	2-Naphthylamine	(G,E)	
	104295-55-8	2-naphthylamino-6-sulfomethylamide	(E)	
	612-52-2	2-Naphthylammonium chloride	(G,E)	
4299-07-04	2-n-Butyl-benzo[d]isothiazol-3-one	(G,E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	5428-02-4	2-nitro-2-phenyl-1,3-propanediol	(E)	2,330
	117568-27-1	2-nitro-4,5-bis(benzyloxy)phenylacetonitrile	(E)	
	581-89-5	2-nitronaphthalene	(E)	
	96-96-8	2-nitro-p-anisidine; 4-methoxy-2-nitroaniline	(E)	
	88-72-2	2-Nitrotoluene	(G,E)	
	26530-20-1	2-Octyl-3(2H)-isothiazolone	(G,E)	
	88938-37-8	2-phenoxyethyl 4-((5-cyano-1,6-dihydro-2-hydroxy-1,4-dimethyl-6-oxo-3-pyridinyl)azo)benzoate	(E)	
	88938-23-2	2-phenoxyethyl 4-aminobenzoate	(E)	
	1943-82-4	2-phenylethylisocyanate	(E)	
	3508-98-3	2-phenylhexanenitrile	(E)	
	90-43-7	2-phenylphenol (ISO); biphenyl-2-ol; 2-hydroxybiphenyl	E	
	98-83-9	2-phenylpropene; α-methylstyrene	(E)	
	1134-94-7	2-phenylthioaniline	(E)	
	170222-39-6	2-phthalimidoethyl N-[4-(2-cyano-4-nitrophenylazo)phenyl]-N-methyl-β-alaninate	(E)	
	140-31-8	2-piperazin-1-ylethylamine	(E)	
	72752-52-4	2-piperidin-1-yl-benzonitrile	(E)	
	156105-38-3	2-Propanone reaction products with 5-amino-1,3,3-trimethylcyclohexanemethanamine, reduced	(G)	
	70750-20-8	2-Propenamide homopolymer reaction products with chloromethane, di-methylamine and formaldehyde	(G)	
	147027-10-9	2S-isopropyl-5R-methyl-1R-cyclohexyl (2R,5S)-5-(4-amino-2-oxo-2H-pyrimidin-1-yl)-[1.3]-oxathiolane-2-carboxylate	(E)	
	111969-64-3	2S-isopropyl-5R-methyl-1R-cyclohexyl 2,2-dihydroxyacetate	(E)	
	26364-65-8	2-thiazolidinylidenecyanamide	(E)	
	100-69-6	2-Vinylpyridine	(P,G)	
	104333-00-8	3-((2-nitro-4-(trifluoromethyl)phenyl)amino)propane-1,2-diol	(E)	
	104226-19-9	3-((4-(bis(2-hydroxyethyl)amino)-2-nitrophenyl)amino)-1-propanol	(E)	
	164288-56-6	3-((C12-18)-acylamino)-N-(2-((2-hydroxyethyl)amino)-2-oxoethyl)-N,N-dimethyl-1-propanaminium chloride	(E)	
	103694-68-4	3-(2,2-dimethyl-3-hydroxypropyl)toluene; (alt.): 2,2-dimethyl-3-(3-methylphenyl)propanol	(E)	
	168900-02-5	3-(2,4-dichlorophenyl)-6-fluoro-quinazoline-2,4(1H,3H)-dione	(E)	
	117584-16-4	3-(2,6-dichloro-4-nitrophenylazo)-1-methyl-2-phenylindole	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	79026-02-1	3-(2-({4-[2-(4-cyanophenyl)vinyl]phenyl}vinyl)benzotrile	(E)	2,330
	114341-88-7	3-(2-bromopropionyl)-4,4-dimethyl-1,3-oxazolan-2-one	(E)	
	93076-03-0	3-(2-chloroethyl)-6,7,8,9-tetra-hydro-2-methyl-4H-pyrido [1,2-a] pyrimidin-4-one monohydrochloride	(E)	
	70445-33-9	3-(2-ethylhexyloxy)propane-1,2-diol	(E)	
	107786-36-7	3-(2-methoxy-4-methoxycarboxybenzyl)-5-nitroindole	(E)	
	6903-18-0	3-(2'-phenoxyethoxy)propylamine	(E)	
	105488-33-3	3-(3-(4-(2,4-bis(1,1-dimethylpropyl)phenoxy)butylaminocarbonyl-4-hydroxy-1-naphthalenyl)thio)propanoic acid	(E)	
	82560-06-3	3-(3-methylpent-3-yl)isoxazol-5-ylamine	(E)	
	142623-48-1	3-(4-chloro-2-fluoro-5-methylphenyl)-1-methyl-5-(trifluoromethyl)-1H-pyrazole	(E)	
	140-41-0	3-(4-chlorophenyl)-1,1-dimethyluronium trichloroacetate; monuron-TCA	(E)	
	115099-58-6	3-(5-acetylamino-4-(4-[4,6-bis(3-diethylaminopropylamino)-1,3,5-triazin-2-ylamino]phenylazo)-2-(2-methoxyethoxy)phenylazo)-6-amino-4-hydroxy-2-naphthalenesulfonic acid	(E)	
	130603-71-3	3-(6-O-(6-desoxy- α -sc.l.sc.-mannopyranosyl-O-(α -sc.d.sc.-glucopyranosyl)-(β -sc.d.sc.-glucopyranosyl)oxy)-2-(3,4-dihydroxyphenyl)-5,7-dihydroxy-4H-1-benzopyran-4-one	(E)	
	105254-85-1	3-(bis(2-ethylhexyl)aminomethyl)benzothiazole-2(3H)-thione	(E)	
	142653-61-0	3-(cis-3-hexenyloxy)propanenitril	(E)	
	93633-79-5	3-(N-methyl-N-(4-methylamino-3-nitrophenyl)amino)propane-1,2-diol hydrochloride	(E)	
	124584-00-5	3(or 5)-(4-(N-benzyl-N-ethylamino)-2-methylphenylazo)-1,4-dimethyl-1,2,4-triazolium methylsulphate	(E)	
	362-03-8	3-(phenothiazin-10-yl)propionic acid	(E)	
	87691-88-1	3-(piperazin-1-yl)-benzo[d]isothiazole hydrochloride	(E)	
	371921-63-0	3,10-diamino-6,13-dichloro-2-((6-(((4-(1,1-dimethylethyl)phenyl)sulfonyl)amino)-2-naphthalenyl)sulfonyl)-4,11-triphenodioxazinedisulfonic acid, lithium potassium sodium salt	(E)	
	33831-83-3	3,3,4,4-tetrafluoro-4-iodo-1-butene	(E)	
	6390-69-8	3,3',5,5'-tetra-tert-butylbiphenyl-2,2'-diol	(E)	
	793710-14-2	3,3'-bis(dioctyloxyphosphinothioylthio)-N,N'-oxybis(methylene)dipropionamide	(E)	
	101-14-4	3,3'-Dichloro-4,4'-diaminodiphenylmethane	(P,G,E)	
	91-94-1	3,3'-Dichlorobenzidine	(P,G,E)	
	612-83-9	3,3'-Dichlorobenzidine dihydrochloride	(P)	
	58890-25-8	3,3'-dicyclohexyl-1,1'-methylenebis(4,1-phenylene)diurea	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	563-16-6	3,3-dimethylhexane	(E)	2,330
	562-49-2	3,3-dimethylpentane	(E)	
	43136-14-7	3,3'-dioctadecyl-1,1'-methylenebis(4,1-phenylene)diurea	(E)	
	226065-73-2	3,4,3',4'-tetraphenyl-1,1'-ethandiylbispyrol-2,5-dione	(E)	
	1953-99-7	3,4,5,6-Tetrachloro-1,2-benzenedicarbonitrile	(G)	
	2426-02-0	3,4,5,6-tetrahydrophthalicanhydride	(E)	
	95-76-1	3,4-dichloroaniline	(E)	
	2820-37-3	3,4-dimethyl-1H-pyrazole	(E)	
	583-48-2	3,4-dimethylhexane	(E)	
	577-71-9	3,4-dinitrophenol	(E)	
	610-39-9	3,4-dinitrotoluene	(E)	
	95-65-8	3,4-xylenol	(E)	
	87113-78-8	3,5-bis((3,5-di-tert-butyl-4-hydroxy)benzyl)-2,4,6-trimethylphenol	(E)	
	141915-64-2	3,5-bis-(tetradecyloxy)carbonyl)benzenesulfinic acid	(E)	
	101664-25-9	3',5'-dichloro-2-(2,4-di-tert-pentylphenoxy)-4'-ethyl-2'-hydroxyhexananilide	(E)	
	101513-70-6	3,5-dichloro-2,4-difluorobenzoyl fluoride	(E)	
	2840-00-8	3,5-dichloro-2,6-difluoropyridine-4-amine	(E)	
	121451-05-6	3,5-dichloro-2-fluoro-4-(1,1,2,3,3,3-hexafluoropropoxy)aniline	(E)	
	104147-32-2	3,5-dichloro-4-(1,1,2,2-tetrafluoroethoxy)aniline	(E)	
	618-85-9	3,5-dinitrotoluene	(E)	
	4067-16-7	3,6,9,12-tetra-azatetradecamethylenediamine; pentactylenhexamine	(E)	
	112-57-2	3,6,9-triazaundecamethylenediamine; tetraethylenepentamine	(E)	
	141631-22-3	3,6,9-trithiaundecamethylene-1,11-dimethacrylate	(E)	
	112-24-3	3,6-diazaoctanethylenediamin; triethylenetetramine	(E)	
	2300-66-5	3,6-dichloro-o-anisic acid, compound with dimethylamine (1:1)	(E)	
	25059-78-3	3,6-dichloro-o-anisicacid,compoundwith2,2'-iminodiethanol(1:1)	(E)	
	53404-28-7	3,6-dichloro-o-anisicacid,compoundwith2-aminoethanol(1:1)	(E)	
	40188-41-8	3,7-dimethyloctanenitrile	(E)	
	80693-00-1	3,9-bis(2,6-di-tert-butyl-4-methylphenoxy)-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane	(E)	
	167684-63-1	3-[3-(2-dodecyloxy-5-methylphenylcarbonyl)-4-hydroxy-1-naphthylthio]propionic acid	(E)	
	93957-50-7	3-[3-(4-fluorophenyl)-1-(1-methylethyl)-1H-indol-2-yl]-(E)-2-propenal	(E)	
	38313-48-3	3'5'-anhydro thymidine	(E)	
	77-73-6	3a,4,7,7a-tetrahydro-4,7-methanoindene	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	719-86-8	3-acetyl-1-phenyl-pyrrolidine-2,4-dione	(E)	2,330
	143269-74-3	3-amino-4-chlorobenzoic acid, hexadecyl ester	(E)	
	112195-27-4	3-amino-4-hydroxy-N-(2-methoxyethyl)-benzenesulfonamide	(E)	
	114565-70-7	3-amino-4-hydroxy-N-(3-isopropoxypropyl)benzenesulfonamide hydrochloride	(E)	
	4403-70-7	3-aminobenzylamine	(E)	
	2855-13-2	3-aminomethyl-3,5,5-trimethylcyclohexylamine	(E)	
	591-27-5	3-aminophenol	(E)	
	151860-15-0	3-benzyl-exo-6-nitro-2,4-dioxo-3-aza-cis-bicyclo[3.1.0]hexane	(E)	
	1458-98-6	3-Bromo-2-methyl-1-propene	(G)	
	179104-32-6	3-chloro-2-(isopropylthio)aniline	(E)	
	3847-58-3	3-chloro-2,4-difluoronitrobenzene	(E)	
	563-47-3	3-chloro-2-methylpropene	(E)	
	202197-26-0	3-chloro-4-(3-fluorobenzyloxy)aniline	(E)	
	77227-99-7	3-chloro-4,5,α, α,α-pentafluorotoluene	E	
	15271-41-7	3-chloro-6-cyano-bicyclo(2,2,1)heptan-2-one-O-(N-methylcarbamoyl)oxime; triamid	(E)	
	108-43-0	3-chlorophenol	(E)	
	107-05-1	3-chloropropene; allyl chloride	(E)	
	108-41-8	3-chlorotoluene	(E)	
	7027-11-4	3-cyano-3,5,5-trimethylcyclohexanone	(E)	
	151338-11-3	3-cyano-N-(1,1-dimethylethyl)androsta-3,5-diene-17-β-carboxamide	(E)	
	106917-30-0	3-dodecyl-(1-(1,2,2,6,6-pentamethyl-4-piperidin-yl)-2,5-pyrrolidindione	(E)	
	297730-93-9	3-ethoxy-1,1,1,2,3,4,4,5,5,6,6,6-dodecafluoro-2-(trifluoromethyl)-hexane	(E)	
	88150-42-9	2-(2-aminoethoxymethyl)-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylate	(E)	
	88150-62-3	4-(2-chlorophenyl)-1,4-dihydro-2-[2-(1,3-dihydro-1,3-dioxo-(2H)isoindol-2-yl)-ethoxymethyl]-6-methyl-3,5-pyridinedicarboxylate	(E)	
	143860-04-2	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	(E)	
	609-26-7	3-ethyl-2-methylpentane	(E)	
	1067-08-9	3-ethyl-3-methylpentane	(E)	
	619-99-8	3-ethylhexane	(E)	
	617-78-7	3-ethylpentane	(E)	
	1873-90-1	3-hexylheptamethyltrisiloxane	(E)	
	95718-78-8	3-Hydroxy-1,1-dimethylbutyl peroxyneodecanoate	(G)	
	83708-14-9	3-icosyl-4-henicosylidene-2-oxetanone	(E)	
	55406-53-6	3-iodo-2-propynyl butylcarbamate; 3-iodoprop-2-yn-1-yl butylcarbamate	(E)	
55066-49-4	3-methyl-5-phenylpentan-1-al	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	18759-96-1	3-methylaminomethylphenylamine	(E)	2,330
	108-44-1	3-Methylbenzenamine (m-Toluidine)	(G,E)	
	589-81-1	3-methylheptane	(E)	
	589-34-4	3-methylhexane	(E)	
	105043-55-8	3-methyl-N-(5,8,13,14-tetrahydro-5,8,14-trioxonaphth[2,3-c]acridin-6-yl)benzamide	(E)	
	96-14-0	3-methylpentane	(E)	
	24294-01-7	3-N,N-bis(methoxyethyl)aminoacetanilide	(E)	
	302-97-6	3-oxoandrost-4-ene-17-β-carboxylic acid	(E)	
	134724-55-3	3-phenyl-7-[4-(tetrahydrofurfuryloxy)phenyl]-1,5-dioxas-indacen-2,6-dione	(E)	
	778577-53-0	3-tridecyloxy-propyl-ammonium 9-octadecenoate	(E)	
	1939-27-1	3'-trifluoromethylisobutyranilide	(E)	
	138401-24-8	4'-((2-butyl-4-oxo-1,3-diazaspiro[4.4]non-1-ene-3-yl)methyl)(1,1'-biphenyl)-2-carbonitrile	(E)	
	121487-83-0	4-((4-(diethylamino)-2-ethoxyphenyl)imino)-1,4-dihydro-1-oxo-N-propyl-2-naphthalenecarboxamide	(E)	
	56309-94-5	4-(1,4-dioxaspiro[4.5]dec-8-yl)-cyclohexanone	(E)	
	119018-29-0	4-(2-((3-ethyl-4-methyl-2-oxo-pyrrolin-1-yl)carboxamido)ethyl)benzenesulfonamide	(E)	
	89114-90-9	4-(2,2-diphenylethenyl)-N,N-di-phenylbenzenamine	(E)	
	113674-95-6	4-(2-chloro-4-trifluoromethyl)phenoxy-2-fluoroaniline hydrochloride	(E)	
	147374-67-2	4-(2-cyano-3-phenylamino-acryloyloxymethyl)-cyclohexyl-methyl 2-cyano-3-phenylamino)-acrylate	(E)	
	159235-16-2	4-(2-methylacryloyloxy)phenyl 4-allyloxybenzoate	(E)	
	1254940-85-6	4-(2-Methylpropyl)cyclohexanepropanal	(G)	
	124719-26-2	4-(3,4-dichlorophenylazo)-2,6-di-sec-butyl-phenol	(E)	
	79876-59-8	4-(3-triethoxysilylpropoxy)-2-hydroxybenzophenone	(E)	
	107144-30-9	4-(4,4-dimethyl-3-oxo-pyrazolidin-1-yl)-benzoic acid	(E)	
	125971-96-2	4-(4-fluorophenyl)-2-(2-methyl-1-oxopropyl)-4-oxo-3,N-diphenylbutanamide	(E)	
	95235-30-6	4-(4-isopropoxyphenylsulfonyl)phenol	(E)	
	51601-57-1	4-(4-tolyloxy)biphenyl	(E)	
	71297-11-5	4-(bis(4-(diethylamino)phenyl)methyl)benzene-1,2-dimethanesulfonic acid	(E)	
	54574-82-2	4-(N,N-dibutylamino)-2-hydroxy-2'-carboxybenzophenone	(E)	
	30168-23-1	4-(Octahydro-4,7-methano-5H-inden-5-ylidene)butanal	(G)	
	78531-61-0	4-(trans-4-propylcyclohexyl)acetophenone	(E)	
	91-97-4	4,4'-Diisocyanato-3,3'-dimethyl-1,1'-biphenyl	(G)	
	13595-25-0	4,4'-(1,3-phenylene-bis(1-methylethylidene))bis-phenol	(E)	
	182235-14-9	4,4'-(1,6-hexamethylenebis(formylimino))bis(2,2,6,6-tetramethyl-1-oxypiperidine)	(E)	
110726-28-8	4,4'-(1-{4-[1-(4-hydroxyphenyl)-1-methylethyl]phenyl}ethylidene)diphenol	(E)		
25068-38-6	4,4'-(1-Methylethylidene)bisphenol polymer with (chloromethyl)oxirane	(P,E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	1440-00-2	4,4'(4-(4-methoxyphenyl)-1,3,5-triazin-2,4-diyl)bisbenzene-1,3-diol	(E)	2,330
	107934-68-9	4,4'-(9H-fluoren-9-ylidene)bis(2-chloroaniline)	(E)	
	111850-25-0	4,4',4''-(1-methylpropan-1-yl-3-ylidene)tris(2-cyclohexyl-5-methylphenol)	(E)	
	27955-94-8	4,4',4''-(ethan-1,1,1-triyl)triphenol	(E)	
	148043-73-6	4,4,5,5,5-pentafluoropentan-1-ol	(E)	
	67887-47-2	4,4',5,5',6,6',7,7'-octachloro-(2,2')biisindolyl-1,1',3,3'-tetraone	(E)	
	119-93-7	4,4'-bi-o-toluidine	(E)	
	492-80-8	4,4'-carbonimidoylbis[N,N-dimethylaniline]	(E)	
	43151-99-1	4,4'-diamino-2-methylazobenzene	(E)	
	19060-15-2	4,4-dimethoxybutylamine	(E)	
	130755-46-3	4,4'-dithiobis(5-amino-1-(2,6-dichloro-4-(trifluoromethyl)phenyl)-1H-pyrazole-3-carbonitrile)	(E)	
	47073-92-7	4,4'-Ethylidenediphenyldicyanate	(G,E)	
	6807-17-6	4,4-isobutylethylidenediphenol	(E)	
	101657-77-6	4,4'-methylenebis(2,6-dimethylphenyl cyanate)	(E)	
	19900-65-3	4,4'-methylenebis(2-ethylaniline); 4,4'-methylenebis(2-ethylbenzeneamine)	(E)	
	16298-38-7	4,4'-methylenebis(2-isopropyl-6-methylaniline)	(E)	
	13474-64-1	4,4'-methylenebis(N,N'-dimethylcyclohexanamine)	(E)	
	154279-60-4	4,4'-Methylenebis[N-(1-methylpropyl)cyclohexanamine]	(G)	
	192463-88-0	4,4'-methylenebis[N-(4-chlorophenyl)-3-hydroxynaphthalene-2-carboxamide]	(E)	
	101-77-9	4,4'-Methylenedianiline	(P,G,E)	
	838-88-0	4,4'-methylenedi-o-toluidine	(E)	
	7456-68-0	4,4'-oxybis(benzenesulfonylazide)	(E)	
	90884-29-0	4,4'-oxybis(ethylenethio)diphenol	(E)	
	101-80-4	4,4'-oxydianiline and its salts; p-aminophenyl ether	(E)	
	1823-59-2	4,4'-oxydiphthalic anhydride	(E)	
	260408-02-4	4,4'-sulfonylbisphenol, polymer with ammonium chloride(NH4Cl), pentachlorophosphorane and phenol	(E)	
	139-65-1	4,4'-thiodianiline and its salts	(E)	
	24197-34-0	4,4'-thiodi-o-cresol	(E)	
	64359-81-5	4,5-Dichloro-2-N-octyl-4-isothizaolin-3-one	(G)	
	1193-21-1	4,6-Dichloropyrimidine	(G)	
	5787-96-2	4,6-Dinitro-o-cresol potassium salt	(G,E)	
	2312-76-7	4,6-Dinitro-o-cresol sodium salt	(G,E)	
	91853-67-7	4,8,12-trimethyltrideca-3,7,11-trienoic acid, mixed isomers	(E)	
	159939-85-2	4-[(3-chlorophenyl)(1H-imidazol-1-yl)methyl]-1,2-benzene diamine dihydrochloride	(E)	
	92952-81-3	4-[(3-hydroxypropyl)amino]-3-nitrophenol	(E)	
	73754-27-5	4-[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionyloxy]-1-[2-[3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionyloxy]ethyl]-2,2,6,6-tetramethylpiperidine	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	102089-33-8	4-[3-(diethoxymethylsilylpropoxy)-2,2,6,6-tetramethyl]piperidine	(E)	2,330
	114565-66-1	4-[4-(1,3-dihydroxyprop-2-yl)phenylamino]-1,8-dihydroxy-5-nitroanthraquinone	(E)	
	92771-56-7	4-[4-(2,2-dimethyl-propanamido)]phenylazo-3-(2-chloro-5-(2-(3-pentadecylphenoxy)butylamido)anilino)-1-(2,4,6-trichlorophenyl)-2-pyrazoline-5-one	(E)	
	133467-41-1	4-[4-(2-ethylhexyloxy)phenyl](1,4-thiazinane-1,1-dioxide)	(E)	
	132885-85-9	4-[N-ethyl-N-(2-hydroxyethyl)amino]-1-(2-hydroxyethyl)amino-2-nitrobenzene, monohydrochloride	(E)	
	93589-69-6	4-4'-methylenebis(oxyethylenethio)diphenol	(E)	
	135043-64-0	4-amino-2-(aminomethyl)phenol dihydrochloride	(E)	
	188907-52-0	4-amino-3-[[4-[[2-(sulfooxy)ethyl]sulfonyl]phenyl]azo]-1-naphthalene sulfonic acid	(E)	
	399-95-1	4-amino-3-fluorophenol	(E)	
	123-30-8	4-aminophenol	(E)	
	504-24-5	4-Aminopyridine	(G)	
	172964-15-7	4-benzyl-2,6-dihydroxy-4-aza-heptylene bis(2,2-dimethyloctanoate)	(E)	
	122454-29-9	4-Bromo-2-(4-chlorophenyl)-5-(trifluoromethyl)-1H-pyrrole-3-carbonitrile	(G)	
	60811-21-4	4-bromo-2-chlorofluorobenzene	(E)	
	116412-83-0	4-chloro-3',4'-dimethoxybenzophenone	(E)	
	69788-75-6	4-chlorobutyl veratrate	(E)	
	1570-64-5	4-chloro-o-cresol; 4-chloro-2-methyl phenol	(E)	
	95-69-2	4-chloro-o-toluidine	(E)	
	3165-93-3	4-chloro-o-toluidinehydrochloride	(E)	
	106-48-9	4-chlorophenol	(E)	
	104-12-1	4-chlorophenylisocyanate	(E)	
	106-43-4	4-chlorotoluene	(E)	
	83926-73-2	4-cyclohexyl-2-methyl-2-butanol	(E)	
	7693-82-5	4-decyloxazolidin-2-one; 4-decyl-1,3-oxazolidin-2-one	(E)	
	71526-07-3	4-dichloroacetyl-1-oxa-4-azaspiro[4.5]decane	(E)	
	120187-29-3	4'-ethoxy-2-benzimidazoleanilide	(E)	
	2788-74-1	4-ethylamino-3-nitrobenzoic acid	(E)	
	21983-80-2	4'-fluoro-2,2-dimethoxyacetophenone	(E)	
	61721-07-1	4-fluoro-3-trifluoromethylphenol	(E)	
	189012-93-9	4-hydroxy-7-(2-aminoethyl)-1,3-benzothiazol-2(3H)-one hydrochloride	(E)	
	131538-00-6	4-Mercaptomethyl-3,6-dithia-1,8-octanedithiol	(P,G,E)	
	1671-49-4	4-mesyl-2-nitrotoluene	(E)	
	125971-57-5	4-methyl-3-oxo-N-phenyl-2-(phenylmethylene)pentanamide	(E)	
122760-85-4	4-methyl-8-methylenetricyclo[3.3.1.1 ^{3,7}]dec-2-yl acetate	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	122760-84-3	4-methyl-8-methylenetricyclo[3.3.1.1 ^{3,7}]decan-2-ol	(E)	2,330
	106-49-0	4-Methylbenzenamine (p-Toluidine)	(G,E)	
	17417-32-2	4'-methyldodecane-1-sulfonanilide	(E)	
	589-53-7	4-methylheptane	(E)	
	92-93-3	4-nitrobiphenyl	(E)	
	104-91-6	4-nitrosophenol	(E)	
	99-99-0	4-Nitrotoluene	(P,G,E)	
	104-40-5	4-Nonylphenol	(P,G)	
	61203-83-6	4-pentylcyclohexanone	(E)	
	768-56-9	4-phenylbut-1-ene	(E)	
	40649-36-3	4-propylcyclohexanone	(E)	
	140-66-9	4-tert-Octylphenol	(P,G,E)	
	100-40-3	4-Vinylcyclohexene	(P)	
	100-43-6	4-vinylpyridine	(G)	
	77889-90-8	5-(4-chloro-2-nitro-phenylazo)-1,2-dihydro-6-hydroxy-1,4-dimethyl-2-oxo-pyridine-3-carbonitrile	(E)	
	67485-29-4	5,5-dimethyl-perhydro-pyrimidin-2-one α-(4-trifluoromethylstyryl)-α-(4-trifluoromethyl)cinnamylidenehydrazone	(E)	
	33813-20-6	5,6-dihydro-3H-imidazo[2,1-c]-1,2,4-dithiazole-3-thione; etem	(E)	
	3131-52-0	5,6-dihydroxyindole	(E)	
	21873-52-9	5,7-dichloro-4-hydroxyquinoline	(E)	
	171850-30-9	5,7-dichloro-4-hydroxyquinoline-3-carboxylic acid	(E)	
	86347-14-0	5-[1-(2,3-Dimethylphenyl)ethyl]-1H-imidazole	(G)	
	157707-94-3	5-{{4-[5-amino-2-[4-(2-sulfoxyethylsulfonyl)phenylazo]-4-sulfo-phenylamino]-6-chloro-1,3,5-triazin-2-ylamino}}-4-hydroxy-3-(1-sulfo-naphthalen-2-ylazo)-naphthalene-2,7-disulfonicacid sodium salt	(E)	
	143446-73-5	5-acetoxy-2-(R,S)butyryloxymethyl-1,3-oxathiolane	E	
	156732-13-7	5-amino-[2S-di(methylphenyl)amino]-1,6-diphenyl-4Z-hexen-3-one; (2S,4Z)-5-amino-2-(dibenzylamino)-1,6-diphenylhex-4-en-3-one	(E)	
	120068-79-3	5-amino-1-(2,6-dichloro-4-(trifluoromethyl)phenyl)-1H-pyrazole-3-carbonitrile	(E)	
	37441-29-5	5-amino-2,4,6-triiodo-1,3-benzenedicarbonyldichloride	(E)	
	67014-36-2	5-amino-6-methyl-1,3-dihydrobenzimidazol-2-one	(E)	
	113171-13-4	5-amino-N-(2,6-dichloro-3-methylphenyl)-1H-1,2,4-triazole-3-sulfonamide	(E)	
	24856-00-6	5-bromo-8-naphtholactam	(E)	
	17630-75-0	5-chloro-1,3-dihydro-2H-indol-2-one	(E)	
	89402-43-7	5-chloro-2,3-difluoropyridine	(E)	
	26172-55-4	5-Chloro-2-methyl-4-isothiazolin-3-one	(G)	
	22094-83-3	5-endo-hexyl-bicyclo[2.2.1]hept-2-ene	(E)	
95885-13-5	5-ethyl-2,4-dihydro-4-(2-phenoxyethyl)-3H-1,2,4-triazol-3-one	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	61718-80-7	5-methoxy-4'-(trifluoromethyl)valerophenone	(E)	2,330
	138564-59-7	5-methyl-2-[(2-nitrophenyl)amino]-3-thiophenecarbonitrile	(E)	
	99-55-8	5-nitro-o-toluidine	(E)	
	51085-52-0	5-nitro-o-toluidinehydrochloride	(E)	
	38585-74-9	5-thiazolymethanol	(E)	
	15662-33-6	6-(1 α ,5 α β ,8 α β ,9-pentahydroxy-7 β -isopropyl-2 β ,5 β ,8 β -trimethylperhydro-8ba,9-epoxy-5,8-ethanocyclopenta[1,2-b]indenyl) pyrrole-2-carboxylate; ryania	(E)	
	63740-41-0	6-(2,3-dimethylmaleimido)hexyl methacrylate	(E)	
	204277-61-2	6-(2-chloro-6-cyano-4-nitrophenylazo)-4-methoxy-3-[N-(methoxycarbonylmethyl)-N-(1-methoxycarbonyl)ethyl]aminoacetanilide	(E)	
	89331-94-2	6'-(dibutylamino)-3'-methyl-2'-(phenylamino)spiro[isobenzofuran-1(3H),9-(9H)-xanthen]-3-one	(E)	
	95235-29-3	6'-(isobutylethylamino)-3'-methyl-2'-phenylamino-spiro[isobenzofuran-2-oxofuran-7,9'-(9H)-xanthene]	(E)	
	104788-63-8	6-(nonylamino)-6-oxo-peroxyhexanoic acid	E	
	1392325-86-8	6,6a,7,8,9,9a-Hexahydro-7,7,8,9,9-pentamethyl-5H-cyclopenta[h]quinazoline	(G)	
	1315251-11-6	6,7,8,9-Tetrahydro-7,7,8,9,9-pentamethyl-5H-cyclopenta[h]quinazoline	(G)	
	94021-76-8	6,7-dihydrodipyrido[1,2-a:2',1'-c]pyrazinediylium dihydroxide	(E)	
	143747-72-2	6,9-bis(hexadecyloxymethyl)-4,7-dioxanonane-1,2,9-triol	(E)	
	72453-58-8	6-anilino-1-benzoyl-4-(4-tert-pentylphenoxy)naphto[1,2,3-de]quinoline-2,7-(3H)-dione	(E)	
	118289-55-7	6-chloro-5-(2-chloroethyl)-1,3-dihydroindol-2-one	(E)	
	1862-07-3	6-dimethylaminohexan-1-ol	(E)	
	137234-87-8	6-ethyl-5-fluoro-4(3H)-pyrimidone	(E)	
	27610-48-6	6-glycidyloxynapht-1-yl oxymethyloxirane	(E)	
	85136-74-9	6-hydroxy-1-(3-isopropoxypropyl)-4-methyl-2-oxo-5-[4-(phenylazo)phenylazo]-1,2-dihydro-3-pyridinecarbonitrile	(E)	
	2380-86-1	6-hydroxyindole	(E)	
	106264-79-3	6-methyl-2,4-bis(methylthio)phenylene-1,3-diamine	(E)	
	91-76-9	6-phenyl-1,3,5-triazine-2,4-diyldiamine; 6-phenyl-1,3,5-triazine-2,4-diamine; benzoguanamine	(E)	
	133949-92-5	6-tert-butyl-3-(3-dodecylsulfonyl)propyl-7H-1,2,4-triazolo[3.4b][1,3,4]thiadiazine	(E)	
	162208-01-7	6-tert-butyl-7-(6-diethylamino-2-methyl-3-pyridylimino)-3-(3-methylphenyl)pyrazolo[3,2-c][1,2,4]triazole	(E)	
	159038-16-1	6-tert-butyl-7-chloro-3-tridecyl-7,7a-dihydro-1H-pyrazolo[5,1-c]-1,2,4-triazole	(E)	
	79185-77-6	7a-ethyl-3,5-bis(1-methylethyl)-2,3,4,5-tetrahydrooxazolo[3,4-c]-2,3,4,5-tetrahydrooxazole	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	111298-82-9	7-amino-3-((5-carboxymethyl-4-methyl-1,3-thiazol-2-ylthio)methyl)-8-oxo-5-thia-1-azabicyclo(4.2.0)oct-2-ene-2-carboxylic acid	(E)	2,330
	86393-33-1	7-chloro-1-cyclopropyl-6-fluoro-1,4-dihydro-4-oxoquinoline-3-carboxylic acid	(E)	
	199327-61-2	7-methoxy-6-(3-morpholin-4-yl-propoxy)-3H-quinazolin-4-one; [containing < 0.5 % formamide (EC No 200-842-0)]	(E)	
	42152-47-6	7-methylocta-1,6-diene	(E)	
	62406-73-9	8,8-dimethyl-7-isopropyl-6,10-dioxaspiro[4.5]decane	(E)	
	5470-82-6	8-amino-7-methylquinoline	(E)	
	1075-89-4	8-azaspiro[4.5]decane-7,9-dione	(E)	
	3100-36-5	8-Cyclohexadecen-1-one	(G,E)	
	26912-64-1	9-(2-propenyloxy)tricyclo[5.2.1.0(2,6)]dec-3(or-4)-ene	(E)	
	294847-79-3	9-(3-Methylphenyl)acridin	(G)	
	3236-71-3	9,9-bis(4-hydroxyphenyl)fluorene	(E)	
	1484-13-5	9-vinylcarbazole	(E)	
	71751-41-2	abamectin (combination of avermectin B1a and avermectin B1b) (ISO)	(E)	
	57960-19-7	acequinocyl (ISO); 3-dodecyl-1,4-dioxo-1,4-dihydronaphthalen-2-yl acetate	(E)	
	144020-22-4	Acetic acid, anhydride, reaction products with 1,5,10-trimethyl-1,5,9-cyclododecatriene	(G)	
	34256-82-1	acetochlor (ISO); 2-chloro-N-(ethoxymethyl)-N-(2-ethyl-6-methylphenyl)acetamide	(E)	
	75-86-5	Acetone cyanohydrin	(G,E)	
	135158-54-2	acibenzolar-S-methyl; benzo[1,2,3]thiadiazole-7-carbothioic acid S-methyl ester	(E)	
	50594-66-6	acifluorfen (ISO); 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoic acid	(E)	
	74070-46-5	aclonifen (ISO); 2-chloro-6-nitro-3-phenoxyaniline	(E)	
	101007-06-1	Acrinathrin	(G)	
	107-02-8	Acrolein	(P,G,E)	
	4369-14-6	acrylic acid, 3-(trimethoxysilyl)propyl ester	(E)	
	79-10-7	acrylic acid; prop-2-enoic acid	(E)	
	107-13-1	Acrylonitrile	(P,G,E)	
	79456-26-1	ACTP	(G,E)	
	15972-60-8	alachlor (ISO); 2-chloro-2',6'-diethyl-N-(methoxymethyl)acetanilide	(E)	
	83130-01-2	Alanycarb	(G)	
	116-06-3	Aldicarb	(G,E)	
	309-00-2	Aldrin	(G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	85535-84-8	alkanes, C10-13, chloro; chlorinated paraffins, C10-13	(E)	2,330
	85535-85-9	alkanes, C14-17, chloro; chlorinated paraffins, C14-17	(E)	
	584-79-2	allethrin; (RS)-3-allyl-2-methyl-4-oxocyclopent-2-enyl (1RS,3RS;1RS,3SR)-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate; bioallethrin; (RS)-3-allyl-2-methyl-4-oxocyclopent-2-enyl (1R,3R)-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate	(E)	
	93-71-0	allidochlor (ISO); N,N-diallylchloroacetamide	(E)	
	107-18-6	Allyl alcohol	(P,G,E)	
	106-92-3	allyl glycidyl ether; allyl 2,3-epoxypropyl ether; prop-2-en-1-yl 2,3-epoxypropyl ether	(E)	
	96-05-9	allyl methacrylate; 2-methyl-2-propenoic acid 2-propenyl ester	(E)	
	107-11-9	allylamine	(E)	
	6392-46-7	Allylcarb	(G)	
	169314-88-9	aluminium-magnesium-zinc-carbonate-hydroxide	(E)	
	20859-73-8	Aluminum phosphide	(G,E)	
	834-12-8	ametryn (ISO); N-ethyl-N'-isopropyl-6-(methylthio)-1,3,5-triazine-2,4-diamine	(E)	
	120923-37-7	amidosulfuron (ISO); 3-(4,6-dimethoxypyrimidin-2-yl)-1-((N-methyl-N-methylsulfonylamino)sulfonyl)urea	(E)	
	61788-46-3	amines, coco alkyl	(E)	
	61788-45-2	amines, hydrogenated tallow alkyl	(E)	
	68131-73-7	amines, polyethylenepoly-; HEPA	(E)	
	61790-33-8	amines, tallow alkyl	(E)	
	2032-59-9	Aminocarb	(G,E)	
	33089-61-1	amitraz (ISO); N,N-bis(2,4-xylyliminomethyl) methylamine	(E)	
	61-82-5	Amitrole	(P,G,E)	
	1336-21-6	ammonia%	E	
	7664-41-7	Ammonia(including Ammonium hydroxide)	(P,G,E)	
	109125-51-1	ammonium bis(1-(3,5-dinitro-2-oxidophenylazo)-3-(N-phenylcarbamoyl)-2-naphtholato)chromate(1-)	(E)	
	7788-98-9	Ammonium chromate	(G)	
	7789-09-05	Ammonium dichromate	(G,E)	
	9080-17-5	ammonium polysulphides	E	
	60347-66-2	Ammonium silver dinitrate	(G)	
	29081-56-9	ammoniumperfluorooctanesulfonate; ammoniumheptadecafluorooctanesulfonate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	101-05-3	anilazine (ISO); 2-chloro-N-(4,6-dichloro-1,3,5-triazin-2-yl)aniline	(E)	2,330
	62-53-3	Aniline	(P,G,E)	
	7647-18-9	Antimony pentachloride	(G,E)	
	10025-91-9	Antimony trichloride	(G,E)	
	7783-56-4	Antimony trifluoride	(G,E)	
	5827-05-04	Aphidan	(G,E)	
	7440-38-2	Arsenic	(G,E)	
	7784-42-1	arsine	(E)	
	1912-24-9	atrazine (ISO); 2-chloro-4-ethylamine-6-isopropylamine-1,3,5-triazine	(E)	
	65195-55-3	avermectinB1a(purity ≥ 80 %)	(E)	
	68049-83-2	azafenidin (ISO); 2-(2,4-dichloro-5-prop-2-ynyloxyphenyl)-5,6,7,8-tetrahydro-1,2,4-triazolo[4,3-a]pyridin-3(2H)-one	(E)	
	120162-55-2	azimsulfuron (ISO); 1-(4,6-dimethoxypyrimidin-2-yl)-3-[1-methyl-4-(2-methyl-2H-tetrazol-5-yl)pyrazol-5-ylsulfonyl]urea	(E)	
	2642-71-9	azinphos-ethyl (ISO); O,O-diethyl 4-oxobenzotriazin-3-ylmethyl phosphorodithioate	(E)	
	86-50-0	Azinphos-methyl	(P,G,E)	
	103-33-3	azobenzene	(E)	
	41083-11-8	Azocyclotin	(G,E)	
	131860-33-8	azoxystrobin (ISO); methyl (E)-2-{{2-[6-(2-cyanophenoxy)pyrimidin-4-yloxy]phenyl}}-3-methoxyacrylate	(E)	
	101-27-9	barban (ISO); 4-chlorbut-2-ynyl N-(3-chlorophenyl)carbamate	(E)	
	199876-46-5	barium calcium cesium lead samarium strontium bromide chloride fluoride iodide europium doped	(E)	
	13477-00-4	barium chlorate	(E)	
	50864-67-0	barium polysulphides	E	
	21109-95-5	barium sulphide	E	
	8003-05-2	basicphenylmercurynitrate	(E)	
	113614-08-7	beflubutamid (ISO); (RS)-N-benzyl-2-(α,α,α,4-tetrafluoro-m-tolyoxy)butyramide	(E)	
	136920-10-0	behenamidopropyl-dimethyl-(dihydroxypropyl) ammonium chloride	(E)	
	71626-11-4	benalaxyl (ISO); methyl N-(2,6-dimethylphenyl)-N-(phenylacetyl)-DL-alaninate	(E)	
	3813-05-6	benazolin (ISO); 4-chloro-2,3-dihydro-2-oxo-1,3-benzothiazol-3-ylacetic acid	(E)	
	25059-80-7	benazolin-ethyl; ethyl 4-chloro-2-oxo-2H-benzothiazole-3-acetate	(E)	
	22781-23-3	Bendiocarb	(P,G,E)	
	1861-40-1	Benfluralin	(P,G)	
	82560-54-1	Benfuracarb	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	17804-35-2	Benomyl	(P,E)	2,330
	741-58-2	Bensulide	(G,E)	
	17606-31-4	bensultap (ISO); 1,3-bis(phenylsulfonylthio)-2-(N,N-dimethylamino)propane	(E)	
	25057-89-0	bentazone (ISO); 3-isopropyl-2,1,3-benzothiadiazine-4-one-2,2-dioxide	(E)	
	56-55-3	benz[a]anthracene	(E)	
	205-99-2	benz[e]acephenanthrylene	(E)	
	71-43-2	Benzene	(P,G)	
	243869-48-9	benzenesulfonic acid, 3,3'-(methylenebis((dihydroxyphenylene)azo))bis-, potassium sodium salt; potassium sodium 3-[(E)-(6-{3,4-dihydroxy-2-[(Z)-(3-sulfonatophenyl)diazenyl]benzyl}-2,3-dihydroxyphenyl)diazenyl]benzenesulfonate	(E)	
	92-87-5	Benzidine	(G,E)	
	50-32-8	benzo[a]pyrene; benzo[def]chrysene	(E)	
	192-97-2	benzo[e]pyrene	(E)	
	205-82-3	benzo[j]fluoranthene	(E)	
	207-08-9	benzo[k]fluoranthene	(E)	
	112226-61-6	benzoic acid, N-tert-butyl-N'-(4-chlorobenzoyl)hydrazide	(E)	
	149-30-4	benzothiazole-2-thiol	(E)	
	29104-30-1	Benzoximate	(G)	
	23085-60-1	benzyl 2,4-dibromobutanoate	(E)	
	72850-64-7	benzyl 2-chloro-4-(trifluoromethyl)thiazole-5-carboxylate; flurazole	(E)	
	120-51-4	benzyl benzoate	(E)	
	100-44-7	Benzyl chloride	(P)	
	501-53-1	benzyl chloroformate	(E)	
	67299-45-0	benzyl cis-4-ammonium-4'-toluenesulfonato-1-cyclohexanecarboxylate	(E)	
	1694-09-3	Benzyl violet 4B	(P)	
	113694-52-3	benzyl-2-hydroxydodecyldimethylammonium benzoate	(E)	
	103-83-3	benzyl dimethylamine	(E)	
	122-19-0	Benzyl dimethyloctadecyl ammonium chloride	(P,G)	
	120606-08-8	benzyl-N-(2-(2-methoxyphenoxy)ethyl)amine hydrochloride	(E)	
	102561-46-6	benzyltributylammonium 4-hydroxynaphthalene-1-sulphonate	(E)	
	163269-30-5	Bethoxazin	(G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	149877-41-8	bifenazate (ISO); isopropyl 2-(4-methoxybiphenyl-3-yl)hydrazinecarboxylate	(E)	2,330
	82657-04-3	bifenthrin (ISO); (2-methylbiphenyl-3-yl)methyl rel-(1R,3R)-3-[(1Z)-2-chloro-3,3,3-trifluoroprop-1-en-1-yl]-2,2-dimethylcyclopropanecarboxylate	(E)	
	485-31-4	Binapacryl	(G,E)	
	28434-01-7	bioresmethrin (ISO); (5-benzyl-3-furyl)methyl (1R)-2,2-dimethyl-3-(2-methylprop-1-en-1-yl)cyclopropanecarboxylate	(E)	
	92-52-4	biphenyl; diphenyl	(E)	
	90-41-5	biphenyl-2-ylamine	(E)	
	71957-07-8	bis(.sc.d.sc.-gluconato-O1,O2)nickel	(E)	
	147783-69-5	bis(1,2,2,6,6-pentamethyl-4-piperidinyl) 2-(4-methoxybenzylidene)malonate	(E)	
	31895-22-4	bis(1,2,3-trithiacyclohexyldimethylammonium) oxalate; thiocyclam-oxalate	(E)	
	18230-61-0	bis(1-methylethyl)-dimethoxysilane	(E)	
	62782-03-0	bis(2,2,6,6-tetramethyl-4-piperidyl) succinate	(E)	
	98485-71-3	Bis(2,3-epithiopropyl) disulfide	(G)	
	107667-02-7	Bis(2,4,4-trimethylpentyl)phosphinodithioic acid	(G,E)	
	131-73-7	bis(2,4,6-trinitrophenyl)amine; hexyl	(E)	
	154862-43-8	bis(2,4-dicumylphenyl) neopentyl diphosphite; 3,9-bis[2,4-bis(1-methyl-1-phenylethyl)phenoxy]-2,4,8,10-tetraoxa-3,9-diphosphaspiro[5.5]undecane	(E)	
	145052-34-2	bis(2,6-dimethoxybenzoyl)-2,4,4-trimethylpentylphosphinoxide	(E)	
	62268-47-7	bis(2-ethylhexyl) dithiodiacetate	(E)	
	127474-91-3	bis(2-ethylhexyl) naphthalene-2,6-dicarboxylate	(E)	
	106-20-7	Bis(2-ethylhexyl)amine	(G)	
	52894-02-7	bis(2-ethylhexyl)octylphosphonate	(E)	
	191617-13-7	bis(2-hydroxyethyl)-(2-hydroxypropyl)ammonium acetate	(E)	
	42405-40-3	bis(3,5-di-tert-butylsalicylato-O1,O2)zinc	(E)	
	149057-64-7	Bis(3-dimethylamino-7-hydroxy-8-methyl-5-phenylphenazine) sulfate	(G,E)	
	136210-32-7	bis(4-(1,2-bis(ethoxycarbonyl)ethylamino)-3-methylcyclohexyl)methane	(E)	
	71786-70-4	bis(4-dodecylphenyl)iodonium hexafluoroantimonate	(E)	
	55-55-0	bis(4-hydroxy-N-methylanilinium) sulphate	(E)	
	895-85-2	bis(4-methylbenzoyl)peroxide	(E)	
	10039-54-0	Bis(hydroxylammonium) sulfate	(P,G,E)	
	116633-53-5	bis(N,N',N''-trimethyl-1,4,7-triazacyclononane)-trioxo-dimanganese (IV) di(hexafluorophosphate) monohydrate	(E)	
	618-26-8	bis(N-methyl-N-phenylhydrazine)sulfate	(E)	
	31732-71-5	Bis(tributyltin) meso-2,3-dibromosuccinate	(G)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	4782-29-0	Bis(tributyltin) phthalate	(G)	2,330
	80-43-3	bis(α,α-dimethylbenzyl) peroxide	(E)	
	125051-32-3	bis(η ⁵ -cyclopentadienyl)-bis(2,6-difluoro-3-[pyrrol-1-yl]-phenyl)titanium	(E)	
	130066-57-8	bis[4-(ethenyloxy)butyl] 1,3-benzenedicarboxylate	(E)	
	160236-81-7	bis[tributyl 4-(methylbenzyl)ammonium] 1,5-naphthalenedisulfonate	(E)	
	122-10-1	Bomyl	(G)	
	8011-63-0	bordeauxmixture; reactionproductsofcoppersulphatewithcalciumdihydroxide	(E)	
	84852-15-3	Branched 4-nonylphenol	(P,G,E)	
	151006-62-1	branched hexatriacontane	(E)	
	56073-10-0	Brodifacoum	(G,E)	
	28772-56-7	Bromadiolone	(G,E)	
	63333-35-7	Bromethalin	(G)	
	7726-95-6	Bromine	(P,G,E)	
	79-08-3	bromoacetic acid	(E)	
	108-86-1	bromobenzene	(E)	
	99688-47-8	bromobenzylbromotoluene, reaction mass of isomers	(E)	
	13181-17-4	bromofenoxim (ISO); 3,5-dibromo-4-hydroxybenzaldehyde-O-(2,4-dinitrophenyl)-oxime	(E)	
	75-25-2	bromoform; tribromomethane	(E)	
	2104-96-3	bromophos (ISO); O-4-bromo-2,5-dichlorophenyl O,O-dimethyl phosphorothioate	(E)	
	4824-78-6	Bromophos-ethyl	(G,E)	
	1689-84-5	bromoxynil (ISO); 3,5-dibromo-4-hydroxybenzonitrile; bromoxynil phenol	(E)	
	56634-95-8	bromoxynil heptanoate (ISO); 2,6-dibromo-4-cyanophenyl heptanoate	(E)	
	1689-99-2	bromoxynil octanoate (ISO); 2,6-dibromo-4-cyanophenyl octanoate	(E)	
	52-51-7	Bronopol	(P,G,E)	
	4845-99-2	brucine sulphate	(E)	
	357-57-3	brucine; 2,3-dimethoxystrychnine	(E)	
	5786-97-0	brucinenitrate	(E)	
	8065-36-9	Bufen carb	(G,E)	
	34492-97-2	bunsenite	(E)	
	41483-43-6	bupirimate (ISO); 5-butyl-2-ethylamino-6-methylpyrimidin-4-yl dimethylsulphamate	(E)	
	34681-10-2	butocarboxim (ISO); 3-(methylthio)-2-butanone O-[(methylamino)carbonyl]oxime	(E)	
	138164-12-2	butoxydim (ISO); 5-(3-butyryl-2,4,6-trimethylphenyl)-2-[1-(ethoxyimino)propyl]-3-hydroxycyclohex-2-en-1-one	(E)	
	2426-08-6	butyl glycidyl ether; butyl 2,3-epoxypropyl ether	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	85-68-7	Butylbenzyl phthalate	(P,G,E)	2,330
	7067-44-9	butyltricyclohexylstannane	(E)	
	548-62-9	C.I. Basic Violet 3; 4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride	(E)	
	842-07-9	C.I. Solvent Yellow 14; 1-phenylazo-2-naphthol	(E)	
	119415-07-5	C12-14-tert-alkylamine, methylphosphonic acid salt	(E)	
	68132-19-4	C8-18alkylbis(2-hydroxyethyl)ammonium bis(2-ethylhexyl)phosphate	(E)	
	10124-36-4	Cadmium chloride	(G,E)	
	10108-64-2	Cadmium chloride	(G,E)	
	542-83-6	Cadmium cyanide	(G,E)	
	4464-23-7	Cadmium diformate	(G,E)	
	7790-79-6	cadmium fluoride	(E)	
	7790-80-9	cadmium iodide	(E)	
	1306-19-0	Cadmium oxide	(G,E)	
	1306-23-6	Cadmium sulphide	(G,E)	
	17010-21-8	cadmiumhexafluorosilicate(2-); cadmium fluorosilica	(E)	
	95465-99-9	Cadusafos	(G)	
	13765-19-0	Calcium chromate	(G,E)	
	592-01-8	Calcium cyanide	(G,E)	
	7778-54-3	calcium hypochlorite	E	
	36669-85-9	calcium P,P'-(1-hydroxyethylene)bis(hydrogen phosphonate)dihydrate	(E)	
	1305-99-3	calcium phosphide; tricalcium diphosphide	E	
	1344-81-6	calcium polysulphides	(E)	
	20548-54-3	calcium sulphide	E	
	8001-35-2	Camphechlor	(G,E)	
	2425-06-01	Captafol	(G,E)	
	133-06-2	Captan	(P,G,E)	
	63-25-2	Carbaryl	(P,G,E)	
	10605-21-7	carbendazim (ISO); methyl benzimidazol-2-ylcarbamate	(E)	
	1563-66-2	Carbofuran	(P,G,E)	
	56-23-5	Carbon tetrachloride	(P,G,E)	
	16337-84-1	carbonicacid,nickelsalt	(E)	
	786-19-6	Carbophenothion	(G,E)	
	55285-14-8	Carbosulfan	(P,G,E)	
	128639-02-1	carfentrazone-ethyl (ISO); ethyl (RS)-2-chloro-3-[2-chloro-4-fluoro-5-[4-difluoromethyl-4,5-dihydro-3-methyl-5-oxo-1H-1,2,4-triazol-1-yl]phenyl]propionate	(E)	
	15263-53-3	Cartap	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	15263-52-2	Cartap hydrochloride	(G,E)	2,330
	2439-01-2	Chinomethionat	(P,G,E)	
	15879-93-3	chloralose (INN); (R)-1,2-O-(2,2,2-trichloroethylidene)- α -D-glucofuranose; glucochloralose; anhydroglucochloral	(E)	
	57-74-9	Chlordan	(G,E)	
	143-50-0	chlordecone (ISO); perchloropentacyclo[5,3,0,02,6,03,9,04,8]decan-5-one; decachloropentacyclo[5,2,1,02,6,03,9,05,8]decan-4-one	(E)	
	6164-98-3	Chlordimeform	(G,E)	
	19750-95-9	chlordimeform hydrochloride; N'-(4-chloro-o-tolyl)-N,N-dimethylformamidine monohydrochloride; N2-(4-chloro-o-tolyl)-N1,N1-dimethylformamidine hydorchloride	(E)	
	85-34-7	chlorfenac (ISO); 2,3,6-trichlorophenylacetic acid	(E)	
	122453-73-0	Chlorfenapyr	(P,E)	
	80-06-8	chlorfenethol (ISO); 1,1-bis (4-chlorophenyl) ethanol	(E)	
	14437-17-3	chlorfenprop-methyl; methyl 2-chloro-3-(4-chlorophenyl)propionate	(E)	
	80-33-1	chlorfenson (ISO); 4-chlorophenyl 4-chlorobenzenesulfonate	(E)	
	470-90-6	Chlorfenvinphos	(P,G,E)	
	1698-60-8	chloridazon (ISO); 5-amino-4-chloro-2-phenylpyridazine-3-(2H)-one; pyrazon	(E)	
	7782-50-5	Chlorine	P,E	
	10049-04-4	Chlorine dioxide	(G,E)	
	24934-91-6	Chlormephos	(G,E)	
	107-20-0	chloroacetaldehyde	E	
	79-11-8	Chloroacetic acid	(P,G,E)	
	107-14-2	chloroacetonitrile	(E)	
	79-04-9	chloroacetyl chloride	(E)	
	108-90-7	chlorobenzene	(E)	
	510-15-6	Chlorobenzilate	(G,E)	
	59-50-7	chlorocresol; 4-chloro-m-cresol; 4-chloro-3-methylphenol	(E)	
	3691-35-8	Chlorophacinone	(G,E)	
	25167-80-0	chlorophenol	(E)	
	126-99-8	Chloroprene	(P)	
	1897-45-6	Chlorothalonil	(P,G,E)	
	25168-05-2	chlorotoluene	(E)	
	15545-48-9	chlorotoluron (ISO); 3-(3-chloro-p-tolyl)-1,1-dimethylurea	(E)	
	3091-32-5	chlorotricyclohexylstannane	(E)	
	101-21-3	chlorpropham (ISO); isopropyl 3-chlorocarbanilate	(E)	
	2921-88-2	Chlorpyrifos	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	5598-13-0	chlorpyrifos-methyl (ISO); O, O-dimethyl O-3,5,6-trichloro-2-pyridyl phosphorothioate	(E)	2,330
	64902-72-3	chlorsulfuron (ISO); 2-chloro-N-[[[4-methoxy-6-methyl-1,3,5-triazin-2-yl)amino]carbonyl]benzenesulphonamide	(E)	
	500-28-7	chlorthion; O-(3-chloro-4-nitrophenyl) O,O-dimethyl phosphorothioate	(E)	
	21923-23-9	Chlorthiophos	(G,E)	
	84332-86-5	chlozolate (ISO); ethyl (RS)-3-(3,5-dichlorophenyl)-5-methyl-2,4-dioxo-oxazolidine-5-carboxylate	(E)	
	1333-82-0	Chromic anhydride	(G,E)	
	14977-61-8	chromyl dichloride; chromic oxychloride	(E)	
	218-01-9	chrysene	(E)	
	532-82-1	chrysoidine monohydrochloride; 4-phenylazophenylene-1,3-diamine monohydrochloride	(E)	
	495-54-5	chrysoidine; 4-(phenylazo)benzene-1,3-diamine	(E)	
	79234-33-6	chrysoidineacetate; 4-(phenylazo)benzene-1,3-diamineacetate	(E)	
	83968-67-6	chrysoidinedihydrochloride; 4-(phenylazo)benzene-1,3-diaminedihydrochloride	(E)	
	75660-25-2	chrysoidinemonoacetate; 4-(phenylazo)benzene-1,3-diaminemonoacetate	(E)	
	63681-54-9	chrysoidine-p-dodecylbenzenesulfonate; dodecylbenzenesulfonic acid, compound with 4-(phenylazo)benzene-1,3-diamine(1:1)	(E)	
	84196-22-5	chrysoidinesulfate; bis[4-(phenylazo)benzene-1,3-diamine]sulfate	(E)	
	25402-06-6	cinerin I; 3-(but-2-enyl)-2-methyl-4-oxocyclopent-2-enyl 2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate	(E)	
	121-20-0	cinerin II; 3-(but-2-enyl)-2-methyl-4-oxocyclopent-2-enyl 2,2-dimethyl-3-(3-methoxy-2-methyl-3-oxoprop-1-enyl)cyclopropanecarboxylate	(E)	
	142891-20-1	cinidon ethyl (ISO); ethyl (Z)-2-chloro-3-[2-chloro-5-(cyclohex-1-ene-1,2-dicarboximido)phenyl]acrylate	(E)	
	87818-31-3	cinmethylin (ISO); exo-(±)-1-methyl-2-(2-methylbenzyloxy)-4-isopropyl-7-oxabicyclo(2.2.1)heptane	(E)	
	104860-26-6	cis-1-(3-(4-fluorophenoxy)propyl)-3-methoxy-4-piperidineamine	(E)	
51229-78-8	cis-1-(3-chloroallyl)-3,5,7-triaza-1-azoniaadamantane chloride	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	63645-17-0	cis-1-(3-chloropropyl)-2,6-dimethyl-piperidin hydrochloride	(E)	2,330
	935-79-5	cis-1,2,3,6-tetrahydrophthalicanhydride	(E)	
	7480-35-5	cis-1-amino-2,3-dihydro-1H-inden-2-ol	(E)	
	120807-02-5	cis-1-benzoyl-4-[(4-methylsulfonyl)oxy]-L-proline	(E)	
	156-59-2	cis-dichloroethylene	(E)	
	866-81-9	Citric acid cobalt(2+) (2:3)	(G)	
	18283-82-4	citricacid,ammoniumnickelsalt	(E)	
	22605-92-1	citricacid,nickelsalt	(E)	
	105512-06-9	clodinafop-propargyl (ISO)	(E)	
	210880-92-5	clothianidin (ISO); 3-[(2-chloro-1,3-thiazol-5-yl)methyl]-2-methyl-1-nitroguanidine	(E)	
	7440-48-4	cobalt	(E)	
	513-79-1	cobalt carbonate	(E)	
	71-48-7	cobalt di(acetate)	(E)	
	7646-79-9	cobalt dichloride	(E)	
	10141-05-6	cobalt dinitrate	(E)	
	182442-95-1	Cobalt lithium manganese nickel oxide	(G)	
	1307-96-6	cobalt oxide	(E)	
	10124-43-3	cobalt sulfate	(E)	
	1317-42-6	cobalt sulfide	(E)	
	179986-09-5	coconut oil, reaction products with glycerol esters of 3,5-bis(1,1-dimethylethyl)-4-hydroxybenzenepropanoic acid	(E)	
	144413-22-9	complex reaction mass of Chinese gum rosin post reacted with acrylic acid	(E)	
	125229-74-5	Copolymer of vinyl-alcohol and vinyl acetate partially acetylated with 4-(2-(4-formylphenyl)ethenyl)-1-methylpyridinium methylsulfate	(E)	
	7758-89-6	copper chloride; copper (I) chloride; cuprous chloride	E	
	20427-59-2	copper dihydroxide; copper(II) hydroxide	(E)	
	7758-98-7	copper sulphate	(E)	
	7758-99-8	copper sulphate pentahydrate	(E)	
	1111-67-7	copper thiocyanate	(E)	
	12069-69-1	copper(II) carbonate--copper(II) hydroxide (1:1)	(E)	
	54253-62-2	copper(II) methanesulfonate	(E)	
	1317-38-0	copper(II) oxide	(E)	
	81-82-3	coumachlor (ISO); 3-[1-(4-chlorophenyl)-3-oxobutyl]-4-hydroxycoumarin	(E)	
	117-52-2	coumafuryl (ISO); fumarin; (RS)-3-(1-(2-furyl)-3-oxobutyl)4-hydroxycoumarin; 4-hydroxy-3-[3-oxo-1-(2-furyl) butyl]coumarin	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	56-72-4	coumaphos (ISO); O-3-chloro-4-methylcoumarin-7-yl O,O-diethyl phosphorothioate	(E)	2,330
	5836-29-3	Coumatetralyl	(G,E)	
	8001-58-9	Creosote	P	
	4170-30-3	Crotonaldehyde	(P,G,E)	
	123-73-9	Crotonaldehyde	(G,E)	
	7700-17-6	Crotoxyphos	(G,E)	
	299-86-5	crufomate (ISO); 4-tert-butyl-2-chlorophenyl methyl methylphosphoramidate	(E)	
	15096-52-3	Cryolite	(P,G,E)	
	98-82-8	cumene	(E)	
	21725-46-2	cyanazine (ISO); 2-(4-chloro-6-ethylamino-1,3,5-triazine-2-ylamino)-2-methylpropionitrile	(E)	
	13067-93-1	cyanofenphos (ISO); O-4-cyanophenyl O-ethyl phenylphosphonothioate	(E)	
	506-77-4	Cyanogen chloride	(G)	
	2636-26-2	cyanophos (ISO); O-4-cyanophenyl O,O-dimethyl phosphorothioate	(E)	
	120116-88-3	cyazofamid (ISO); 4-chloro-2-cyano-N,N-dimethyl-5-p-tolylimidazole-1-sulfonamide	(E)	
	113136-77-9	cyclanilide (ISO); 1-(2,4-dichloroanilincarbonyl)cyclopropanecarboxylic acid	(E)	
	5571-36-8	cyclic 3-(1,2-ethanediylacetale)-estra-5(10),9(11)-diene-3,17-dione	(E)	
	4277-06-9	cyclohexadeca-1,9-diene	(E)	
	2550-52-9	cyclohexadecanone	(E)	
	110-82-7	Cyclohexane	(P,E)	
	66-81-9	Cycloheximide	(G,E)	
	3066-71-5	cyclohexyl acrylate	(E)	
	17865-32-6	cyclohexyldimethoxymethylsilane	(E)	
	287-92-3	cyclopentane	(E)	
	68359-37-5	Cyfluthrin	(P,G,E)	
	68085-85-8	Cyhalothrin	(P,G)	
	13121-70-5	Cyhexatin	(G,E)	
	57966-95-7	cymoxanil (ISO); 2-cyano-N-[(ethylamino)carbonyl]-2-(methoxyimino)acetamide	(E)	
	94361-06-5	cyproconazole (ISO); (2RS,3RS;2RS,3SR)-2-(4-chlorophenyl)-3-cyclopropyl-1-(1H-1,2,4-triazol-1-yl)butan-2-ol	(E)	
	121552-61-2	Cyprodinil	(G,E)	
	69581-33-5	Cyprofuram	(G,E)	
75-99-0	dalapon; 2,2-dichloropropionic acid	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	127-20-8	dalapon-sodium;sodium2,2-dichloropropionate	(E)	2,330
	533-74-4	dazomet (ISO); tetrahydro-3,5-dimethyl-1,3,5-thiadiazine-2-thione	(E)	
	50-29-3	DDT	(G,E)	
	52918-63-5	Decamethrin	(P,G,E)	
	334-48-5	decanoic acid	(E)	
	8065-48-3	Demeton	(G,E)	
	8022-00-2	Demeton-methyl	(G)	
	298-03-3	demeton-O (ISO); O,O-diethyl-O-2-ethylthioethyl phosphorothioate	(E)	
	919-86-8	demeton-S-methyl (ISO); S-2-ethylthioethyl dimethyl phosphorothioate	(E)	
	17040-19-6	Demeton-S-methylsulfone	(G,E)	
	13684-56-5	desmedipham (ISO); ethyl 3-phenylcarbamoyloxyphenylcarbamate	(E)	
	1014-69-3	desmetryne (ISO); 6-isopropylamino-2-methylamino-4-methylthio-1,3,5-tria zine	(E)	
	117-81-7	Di(2-ethylhexyl) phthalate	(P,G)	
	120-78-5	di(benzothiazol-2-yl) disulphide	(E)	
	12222-04-7	di(tetramethylammonium)(29H,31H-phthalocyanin-N29,N3 0,N31,N32)disulfonamide disulfonate, cuprate(2-)complex, derivates	(E)	
	80060-09-9	Diafenthuron	(P,G)	
	10311-84-9	Dialifos	(G,E)	
	2303-16-4	di-allate (ISO); S-(2,3-dichloroallyl)-N,N-diisopropylthiocarbamate	(E)	
	131-17-9	diallyl phthalate	(E)	
	25376-45-8	Diaminotoluene	(P,G)	
	23606-32-8	Diamminesilver(1+) nitrate	(G)	
	74195-78-1	diammonium nickel hexacyanoferrate	(E)	
	15699-18-0	diammoniumnickelbis(sulfate)	(E)	
	1303-28-2	diarsenic pentaoxide; arsenic pentoxide; arsenic oxide	(E)	
	1327-53-3	diarsenic trioxide; arsenic trioxide	(E)	
	333-41-5	Diazinon	(P,G,E)	
	53-70-3	dibenz[a,h]anthracene	(E)	
	134164-24-2	dibenzylphenylsulfonium hexafluoroantimonate	(E)	
	74-95-3	dibromomethane	(E)	
	84-74-2	Dibutyl phthalate	(P,G,E)	
	500791-70-8	dibutyl-3-(4-(5-ammonio-2-butyl)benzofuran-3-yl)carbon yl)phenoxy)propyl ammonium oxalate; (5-amino-2-butylbenzofuran-3-yl) [4-(3-dibutylaminopropoxy)phenyl]methanone, dioxalate	(E)	
	683-18-1	dibutyltin dichloride; (DBTC)	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	75113-37-0	dibutyltin hydrogen borate	(E)	2,330
	1918-00-9	dicamba (ISO); 2,5-dichloro-6-methoxybenzoic acid; 3,6-dichloro-2-methoxybenzoic acid	(E)	
	1194-65-6	dichlobenil (ISO); 2,6-dichlorobenzonitrile	(E)	
	97-17-6	Dichlofenthion	(P,G,E)	
	1085-98-9	dichlofluanid (ISO); N-dichlorofluoromethylthio-N',N'-dimethyl-N-phenylsulfa mide	E	
	117-80-6	dichlone (ISO); 2,3-dichloro-1,4-naphthoquinone	(E)	
	76253-60-6	dichloro [(dichlorophenyl)methyl]methylbenzene, reaction mass of isomers; (dichlorophenyl)(dichlorotolyl)methane, reaction mass of isomers (IUPAC)	(E)	
	2782-57-2	dichloro-1,3,5-triazinetrione; dichloroisocyanuric acid	(E)	
	79-43-6	dichloroacetic acid	E	
	79-36-7	dichloroacetyl chloride	E	
	3542-36-7	dichlorodiethyl stannane	(E)	
	97-23-4	dichlorophen (ISO)	(E)	
	62-73-7	Dichlorvos	(P,G,E)	
	13530-68-2	Dichromic acid	(G)	
	24613-89-6	dichromium tris(chromate); chromium III chromate; chromic chromate	(E)	
	75736-33-3	diclobutrazole (ISO); (R*, R*)-(±)-β-[(2,4-dichlorophenyl)methyl]-α-(1,1-dimethyleth yl)-1H-1,2,4-triazole-1-ethanol; (2RS, 3RS)-1-(2,4-dichlorophenyl)-4,4-dimethyl-2-(1H-1,2,4-tria zol-1-yl)pentan-3-ol	(E)	
	51338-27-3	diclofop-methyl (ISO); methyl 2-(4-(2,4-dichlorophenoxy)phenoxy)propionate; methyl (RS)-2-[4-(2,4-dichlorophenoxy)phenoxy]propionate	(E)	
	115-32-2	Dicofol	(P,G,E)	
	1332-65-6	dicopper chloride trihydroxide	(E)	
	1317-39-1	dicopper oxide; copper (I) oxide	(E)	
	66-76-2	dicoumarol; 4,4'-dihydroxy-3,3'-methylenebis(2H-chromen-2-one)	(E)	
	141-66-2	Dicrotophos	(G,E)	
	101-83-7	dicyclohexylamine	(E)	
	126990-35-0	dicyclopentyl dimethoxysilane	(E)	
	7173-51-5	Didecyldimethylammonium chloride	(G)	
	60-57-1	Dieldrin	(G,E)	
	70225-14-8	diethanolamineperfluorooctanesulfonate	(E)	
	72903-27-6	diethyl 1,4-cyclohexanedicarboxylate	(E)	
	162208-27-7	diethyl thiophosphoryl (Z)-(2-aminothiazol-4-yl)methoxyimino acetate	(E)	
	103976-28-9	diethyl[(p-ethoxyanilino)methylene]malonate	(E)	
	141714-54-7	diethyl{ }{4-[1,5,5-tris(4-diethylaminophenyl)penta-2,4-die nylidene]cyclohexa-2,5-dienylidene } } ammonium butyltriphenylborate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	627-44-1	diethylmercury	(E)	2,330
	7397-46-8	diethylmethoxyborane	(E)	
	68479-98-1	diethylmethylbenzenediamine	(E)	
	557-20-0	diethylzinc	(E)	
	56073-07-5	Difenacoum	(G,E)	
	119446-68-3	Difenoconazole	(P,G)	
	104653-34-1	difethialone(ISO); 3-[3-(4'-bromobiphenyl-4-yl)-1,2,3,4-tetrahydronaphthalen-1-yl]-4-hydroxy-2H-1-benzothiopyran-2-one	(E)	
	83164-33-4	diflufenican (ISO); N-(2,4-difluorophenyl)-2-[3-(trifluoromethyl)phenoxy]-3-pyridinecarboxamide	(E)	
	605-50-5	diisopentylphthalate	(E)	
	137398-54-0	Diisopropyl xanthogen polysulphide	(G)	
	83648-84-4	di-L-para-menthene	(E)	
	61432-55-1	dimepiperate (ISO); S-(1-methyl-1-phenylethyl) piperidine-1-carbothioate	(E)	
	10112-91-1	dimercury dichloride; mercurous chloride; calomel	(E)	
	1335-31-5	Dimercury dicyanide oxide	(G,E)	
	50563-36-5	dimethachlor (ISO); 2-chloro-N-(2,6-dimethylphenyl)-N-(2-methoxyethyl)acetamide	(E)	
	163515-14-8	dimethenamid-P (ISO); 2-chloro-N-(2,4-dimethyl-3-thienyl)-N-[(2S)-1-methoxypropyl]acetamide	(E)	
	60-51-5	Dimethoate	(P,G)	
	110488-70-5	dimethomorph (ISO); 4-(3-(4-chlorophenyl)-3-(3,4-dimethoxyphenyl)acryloyl)morpholine	(E)	
	122630-55-1	dimethyl 3,3'-(N-(4-(4-bromo-2,6-dicyanophenylazo)-3-hydroxyphenyl)imino)dipropionate	(E)	
	6914-71-2	dimethylcyclopropane-1,1-dicarboxylate	(E)	
	107-64-2	dimethyldioctadecylammonium chloride; DODMAC	(E)	
	123312-54-9	dimethyldioctadecylammonium hydrogen sulfate	(E)	
	93983-68-7	dimethylhexanoicacidnickelsalt	(E)	
	593-74-8	dimethylmercury	(E)	
	62-75-9	dimethylnitrosoamine; N-nitrosodimethylamine	(E)	
	544-97-8	dimethylzinc	(E)	
	1468-37-7	dimexano (ISO); bis(methoxythiocarbonyl) disulphide	(E)	
	149961-52-4	dimoxystrobin (ISO); (E)-2-(methoxyimino)-N-methyl-2-[α-(2,5-xylyloxy)-o-tolyl]acetamide	(E)	
	142-96-1	di-n-butyl ether; dibutyl ether	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	131-89-5	Dinex	(G,E)	2,330
	14874-78-3	dinickel hexacyanoferrate	(E)	
	1314-06-3	dinickel trioxide	(E)	
	12007-01-1	dinickelboride	(E)	
	14448-18-1	dinickeldiphosphate	(E)	
	13775-54-7	dinickelorthosilicate	(E)	
	12035-64-2	dinickelphosphide	(E)	
	12059-14-2	dinickelsilicide	(E)	
	76714-88-0	diniconazole (ISO); (E)-β-[(2,4-dichlorophenyl)methylene]-α-(1,1-dimethylethyl)-1H-1,2,4-triazol-1-ethanol; (E)-(RS)-1-(2,4-dichlorophenyl)-4,4-dimethyl-2-(1H-1,2,4-triazol-1-yl)pent-1-en-3-ol	(E)	
	25154-54-5	dinitrobenzene	(E)	
	25550-58-7	dinitrophenol (reaction mass of isomers)	(E)	
	25321-14-6	Dinitrotoluene	(P,E)	
	973-21-7	Dinobuton	(G,E)	
	39300-45-3	Dinocap	(P,G,E)	
	63919-26-6	dinocton; reaction mass of isomers: methyl 2-octyl-4,6-dinitrophenyl carbonate, methyl 4-octyl-2,6-dinitrophenyl carbonate	(E)	
	7585-14-0	di-n-octylaluminium iodide	(E)	
	4097-36-3	dinosam (ISO); 2-(1-methylbutyl)-4,6-dinitrophenol	(E)	
	88-85-7	Dinoseb	(P,G,E)	
	1420-07-1	Dinoterb	(G,E)	
	131-18-0	di-n-pentylphthalate	(E)	
	3811-49-2	Dioxabenzofos	(G,E)	
	6988-21-2	Dioxacarb	(G,E)	
	78-34-2	Dioxathion	(G,E)	
	138-86-3	dipentene; limonene	(E)	
	82-66-6	Diphacinone	(G)	
	957-51-7	diphenamid (ISO); N,N-dimethyl-2,2-diphenylacetamide	(E)	
	79463-77-7	diphenoxymethylenecyanamide	(E)	
	32534-81-9	diphenyl ether, pentabromo derivative pentabromodiphenyl ether	(E)	
	68156-13-8	Diphenyl[(phenylthio)phenyl]sulfonium hexafluorophosphate(1-)	(G)	
	122-39-4	diphenylamine	(E)	
	19372-20-4	diphosphoricacid,nickel(II)salt	(E)	
	1314-80-3	diphosphorus pentasulphide; phosphorus pentasulphide	E	
	2844-92-0	dipicrylamine, ammonium salt	(E)	
	1312-73-8	dipotassium sulphide; potassium sulphide	E	
	83-59-0	dipropyl 6,7-methylenedioxy-1,2,3,4-tetrahydro-3-methylnaphthalene-1,2-dicarboxylate; propylisome	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	85-00-7	Diquat dibromide	(P,G,E)	2,330
	4032-26-2	diquatdichloride	(E)	
	10294-26-5	Disilver(1+) sulfate	(G)	
	13465-98-0	Disilver(1+) sulfite	(G)	
	85153-93-1	disodium 1-amino-4-(4-benzenesulphonamido-3-sulphonatoanilino) anthraquinone-2-sulphonate	(E)	
	6527-62-4	disodium 5-((4-((4-chloro-3-sulfonatophenyl)azo)-1-naphthyl)azo)-8 -(phenylamino)-1-naphthalenesulfonate	(E)	
	120029-06-3	disodium 7-((4,6-bis(3-diethylaminopropylamino)-1,3,5-triazine-2-y l)amino)-4-hydroxy-3-(4-(4-sulfonatophenylazo)phenylazo) -2-naphthalene sulfonate	(E)	
	1313-82-2	disodium sulfide; sodium sulfide	E	
	97-77-8	disulfiram; tetraethylthiuramdisulfide	(E)	
	298-04-4	Disulfoton	(G,E)	
	125078-60-6	di-tert-(C12-14)-alkylammonium 2-benzothiazolylthiosuccinate	(E)	
	3347-22-6	Dithianone	(P,G,E)	
	97886-45-8	Dithiopyr	(P,G)	
	330-54-1	diuron (ISO); 3-(3,4-dichlorophenyl)-1,1-dimethylurea	(E)	
	1314-62-1	divanadium pentaoxide; vanadium pentoxide	(E)	
	65232-89-5	divanadyl pyrophosphate	(E)	
	5989-27-5	d-Limonene	(G,E)	
	534-52-1	DNOC	(P,G,E)	
	2385-85-5	dodecachloropentacyclo[5.2.1.02,6.03,9.05,8]decane; mirex	(E)	
	136897-58-0	dodecanamide, N,N'-(9,9',10,10'-tetrahydro-9,9',10,10'-tetraoxo(1,1'-bian thracene)-4,4'-diyl)bis-	(E)	
	70950-45-7	dodecyl 3-(2-(3-benzyl-4-ethoxy-2,5-dioximidazolidin-1-yl)-3-(4 -methoxybenzoyl)acetamido)-4-chlorobenzoate	(E)	
	92683-20-0	dodecyl 3-(2-(3-benzyl-4-ethoxy-2,5-dioximidazolidin-1-yl)-4,4- dimethyl-3-oxovaleramido)-4-chlorobenzoate	(E)	
	6195-20-6	dodecyl 3-amino-4-chlorobenzoate	(E)	
	142-90-5	dodecyl methacrylate	(E)	
	119530-69-7	Dodecyl or tetradecyl N-(2,2,6,6-tetramethyl-4-piperidiny)-β-alanine	(G)	
	119530-70-0	Dodecyl or tetradecyl N-(2,2,6,6-tetramethyl-4-piperidiny)-β-lanine	(G)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	27460-02-2	dodecyldiphenyl phosphate	(E)	2,330
	104051-92-5	dodecyl- ω -(C5/C6-cycloalkyl)alkyl carboxylate	(E)	
	1593-77-7	dodemorph (ISO); 4-cyclododecyl-2,6-dimethylmorpholine	(E)	
	31717-87-0	dodemorph acetate; 4-cyclododecyl-2,6-dimethylmorpholin-4-ium acetate	(E)	
	2439-10-3	Dodine	(P,G,E)	
	5707-69-7	Drazoxolon	(G,E)	
	17109-49-8	Edifenphos	(P,G,E)	
	15121-89-8	E-ethyl-4-oxo-4-phenylcrotonate	(E)	
	119791-41-2	Emamectin	(G)	
	115-29-7	Endosulfan	(P,G,E)	
	72-20-8	Endrin	(G,E)	
	2104-64-5	EPN	(P,G,E)	
	133855-98-8	epoxiconazole (ISO); (2RS,3SR)-3-(2-chlorophenyl)-2-(4-fluorophenyl)-[(1H-1,2,4-triazol-1-yl)methyl]oxirane	(E)	
	136-25-4	erbon (ISO); 2-(2,4,5-trichlorophenoxy)ethyl 2,2-dichloropropionate	(E)	
	13127-18-9	erythromycin A9-oxime (E); (3R,4S,5S,6R,7R,9R,11R,12R,13S,14R)-4-(((2,6-didesoxy-3-C-methyl-3-O-methyl- α -L-ribo-hexopiranosyl)oxy)-14-ethyl-7,12,13-trihydroxy-3,5,7,9,11,13-hexamethyl-6-((3,4,6-tridesoxy-3-dimethylamino- β -D-xyllohexapiranosyl)oxy)oxacyclotetradecan-2-ona-10-oxime (E)	(E)	
	84030-86-4	esbiothrin:(RS)-3-allyl-2-methyl-4-oxocyclopent-2-enyl(1R,3R)-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropane carboxylate	(E)	
	66230-04-4	Esfenvalerate	(G,E)	
	75-08-1	ethanethiol; ethyl mercaptan	(E)	
	16672-87-0	ethephon; 2-chloroethylphosphonic acid	(E)	
	30043-49-3	ethidimuron (ISO); 1-(5-ethylsulphonyl-1,3,4-thiadiazol-2-yl)-1,3-dimethylurea	(E)	
	29973-13-5	Ethiofencarb	(G,E)	
	563-12-2	Ethion	(P,G,E)	
	26225-79-6	ethofumesate (ISO); (\pm)-2-ethoxy-2,3-dihydro-3,3-dimethylbenzofuran-5-yl methanesulfonate	(E)	
	13194-48-4	Ethoprophos	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	126801-58-9	ethoxysulfuron (ISO); 1-(4,6-dimethoxypyrimidin-2-yl)-3-(2-ethoxyphenoxy-sulfonyl)urea	(E)	2,330
	147379-38-2	ethyl (2-acetylamino-5-fluoro-4-isothiocyanatophenoxy)acetate	(E)	
	122665-86-5	ethyl (3-cyanomethyl-3,4-dihydro-4-oxophthalazin-1-yl)acetate	(E)	
	103112-35-2	ethyl 1-(2,4-dichlorophenyl)-5-(trichloromethyl)-1H-1,2,4-triazole-3-carboxylate	(E)	
	100501-62-0	ethyl 1-ethyl-6,7,8-trifluoro-1,4-dihydro-4-oxoquinoline-3-carboxylate	(E)	
	133481-10-4	ethyl 2-(1-cyanocyclohexyl)acetate	(E)	
	60658-04-0	ethyl 2-(3-benzoylphenyl)propanoate	(E)	
	39562-16-8	ethyl 2-(3-nitrobenzylidene)acetoacetate	(E)	
	132584-17-9	ethyl 2-(4-phenoxyphenyl)lactate	(E)	
	66441-23-4	ethyl 2-[4-[(6-chlorobenzoxazol-2-yl)oxy]phenoxy]propionate; fenoxaprop-ethyl	(E)	
	221452-67-1	ethyl 2-{[3-acetylamino-4-(6-bromo-2-methyl-1,3-dioxo-2,3-dihydro-1H-isoindol-5-ylazo)phenyl]ethylamino}propionate	(E)	
	2511-00-4	ethyl 2-cyclohexylpropionate	(E)	
	67567-23-1	ethyl 3,3-bis(tert-pentylperoxy)butyrate	(E)	
	163520-33-0	Ethyl 5,5-diphenyl-2-isoxazoline-3-carboxylate	(G,E)	
	1070-64-0	ethyl 6,8-dichlorooctanoate	(E)	
	158585-86-5	ethyl 6,8-difluoro-1-(formylmethylamino)-1,4-dihydro-7-(4-methyl)piperazin-1-yl)-4-oxo-quinoline-3-carboxylate	(E)	
	100491-29-0	ethyl 7-chloro-1-(2,4-difluorophenyl)-6-fluoro-1,4-dihydro-4-oxo-1,8-naphthyridine-3-carboxylate	(E)	
	140-88-5	Ethyl acrylate	(P)	
	75-00-3	Ethyl chloride	(P,G,E)	
	105-39-5	ethyl chloroacetate	E	
	67914-69-6	ethyl cis-4-[4-[[2-(2,4-dichlorophenyl)-2-(1H-imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]piperazine-1-carboxylate	(E)	
	125630-94-6	ethyl N-(5-chloro-3-(4-(diethylamino)-2-methylphenylimino)-4-methyl-6-oxo-1,4-cyclohexadienyl)carbamate	(E)	
	60372-77-2	ethyl N2-dodecanoyl-.sc.l.sc.-argininate hydrochloride	E	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	22212-55-1	ethyl N-benzoyl-N-(3,4-dichlorophenyl)-DL-alaninate; benzoylprop-ethyl (ISO)	(E)	2,330
	52460-86-3	ethyl-2-chloro-2,2-diphenylacetate	(E)	
	151-56-4	ethyleneimine; aziridine	(E)	
	71720-48-4	ethylhydrogensulfate,nickel(II)salt	(E)	
	1530-32-1	Ethyltriphenyl phosphonium bromide	(G)	
	6746-94-7	ethynyl cyclopropane	(E)	
	80844-07-1	etofenprox (ISO); 2-(4-ethoxyphenyl)-2-methylpropyl 3-phenoxybenzyl ether	(E)	
	153233-91-1	etoxazol (ISO); (RS)-5-tert-butyl-2-[2-(2,6-difluorophenyl)-4,5-dihydro-1,3-oxazol-4-yl]phenetole	(E)	
	38260-54-7	etrimfos (ISO); O-6-ethoxy-2-ethylpyrimidin-4-yl O,O-dimethylphosphorothioate	(E)	
	131807-57-3	Famoxadone	(G,E)	
	206565-89-1	Fatty acids, C18-unsatd., dimers, reaction product with 1-piperazineethanamine and tall-oil fatty acid	(G,E)	
	91697-41-5	fattyacids,C6-19-branched,nickelsalts	(E)	
	84776-45-4	fattyacids,C8-18andC18-unsaturated,nickelsalts	(E)	
	140-56-7	fenaminosulf (ISO); sodium 4-dimethylaminobenzenediazosulphonate	(E)	
	22224-92-6	Fenamiphos	(G,E)	
	60168-88-9	fenarimol (ISO); 2,4'-dichloro-α-(pyrimidin-5-yl)benzhydryl alcohol	(E)	
	14255-88-0	fenazaflor (ISO); phenyl 5,6-dichloro-2-trifluoromethylbenzimidazole-1-carboxylate	(E)	
	120928-09-8	Fenazaquin	(G,E)	
	114369-43-6	fenbuconazole (ISO); 4-(4-chlorophenyl)-2-phenyl-2-[(1H-1,2,4-triazol-1-yl)methyl]butanenitrile	(E)	
	13356-08-6	Fenbutatin oxide	(P,G,E)	
	299-84-3	fenchlorphos (ISO); O,O-dimethyl O-2,4,5-trichlorophenyl phosphorothioate	(E)	
	126833-17-8	fenhexamid (ISO); N-(2,3-dichlor-4-hydroxyphenyl)-1-methylcyclohexancarb oxamid	(E)	
	122-14-5	Fenitrothion	(P,G,E)	
	3766-81-2	fenobucarb (ISO); 2-butylphenyl methylcarbamate	(E)	
	93-72-1	fenoprop (ISO); 2-(2,4,5-trichlorophenoxy)propionic acid	(E)	
	62850-32-2	Fenothiocarb	(P,G)	
	71283-80-2	Fenoxaprop-p	(G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	72490-01-8	fenoxycarb (ISO); ethyl [2-(4-phenoxyphenoxy)ethyl]carbamate	(E)	2,330
	39515-41-8	fenpropathrin (ISO); α-cyano-3-phenoxybenzyl 2,2,3,3-tetramethylcyclopropanecarboxylate	(E)	
	67564-91-4	fenpropimorph (ISO); cis-4-[3-(p-tert-butylphenyl)-2-methylpropyl]-2,6-dimethylmorpholine	(E)	
	473798-59-3	fenpyrazamine (ISO); S-allyl 5-amino-2-isopropyl-4-(2-methylphenyl)-3-oxo-2,3-dihydro-1H-pyrazole-1-carbothioate	(E)	
	134098-61-6	Fenpyroximate	(G,E)	
	80-38-6	fenson (ISO); 4-chlorophenyl benzenesulphonate	(E)	
	115-90-2	Fensulfotion	(G,E)	
	55-38-9	Fenthion	(P,G,E)	
	51630-58-1	Fenvalerate	(P,G)	
	14484-64-1	ferbam (ISO); iron tris(dimethyldithiocarbamate)	(E)	
	120068-37-3	Fipronil	(P,G,E)	
	104040-78-0	flazasulfuron (ISO); 1-(4,6-dimethoxypyrimidin-2-yl)-3-(3-trifluoromethyl-2-pyridylsulfonyl)urea	(E)	
	90035-08-8	Flocoumafen	(G,E)	
	145701-23-1	florasulam (ISO); 2',6',8-trifluoro-5-methoxy-5-triazolo[1,5-c]; pyrimidine-2-sulfonanilide	(E)	
	69806-50-4	fluazifop-butyl (ISO); butyl (RS)-2-[4-(5-trifluoromethyl-2-pyridyloxy)phenoxy]propionate	(E)	
	79241-46-6	fluazifop-P-butyl (ISO); butyl (R)-2-[4-(5-trifluoromethyl-2-pyridyloxy)phenoxy]propionate	(E)	
	79622-59-6	Fluazinam	(P,G,E)	
	37893-02-0	flubenzimine (ISO); N-[3-phenyl-4,5-bis[(trifluoromethyl)imino]thiazolidin-2-ylidene]aniline	(E)	
	70124-77-5	Flucythrinate	(G)	
	131341-86-1	Fludioxonil	(G)	
142459-58-3	flufenacet (ISO); N-(4-fluorophenyl)-N-isopropyl-2-(5-trifluoromethyl-[1,3,4]thiadiazol-2-yloxy)acetamide	(E)		
101463-69-8	flufenoxuron (ISO); 1-(4-(2-chloro-α,α,α-p-trifluorotolyloxy)-2-fluorophenyl)-3-(2,6-difluorobenzoyl)urea	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	62924-70-3	flumetralin (ISO); N-(2-chloro-6-fluorobenzyl)-N-ethyl- α,α,α -trifluoro-2,6-dinitro-p-toluidine	(E)	2,330
	103361-09-7	flumioxazin (ISO); 2-[7-fluoro-3-oxo-4-(prop-2-yn-1-yl)-3,4-dihydro-2H-1,4-benzoxazin-6-yl]-4,5,6,7-tetrahydro-1H-isoindole-1,3(2H)-dione	(E)	
	658066-35-4	fluopyram (ISO); N-{2-[3-chloro-5-(trifluoromethyl)pyridin-2-yl]ethyl}-2-(trifluoromethyl)benzamide	(E)	
	144-49-0	Fluoroacetic acid	(G,E)	
	20153-50-8	fluorotrihexylstannane	(E)	
	20153-49-5	fluorotripentylstannane	(E)	
	144740-54-5	flupyrsulfuron-methyl-sodium (ISO); methyl 2-[[[4,6-dimethoxypyrimidin-2-ylcarbamoyl]sulfamoyl]-6-trifluoromethyl]nicotinate, monosodium salt	(E)	
	136426-54-5	Fluquinconazole	(G,E)	
	467-69-6	flurenol (ISO); 9-hydroxy-9H-fluorene-9-carboxylic acid	(E)	
	69377-81-7	fluroxypyr (ISO); 4-amino-3,5-dichloro-6-fluoro-2-pyridyloxyacetic acid	(E)	
	154486-27-8	fluroxypyr-butometyl(ISO);2-butoxy-1-methylethyl,O-(4-amino-3,5-dichloro-6-fluoro-2-pyridyloxy)acetate	(E)	
	81406-37-3	fluroxypyr-meptyl (ISO); methylheptyl, O-(4-amino-3,5-dichloro-6-fluoro-2-pyridyloxy) acetate	(E)	
	96525-23-4	flurtamone (ISO); (RS)-5-methylamino-2-phenyl-4-(α,α,α -trifluoro-m-tolyl)furan-3(2H)-one	(E)	
	85509-19-9	flusilazole (ISO); bis(4-fluorophenyl)(methyl)(1H-1,2,4-triazol-1-ylmethyl)silane	(E)	
	106917-52-6	Flusulfamide	(P,G)	
	69409-94-5	Fluvalinate	(P,G)	
	133-07-3	Folpet	(P,G,E)	
	944-22-9	Fonofos	(P,G,E)	
	68157-60-8	forchlorfenuron (ISO); 1-(2-chloro-4-pyridyl)-3-phenylurea	(E)	
	50-00-0	Formaldehyde	(P,G)	
	57214-10-5	Formaldehyde polymer with 1,3-benzene dimethanamine and phenol	(G)	
	22259-30-9	Formetanate	(G,E)	
	23422-53-9	formetanate hydrochloride; 3-(N,N-dimethylaminomethyleneamino)phenyl N-methylcarbamate	(E)	
	68134-59-8	formicacid,coppernickelsalt	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	15843-02-4	formicacid,nickelsalt	(E)	2,330
	98886-44-3	Fosthiazate	(P,G,E)	
	3878-19-1	fuberidazole (ISO); 2-(2-furyl)-1H-benzimidazole	(E)	
	57646-30-7	furalaxyl (ISO); methyl N-(2,6-dimethylphenyl)-N-(2-furylcarbonyl)-Dl-alaninate	(E)	
	110-00-9	furan	(E)	
	65907-30-4	Furathiocarb	(P,G,E)	
	60568-05-0	furmecyclox (ISO); N-cyclohexyl-N-methoxy-2,5-dimethyl-3-furamide	(E)	
	51285-81-5	gadolinium(III)sulfite trihydrate	(E)	
	111-30-8	Glutaraldehyde	(P,G,E)	
	55-63-0	glycerol trinitrate; nitroglycerine	(E)	
	1071-83-6	glyphosate (ISO); N-(phosphonomethyl)glycine	(E)	
	81591-81-3	glyphosate-trimesium; glyphosate-trimethylsulfonium	(E)	
	13516-27-3	Guazatine	(P,G)	
	108173-90-6	Guazatine	(G,E)	
	111872-58-3	Halfenprox	(P,G)	
	16079-88-2	Halogenated hydantoin	(P,G)	
	87237-48-7	haloxyfop-etotyl (ISO); 2-ethoxyethyl 2-(4-(3-chloro-5-trifluoromethyl-2-pyridyloxy)phenoxy)propionate; haloxyfop-(2-ethoxyethyl)	(E)	
	608-73-1	HCH	(G)	
	58-89-9	HCH	(G,E)	
	319-86-8	HCH	(G)	
	76-44-8	Heptachlor	(G,E)	
	1024-57-3	heptachlor epoxide; 2,3-epoxy-1,4,5,6,7,8,8-heptachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane	(E)	
	142-82-5	heptane; n-heptane	(E)	
	23560-59-0	Heptenophos	(G,E)	
	116-16-5	hexachloroacetone	(E)	
	118-74-1	hexachlorobenzene	(E)	
	77-47-4	Hexachlorocyclopentadiene	(P,G,E)	
	67-72-1	Hexachloroethane	P	
	79983-71-4	hexaconazole (ISO); (RS)-2-(2,4-dichlorophenyl)-1-(1H-1,2,4-triazol-1-yl)hexan-2-ol	(E)	
	210706-50-6	hexadecyl 3-[2-(5,5-dimethyl-2,4-dioxo-1,3-oxazolidin-3-yl)-4,4-dimethyl-3-oxovaleramido]-4-isopropoxybenzoate	(E)	
	168689-49-4	hexadecyl 4-chloro-3-[2-(5,5-dimethyl-2,4-dioxo-1,3-oxazolidin-3-yl)-4,4-dimethyl-3-oxopentamido]benzoate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	869795-96-0	Hexahydro-2-oxo-3,5-methano-2H-cyclopenta[b]furan-6-ylchloroacetate	(G)	2,330
	124537-30-0	hexakis(tetramethylammonium) 4,4'-vinylenebis((3-sulfonato-4,1-phenylene)imino(6-morpholino-1,3,5-triazine-4,2-diyl)imino)bis(5-hydroxy-6-phenylazonaphthalene-2,7-disulfonate)	(E)	
	107-83-5	hexane(containing<5%n-hexane(203-777-6));2-methylpentane	(E)	
	25637-27-8	hexapentyldistannoxane	(E)	
	82027-60-9	hexasodium [4,4''-azoxybis(2,2'-disulfonatostilbene-4,4'-diylazo)]-bis[5'-sulfonatobenzene-2,2'-diolato-O(2),O(2),N(1)]-copper(II)	(E)	
	89797-03-5	hexasodium 1,1'-[(1-amino-8-hydroxy-3,6-disulfonate-2,7-naphthalenediyl)bis(azo(4-sulfonate-1,3-phenyl)imino[6-[(4-chloro-3-sulfonatophenyl)amino]-1,3,5-triazin-2,4-diyl]]]bis[3-carboxypyridinium] dihydroxide	(E)	
	12141-67-2	hexasodium tungstate hydrate	(E)	
	51235-04-2	hexazinone (ISO); 3-cyclohexyl-6-dimethylamino-1-methyl-1,2,3,4-tetrahydro-1,3,5-triazine-2,4-dione	(E)	
	302776-68-7	hexyl 2-(1-(diethylaminohydroxyphenyl)methanoyl)benzoate	(E)	
	2499-95-8	hexyl acrylate	(E)	
	78587-05-0	hexythiazox (ISO); trans-5-(4-chlorophenyl)-N-cyclohexyl-4-methyl-2-oxo-3-thiazolidine-carboxamide	(E)	
	302-01-2	Hydrazine	(P,G,E)	
	7803-57-8	Hydrazine hydrate	(P,G)	
	10034-93-2	Hydrazine sulfate	(P)	
	122-66-7	hydrazobenzene; 1,2-diphenylhydrazine	(E)	
	74-90-8	Hydrogen cyanide	(P,G,E)	
	7783-06-4	Hydrogen sulfide	(P,E)	
	123-31-9	Hydroquinone	(P,G,E)	
	113036-91-2	hydroxo(2-(benzenesulfonamido)benzoato)zinc(II)	(E)	
	151841-65-5	hydroxy aluminium bis(2,4,8,10-tetra-tert-butyl-6-hydroxy-12H-dibenzo[d,g][1.3.2]dioxaphosphocin-6-oxide)	(E)	
	61420-92-6	hydroxydisulfito platinum(II) acid	(E)	
	7803-49-8	Hydroxylamine	(P,G,E)	
	53933-48-5	hydroxylamine4-methylbenzenesulfonate	E	
	19098-16-9	hydroxylaminedihydrogenphosphate	E	
	20845-01-6	hydroxylaminephosphate	E	
	5470-11-1	Hydroxylammonium chloride	(P,G,E)	
	10046-00-1	hydroxylammonium hydrogensulfate; hydroxylamine sulfate(1:1)	E	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	13465-08-2	hydroxylammonium nitrate	(E)	2,330
	10004-44-1	hymexazol (ISO); 3-hydroxy-5-methylisoxazole	(E)	
	35554-44-0	imazalil (ISO); 1-[2-(allyloxy)-2-(2,4-dichlorophenyl)ethyl]-1H-imidazole	(E)	
	58594-72-2	imazalil sulphate (ISO) powder; 1-[2-(allyloxy)ethyl-2-(2,4-dichlorophenyl)]-1H-imidazolium hydrogen sulphate	(E)	
	114311-32-9	imazamox (ISO); (RS)-2-(4-isopropyl-4-methyl-5-oxo-2-imidazolin-2-yl)-5-methoxymethylnicotinic acid	(E)	
	81334-34-1	imazapyr (ISO); 2-[4,5-dihydro-4-methyl-4-(1-methylethyl)-5-oxo-1H-imidazol-2-yl]-3-pyridine carboxylate	(E)	
	86598-92-7	Imibenconazole	P	
	138261-41-3	imidacloprid (ISO); 1-(6-chloropyridin-3-ylmethyl)-N-nitroimidazolidin-2-ylid enamine	(E)	
	173584-44-6	Indoxacarb	(G,E)	
	7553-56-2	iodine	E	
	144550-36-7	iodosulfuron-methyl-sodium; sodium ({[5-iodo-2-(methoxycarbonyl)phenyl]sulfonyl } carbamoyl) (4-methoxy-6-methyl-1,3,5-triazin-2-yl)azanide	(E)	
	1689-83-4	Ioxynil	(G,E)	
	3861-47-0	ioxynil octanoate (ISO); 4-cyano-2,6-diiodophenyl octanoate	(E)	
	26087-47-8	Iprobenfos	(P,G,E)	
	36734-19-7	iprodone (ISO); 3-(3,5-dichlorophenyl)-2,4-dioxo-N-isopropylimidazolidin e-1-carboxamide	(E)	
	478945-46-9	Iron(1+),chloro[rel-1,5-dimethyl(1R,2S,4R,5S)-9,9-dihydrox y-3-methyl-2,4-di(2-pyridinyl-κN)-7-[(2-pyridinyl-κN)met hyl]-3,7-diazabicyclo[3.3.1]nonane-1,5-dicarboxylate-κN3 , κN7]-, chloride (1:1),(OC-6-63)-	(G)	
	42509-80-8	Isazofos	(G,E)	
	118832-72-7	iso(C10-C14)alkyl (3,5-di-tert-butyl-4-hydroxyphenyl)methylthioacetate	(E)	
	297-78-9	Isobenzan	(G,E)	
	100181-71-3	isobutyl 3,4-epoxybutyrate	(E)	
	97-86-9	isobutyl methacrylate	E	
	148348-13-4	isobutylidene-(2-(2-isopropyl-4,4-dimethyloxazolidine-3-y l)-1,1-dimethylethyl)amine	(E)	
	465-73-6	isodrin; (1α,4α,4aβ,5β,8β,8aβ)-1,2,3,4,10,10-hexachloro-1,4,4a,5,8 ,8a-hexahydro-1,4:5,8-dimethanonaphthalene	(E)	
	25311-71-1	Isofenphos	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	31394-54-4	isoheptane	(E)	2,330
	26635-64-3	isooctane	(E)	
	29590-42-9	isooctyl acrylate	(E)	
	78-78-4	isopentane; 2-methylbutane	(E)	
	4098-71-9	Isophorone diisocyanate	(P,G,E)	
	78-79-5	isoprene (stabilised); 2-methyl-1,3-butadiene	(E)	
	2631-40-5	isoprocarb (ISO); 2-isopropylphenyl N-methylcarbamate	(E)	
	34123-59-6	isoproturon (ISO); 3-(4-isopropylphenyl)-1,1-dimethylurea	(E)	
	82558-50-7	isoxaben (ISO); N-[3-(1-ethyl-1-methylpropyl)-1,2-oxazol-5-yl]-2,6-dimethoxybenzamide	(E)	
	141112-29-0	isoxaflutole (ISO); 5-cyclopropyl-1,2-oxazol-4-yl α,α,α-trifluoro-2-mesityl-p-tolyl ketone	(E)	
	18854-01-8	Isoxathion	(P,G,E)	
	4234-79-1	kelevan (ISO); ethyl 5-(perchloro-5-hydroxypentacyclo[5,3,0,02,6,03,9,04,8]decane-5-yl)-4-oxopentanoate; ethyl 5-(1,2,3,5,6,7,8,9,10,10-decachloro-4-hydroxypentacyclo(5,2,1,02,6,03,9,05,8)dec-4-yl)-4-oxovalerate	(E)	
	65277-42-1	ketoconazole; 1-[4-[4-[(2SR,4RS)-2-(2,4-dichlorophenyl)-2-(imidazol-1-ylmethyl)-1,3-dioxolan-4-yl]methoxy]phenyl]piperazin-1-yl]ethanone	(E)	
	143390-89-0	kresoxim-methyl (ISO); methyl (E)-2-methoxyimino-[2-(o-tolyloxymethyl)phenyl]acetate	(E)	
	91465-08-6	lambda-cyhalothrin (ISO); reaction mass of (S)-α-cyano-3-phenoxybenzyl(Z)-(1R)-cis-3-(2-chloro-3,3,3-trifluoropropenyl)-2,2-dimethylcyclopropanecarboxylate and (R)-α-cyano-3-phenoxybenzyl (Z)-(1S)-cis-3-(2-chloro-3,3,3-trifluoropropenyl)-2,2-dimethylcyclopropanecarboxylate (1:1)	(E)	
	15245-44-0	Lead 2,4,6-trinitroresorcinoxide	(G,E)	
	1335-32-6	Lead acetate	(G,E)	
	13424-46-9	Lead azide	(G,E)	
	7758-97-6	Lead chromate	(G,E)	
	12656-85-8	lead chromate molybdate sulfate red; C.I. Pigment Red 104; [This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77605.]	(E)	
301-04-2	lead di(acetate)	(E)		
25808-74-6	lead hexafluorosilicate	(E)		
7784-40-9	lead hydrogen arsenate	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	1344-37-2	lead sulfochromate yellow; C.I. Pigment Yellow 34; [This substance is identified in the Colour Index by Colour Index Constitution Number, C.I. 77603.]	(E)	2,330
	2164-08-1	lenacil (ISO); 3-cyclohexyl-6,7-dihydro-1H-cyclopenta[d]pyrimidine-2,4(3H,5H)-dione	(E)	
	21609-90-5	Leptophos	(G,E)	
	330-55-2	Linuron	(P,G,E)	
	125328-86-1	lithium 1-amino-4-(4-tert-butylanilino)anthraquinone-2-sulfonate	(E)	
	111337-53-2	lithium 3-oxo-1,2(2H)-benzothiazol-2-ide	(E)	
	171611-11-3	Lithium bis(fluorosulfonyl)imide	(G)	
	24389-25-1	Lithium difluorophosphate	(G)	
	7789-24-4	Lithium fluoride	(G)	
	149626-00-6	lithium sodium (2-(((5-((2,5-dichlorophenyl)azo)-2-hydroxyphenyl)methylene)amino)benzoato(2-)))(2-((4,5-dihydro-3-methyl-5-oxo-1-phenyl-1H-pyrazol-4-yl)azo)-5-sulfobenzoato(3-)) chromate(2-)	(E)	
	149564-66-9	lithium sodium (4-((5-chloro-2-hydroxyphenyl)azo)-2,4-dihydro-5-methyl-3H-pyrazol-3-onato(2-))(3-((4,5-dihydro-3-methyl-1-(4-methylphenyl)-5-oxo-1H-pyrazol-4-yl)azo)-4-hydroxy-5-nitrobenzenesulfonato(3-)) chromate(2-)	(E)	
	29457-72-5	lithiumperfluorooctanesulfonate;lithiumheptadecafluorooctanesulfonate	(E)	
	103055-07-8	lufenuron (ISO); N-[2,5-dichloro-4-(1,1,2,3,3,3-hexafluoropropoxy)-phenyl-aminocarbonyl]-2,6-difluorobenzamide	(E)	
	12057-74-8	magnesium phosphide; trimagnesium diphosphide	E	
	2437-29-8	malachitegreenoxalate	(E)	
	121-75-5	Malathion	(P,G,E)	
	109-77-3	Malononitrile	(P,G,E)	
	108-42-9	m-Aminochlorobenzene	(P,G)	
	8018-01-7	Mancozeb	(P,E)	
	374726-62-2	mandipropamid (ISO); 2-(4-chlorophenyl)-N-{2-[3-methoxy-4-(prop-2-yn-1-yloxy)phenyl]ethyl}-2-(prop-2-yn-1-yloxy)acetamide	(E)	
	12427-38-2	Maneb	(P,E)	
	7785-87-7	manganese sulphate	(E)	
	94-74-6	MCPA (ISO); 4-chloro-o-tolyloxyacetic acid	(E)	
94-81-5	MCPB (ISO); 4-(4-chloro-o-tolyloxy) butyric acid	(E)		
2595-54-2	Mecarbam	(P,G,E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	7085-19-0	mecoprop (ISO); 2-(4-chloro-o-tolyloxy) propionic acid; (RS)-2-(4-chloro-o-tolyloxy)propionic acid	(E)	2,330
	16484-77-8	mecoprop-P [1] and its salts; (R)-2-(4-chloro-2-methylphenoxy)propionic acid	(E)	
	73250-68-7	mefenacet (ISO); 2-(benzothiazol-2-yloxy)-N-methyl-N-phenylacetamide	(E)	
	73581-79-0	menadione nicotinamide bisulfite; 1,2,3,4-tetrahydro-2-methyl-1,4-dioxonaphthalene-2-sulfonic acid, compound with nicotin-3-amide (1:1)	(E)	
	130-37-0	menadione sodium bisulfite; 2-naphthalenesulfonic acid,1,2,3,4-tetrahydro-2-methyl-1,4-dioxo-, sodium salt	(E)	
	78-57-9	menazon (ISO); S-[(4,6-diamino-1,3,5-triazin-2-yl)methyl] O,O-dimethyl phosphorodithioate	(E)	
	110235-47-7	mepanipyrim; 4-methyl-N-phenyl-6-(1-propynyl)-2-pyrimidinamine	(E)	
	950-10-7	mephosfolan (ISO); diethyl 4-methyl-1,3-dithiolan-2-ylidenephosphoramidate	(E)	
	7439-97-6	Mercury	(G,E)	
	7487-94-7	Mercury dichloride	(G,E)	
	628-86-4	mercury difulminate; mercuric fulminate; fulminate of mercury	E	
	108-67-8	mesitylene; 1,3,5-trimethylbenzene	(E)	
	104206-82-8	mesotrione (ISO); 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione	(E)	
	57837-19-1	metalaxyl (ISO); methyl-N-(2,6-dimethylphenyl)-N-(methoxyacetyl)-DL-alanine	(E)	
	41394-05-2	metamitron (ISO); 4-amino-3-methyl-6-phenyl-1,2,4-triazin-5-one	E	
	137-42-8	metam-sodium (ISO); sodium methylthiocarbamate	(E)	
	67129-08-2	Metazachlor (ISO); 2-chloro-N-(2,6-dimethylphenyl)-N-(1H-pyrazol-1-ylmethyl)acetamide	(E)	
	125116-23-6	metconazole (ISO); (1RS,5RS;1RS,5SR)-5-(4-chlorobenzyl)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-ylmethyl)cyclopentanol	(E)	
	18691-97-9	methabenzthiazuron (ISO); 1-(1,3-benzothiazol-2-yl)1,3-dimethylurea	(E)	
	62610-77-9	methacrifos(ISO);methyl(E)-3-[(dimethoxyphosphinothioyl)oxy]methacrylate	(E)	
	10265-92-6	Methamidophos	(G,E)	
	74-93-1	methanethiol; methyl mercaptan	(E)	
	950-37-8	Methidathion	(P,G,E)	
	2032-65-7	Methiocarb	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	16752-77-5	Methomyl	(G,E)	2,330
	376588-17-9	methyl (9-acetoxy-3,8,10-triethyl-7,8,10-trimethyl-1,5-dioxo-9-aza-spiro[5.5]undec-3-yl)octadecanoate	(E)	
	125778-19-0	methyl (E)-2((3-(1,3-benzodioxol-5-yl)-2-methyl-1-propenyl)amino)benzoate	(E)	
	72619-32-0	methyl (R)-2-(4-(3-chloro-5-trifluoromethyl-2-pyridyloxy)phenoxy)propionate	(E)	
	96562-58-2	methyl (R)-2-(4-hydroxyphenoxy)propionate	(E)	
	117291-73-3	methyl [2-(1,1-dimethylethyl)-6-methoxypyrimidin-4-yl]ethylphosphonothioate	(E)	
	39562-27-1	methyl 2-(2-nitrobenzylidene)acetoacetate	(E)	
	39562-17-9	methyl 2-(3-nitrobenzylidene)acetoacetate	(E)	
	87333-22-0	methyl 2-(acetylamino)-3-chloropropionate	(E)	
	2905-69-3	methyl 2,5-dichlorobenzoate	(E)	
	155522-12-6	methyl 2-[4-(2-chloro-4-nitrophenylazo)-3-(1-oxopropyl)amino]phenylaminopropionate	(E)	
	144740-59-0	methyl 2-aminosulfonyl-6-(trifluoromethyl)pyridine-3-carboxylate	(E)	
	15768-07-7	methyl 2-benzylidene-3-oxobutyrate	(E)	
	393509-79-0	methyl 2-chlorosulfonyl-4-(methanesulfonylaminomethyl)benzoate	(E)	
	105560-93-8	methyl 2R,3S-(-)-3-(4-methoxyphenyl)oxiranecarboxylate	(E)	
	6386-39-6	methyl 3-(3-tert-butyl-4-hydroxy-5-methylphenyl)propionate	(E)	
	97101-46-7	methyl 3-(acetylthio)-2-methyl-propanoate	(E)	
	30864-28-9	methyl 3-[(dimethoxyphosphinothioyl)oxy]methacrylate	(E)	
	32750-89-3	methyl 3-[[dibutylamino]thioxomethyl]thio]propanoate	(E)	
	90886-53-6	methyl 3-amino-2,2,3-trimethylbutyrate	(E)	
	119916-05-1	methyl 3-amino-4,6-dibromo-2-methyl-benzoate	(E)	
	70264-94-7	methyl 4-bromomethyl-3-methoxybenzoate	(E)	
	144550-06-1	methyl 4-iodo-2-(3-(4-methoxy-6-methyl-1,3,5-triazine-2-yl)ureidosulfonyl)benzoate	(E)	
	74-83-9	Methyl bromide	(P,G,E)	
	96-34-4	Methyl chloroacetate	(G)	
	624-92-0	Methyl disulfide	(P)	
	74-88-4	Methyl iodide	(P,G)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	556-61-6	Methyl isothiocyanate	(P,G,E)	2,330
	153441-77-1	methyl N-(phenoxy-carbonyl)-L-valinate	(E)	
	69184-17-4	methyl O-(4-amino-3,5-dichloro-6-fluoropyridin-2-yloxy)acetate	(E)	
	953-17-3	Methyl trithion	(G,E)	
	78-94-4	Methyl vinyl ketone	(G)	
	83055-99-6	methyl α-((4,6-dimethoxypyrimidin-2-yl)ureidosulphonyl)-o-toluate	(E)	
	152460-07-6	methyl-5-nitrophenyl-guanidine	(E)	
	108-87-2	methylcyclohexane	(E)	
	6317-18-6	Methylene bithiocyanate	(G,E)	
	60-34-4	Methylhydrazine	(P,G)	
	1031-15-8	methyltriphenylphosphonium chloride	(E)	
	1129-41-5	metolcarb (ISO); m-tolyl methylcarbamate; MTMC	(E)	
	139528-85-1	metosulam (ISO); N-(2,6-dichloro-3-methylphenyl)-5,7-dimethoxy[1,2,4]triazolo[1,5-a]pyrimidine-2-sulfonamide	(E)	
	19937-59-8	metoxuron (ISO); 3-(3-chloro-4-methoxyphenyl)-1,1-dimethylurea	(E)	
	21087-64-9	metribuzin (ISO); 4-amino-6-tert-butyl-3-methylthio-1,2,4-triazin-5(4H)-one; 4-amino-4,5-dihydro-6-(1,1-dimethylethyl)-3-methylthio-1,2,4-triazin-5-one	(E)	
	74223-64-6	metsulfuron-methyl (ISO); methyl 2-[[[4-methoxy-6-methyl-1,3,5-triazin-2-yl]carbamoyl]sulfamoyl]benzoate	(E)	
	7786-34-7	mevinphos (ISO); 2-methoxycarbonyl-1-methylvinyl dimethyl phosphate	(E)	
	315-18-4	Mexacarbate	(G,E)	
	1314-04-1	millerite	(E)	
	158570-99-1	mixed linear and branched C14-15 alcohols ethoxylated, reaction product with epichlorohydrin	(E)	
	17092-80-7	m-mentha-1,3(8)-diene	(E)	
	99-09-2	m-nitroaniline	(E)	
	2212-67-1	Molinate	(P,G,E)	
	68130-36-9	molybdenumnickelhydroxideoxidephosphate	(E)	
	779343-34-9	mono[2-(dimethylamino)ethyl]monohydrogen-2-(hexadec-2-enyl)butanedioate and/or mono[2-(dimethylamino)ethyl]monohydrogen-3-(hexadec-2-enyl)butanedioate	(E)	
	773058-82-5	mono-2-[2-(4-dibenzo[b,f][1,4]thiazepin-11-yl)piperazinium-1-yl]ethoxy ethanol trans-butenedioate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	6923-22-4	Monocrotophos	(G,E)	2,330
	1746-81-2	monolinuron (ISO); 3-(4-chlorophenyl)-1-methoxy-1-methylurea	(E)	
	150-68-5	monuron (ISO); 3-(4-chlorophenyl)-1,1-dimethylurea	(E)	
	7411-47-4	morfamquat (ISO); 1,1'-bis(3,5-dimethylmorpholinocarbonylmethyl)-4,4'-bipyridilium ion	(E)	
	4636-83-3	morfamquat dichloride	(E)	
	29873-36-7	morfamquatsulfate	(E)	
	144-41-2	morphothion (ISO); O,O-dimethyl-S-(morpholinocarbonylmethyl)phosphorodithioate	(E)	
	108-45-2	m-Phenylenediamine	(P,G,E)	
	81-14-1	musk ketone; 3,5-dinitro-2,6-dimethyl-4-tert-butylacetophenone; 4'-tert-butyl-2',6'-dimethyl-3',5'-dinitroacetophenone	(E)	
	81-15-2	musk xylene; 5-tert-butyl-2,4,6-trinitro-m-xylene	(E)	
	505-60-2	Mustard gas	(G)	
	88671-89-0	myclobutanil (ISO); 2-(4-chlorophenyl)-2-(1H-1,2,4-triazol-1-ylmethyl)hexane nitrile	(E)	
	3741-80-8	N-(1,1-dimethylethyl)bis(2-benzothiazolesulfen)amide	(E)	
	52870-46-9	N-(1,3-dimethylbutyl)-N'-(phenyl)-1,4-benzoquinonediimine	(E)	
	793-24-8	N-(1,3-dimethylbutyl)-N'-phenyl-p-Phenylenediamine	(P,G)	
	214417-91-1	N'-(1,3-dimethylbutylidene)-3-hydroxy-2-naphthohydrazide	(E)	
	123590-00-1	N-(2-(1-allyl-4,5-dicyanoimidazol-2-ylazo)-5-(dipropylamino)phenyl)-acetamide	(E)	
	25646-71-3	N-(2-(4-amino-N-ethyl-m-toluidino)ethyl)methanesulphonamide sesquisulphate; 4-(N-ethyl-N-2-methanesulphonylaminoethyl)-2-methylphenylenediamine sesquisulphate monohydrate	(E)	
	142859-67-4	N-(2-(6-ethyl-7-(4-methylphenoxy)-1H-pyrazolo[1,5-b][1,2,4]triazol-2-yl)propyl)-2-octadecyloxybenzamide	(E)	
	65797-42-4	N-(2',6'-dimethylphenyl)-2-piperidinecarboxamide hydrochloride	(E)	
	171887-03-9	N-(2-amino-4,6-dichloropyrimidin-5-yl)formamide	(E)	
	142776-95-2	N-(2-methoxy-5-octadecanoylamino)phenyl)-2-(3-benzyl-2,5-dioxoimidazolidin-1-yl)-4,4-dimethyl-3-oxopentanoic acidamide	(E)	
	150919-56-5	N-(3-(2-(4,4-dimethyl-2,5-dioxoimidazolin-1-yl)-4,4-dimethyl-3-oxo-pentanoylamino)-4-methoxy-phenyl)-octadecanamide	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	136450-06-1	N-(3-acetyl-2-hydroxyphenyl)-4-(4-phenylbutoxy)benzamide	(E)	2,330
	110483-07-3	N-(3-hexadecyloxy-2-hydroxyprop-1-yl)-N-(2-hydroxyethyl)palmitamide	(E)	
	108673-51-4	N-(4-(3-(4-cyanophenyl)ureido)-3-hydroxyphenyl)-2-(2,4-di-tert-pentylphenoxy)octanamide	(E)	
	143052-96-4	N-(4-dimethylaminopyridinium)-3-methoxy-4-(1-methyl-5-nitroindol-3-ylmethyl)-N-(o-tolylsulfonyl)benzamidate	(E)	
	52583-35-4	N-(5-(bis(2-methoxyethyl)amino)-2-((2-cyano-4,6-dinitrophenyl)-azo)phenyl)acetamide	(E)	
	105076-77-5	N-(5-(bis(2-methoxyethyl)amino)-2-((5-nitro-2,1-benzisothiazol-3-yl)azo)phenyl)acetamide	(E)	
	2687-94-7	N-(n-octyl)-2-pyrrolidone	(E)	
	232938-43-1	N-(p-toluenesulfonyl)-N'-(3-(p-toluenesulfonyloxy)phenyl)urea; 3-({[(4-methylphenyl)sulfonyl]carbamoyl}amino)phenyl 4-methylbenzenesulfonate	(E)	
	53641-10-4	N,N'-(2-chloro-1,4-phenylene)bis(3-oxobutanamide)	(E)	
	27366-72-9	N,N-(dimethylamino)thioacetamide hydrochloride	(E)	
	133336-92-2	N,N''-(methylenedi-4,1-phenylene)bis[N'-(4-methylphenyl)urea]	(E)	
	104560-40-9	N,N,N',N'-tetracyclohexyl-1,3-benzenedicarboxamide	(E)	
	130728-76-6	N,N,N',N'-tetraglycidyl-4,4'-diamino-3,3'-diethyldiphenylmethane	(E)	
	106990-43-6	N,N,N,N-tetrakis(4,6-bis(butyl-(N-methyl-2,2,6,6-tetramethylpiperidin-4-yl)amino)triazin-2-yl)-4,7-diazadecane-1,10-diamine	(E)	
	101-61-1	N,N,N',N'-tetramethyl-4,4'-methylenedianiline	(E)	
	17339-60-5	N,N,N',N'-tetramethyldithiobis(ethylene)diamine dihydrochloride	(E)	
	26157-73-3	N,N',N''-tris(2-methyl-2,3-epoxypropyl)-perhydro-2,4,6-oxo-1,3,5-triazine	(E)	
	83372-55-8	N,N'-1,4-phenylenebis(2-((2-methoxy-4-nitrophenyl)azo)-3-oxobutanamide)	(E)	
	27083-27-8	N,N'''-1,6-hexanediylbis(N'-cyanoguanidine)polymer with 1,6-hexanediamine,hydrochloride	(P,G,E)	
	124172-53-8	N,N'-1,6-hexanediylbis(N-(2,2,6,6-tetramethyl-piperidin-4-yl)-formamide)	(E)	
	16695-22-0	N,N-bis(2-(p-toluenesulfonyloxy)ethyl)-p-toluenesulfonamide	(E)	
	91273-04-0	N,N-Bis(2-ethylhexyl)-[(1,2,4-triazol-1-yl)methyl]amine	(G,E)	
	68555-36-2	N,N'-Bis[3-(dimethylamino)propyl]urea polymer with 1,1'-oxybis[2-chloroethane]	(G)	
91-66-7	N,N-Diethylaniline	(P,G,E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	134-62-3	N,N-diethyl-m-toluamide; deet	(E)	2,330
	62478-82-4	N,N-diethyl-N',N'-dimethylpropan-1,3-diyl-diamine	(E)	
	149591-38-8	N,N'-dihexadecyl-N,N'-bis(2-hydroxyethyl)propanediamide	(E)	
	10357-99-0	N,N-dimethyl-2-(3-(4-chlorophenyl)-4,5-dihydropyrazol-1-ylphenylsulphonyl)ethylamine	(E)	
	121-69-7	N,N-Dimethylaniline	(P,G,E)	
	118612-00-3	N,N-Dimethylbenzenamine tetrakis(pentafluorophenyl)borate(1-)	(G)	
	121-72-2	N,N-dimethyl-m-toluidine	(E)	
	153965-50-5	N,N-Dimethyl-N-2-propenyl-2-propen-1-aminium reaction products with sodium tetraphenylborate(1-)	(G)	
	609-72-3	N,N-dimethyl-o-toluidine	(E)	
	99-97-8	N,N-dimethyl-p-toluidine	(E)	
	147613-95-4	N,N-di-n-butyl-2-(1,2-dihydro-3-hydroxy-6-isopropyl-2-quinolylidene)-1,3-dioxindan-5-carboxamide	(E)	
	65181-78-4	N,N'-diphenyl-N,N'-bis(3-methylphenyl)-(1,1'-diphenyl)-4,4'-diamine	(E)	
	74-31-7	N,N'-diphenyl-p-phenylenediamine; N,N'-diphenyl-1,4-benzenediamine	(E)	
	19247-05-3	N,N-hydrazinodiacetic acid	(E)	
	170292-97-4	N-[(benzotriazole-1-yl)methyl]-4-carboxybenzenesulfonamide	(E)	
	368450-39-9	N-[2-(2-butyl-4,6-dicyano-1,3-dioxo-2,3-dihydro-1H-isoin-5-ylazo)-5-diethylamino-phenyl]acetamide	(E)	
	777891-21-1	N-[2-(3-acetyl-5-nitrothiophen-2-ylazo)-5-diethylaminophenyl]acetamide	(E)	
	152828-23-4	N-[3-(1,1-dimethylethyl)-1H-pyrazol-5-yl]-N'-hydroxy-4-nitrobenzenecarboximidamide	(E)	
	111244-14-5	N-[3-(2,4-di-(1,1-dimethyl-propyl)phenoxy)-propyl]-1-hydroxy-5-(2-methylpropyl-oxycarbonylamino)-naphthamide	(E)	
	70693-57-1	N-[3-[(2-acetyloxy)ethyl](phenyl-methyl)amino]-4-methoxyphenylacetamide	(E)	
	96141-86-5	N-[3-[[4-(diethylamino)-2-methylphenyl]imino]-6-oxo-1,4-cyclohexadienyl]acetamide	(E)	
	130016-98-7	N-[4-(4-cyano-2-furfurylidene-2,5-dihydro-5-oxo-3-furyl)phenyl]butane-1-sulfonamide	(E)	
	90357-53-2	N-[4-cyano-3-trifluoromethylphenyl]methacrylamide	(E)	
	452962-97-9	N-[5-(bis-(2-methoxy-ethyl)-amino)-2-(6-bromo-2-methyl-1,3-dioxo-2,3-dihydro-1H-isoin-5-ylazo)-phenyl]acetamide	(E)	
	2372-82-9	N1-(3-Aminopropyl)-N1-dodecyl-1,3-propanediamine	(G)	
	121246-28-4	N2,N4,N6-tris{4-[(1,4-dimethylpentyl)amino]phenyl}-1,3,5-triazine-2,4,6-triamine	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	135-88-6	N-2-naphthylaniline; N-phenyl-2-naphthylamine	(E)	2,330
	25952-53-8	N3-(Ethylcarbonimidoyl)-N1,N1-dimethyl-1,3-propanedia mine, hydrochloride (1:1)	(G)	
	2051-79-8	N5,N5-diethyltoluene-2,5-diamine monohydrochloride; 4-diethylamino-2-methylaniline monohydrochloride	(E)	
	142-59-6	nabam (ISO); disodium ethylenebis(N,N'-dithiocarbamate)	(E)	
	147741-93-3	N-acetyl-N-[5-cyano-3-(2-dibutylamino-4-phenylthiazol-5-yl-methylene)-4-methyl-2,6-dioxo-1,2,3,6-tetrahydropyr idin-1-yl]benzamide	(E)	
	300-76-5	Naled	(P,G,E)	
	97659-53-5	N-Alkyl(C=8~22) polytrimethylenepoly amines, carboxymethyl derivs., sodium salt	(G)	
	8001-54-5	N-Alkyldimethylbenzylammonium chloride	(P,G)	
	91-20-3	Naphthalene	(P,E)	
	1338-02-9	Naphthenic acids, copper salts; copper naphthenate	(E)	
	186450-73-7	N-benzyl-N-ethyl-(4-(5-nitro-benzo[c]isothiazol-3-ylazo)p henyl)amine	(E)	
	104958-67-0	N-butyl-2-(4-morpholinylcarbonyl)benzamide	(E)	
	75511-91-0	N-butyl-3-(2-chloro-4-nitrophenylhydrazono)-1-cyano-2-methylprop-1-ene-1,3-dicarboximide	(E)	
	95-33-0	N-cyclohexylbenzothiazole-2-sulphenamide	(E)	
	149118-66-1	N-cyclohexyl-S,S-dioxobenzo[b]tiophene-2-carboxamide	(E)	
	64026-19-3	N-decyl-4-nitrobenzamide	(E)	
	148812-65-1	N-Decyl-N,N-dimethyl-1-decanaminium, carbonate	(G)	
	148788-55-0	N-Decyl-N,N-dimethyl-1-decanaminium, carbonate	(G)	
	156679-41-3	N-dodecyl-[3-(4-(dimethylamino)benzamido)-propyl]dimet hylammonium tosylate	(E)	
	1854-15-5	N-dodecyl-4-methoxybenzamide	(E)	
	51818-56-5	neodecanoicacid,nickelsalt	(E)	
	4186-71-4	N-ethyl-N-methylpiperidinium iodide	(E)	
	112-02-7	N-Hexadecyltrimethylammonium chloride	(P,G)	
	110-54-3	n-Hexane	(P,E)	
	7440-02-0	nickel	(E)	
	3906-55-6	nickel bis(4-cyclohexylbutyrate)	(E)	
	13770-89-3	nickel bis(sulfamidate); nickel sulfamate	(E)	
	14708-14-6	nickel bis(tetrafluoroborate)	(E)	
	12007-00-0	nickel boride (NiB)	(E)	
	3333-67-3	nickel carbonate; basic nickel carbonate; carbonic acid, nickel (2+) salt	(E)	
	14721-18-7	Nickel chromate	(G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	373-02-4	nickel di(acetate)	(E)	2,330
	12068-61-0	nickel diarsenide	(E)	
	553-71-9	nickel dibenzoate	(E)	
	67952-43-6	nickel dichlorate	(E)	
	7718-54-9	nickel dichloride	(E)	
	15586-38-6	Nickel dichromate	(G,E)	
	557-19-7	Nickel dicyanide	(G,E)	
	10028-18-9	nickel difluoride	(E)	
	3349-06-2	nickel diformate	(E)	
	12054-48-7	nickel dihydroxide	(E)	
	16039-61-5	nickel dilactate	(E)	
	13138-45-9	Nickel dinitriate	(G,E)	
	13637-71-3	nickel diperchlorate; perchloric acid, nickel(II) salt	(E)	
	13842-46-1	nickel dipotassium bis(sulfate)	(E)	
	13689-92-4	nickel dithiocyanate	(E)	
	26043-11-8	nickel hexafluorosilicate	(E)	
	14332-34-4	nickel hydrogen phosphate	(E)	
	69012-50-6	nickel matte	(E)	
	16812-54-7	Nickel monosulfide, Nickel sulfide	(G,E)	
	1313-99-1	Nickel monoxide, Nickel oxide	(G,E)	
	12035-36-8	Nickel monoxide, Nickel oxide	(G,E)	
	547-67-1	nickel oxalate	(E)	
	15060-62-5	nickel selenate	(E)	
	1314-05-2	nickel selenide	(E)	
	7786-81-4	Nickel sulfate	(G,E)	
	12142-88-0	nickel telluride	(E)	
	18721-51-2	Nickel(2+) hydrogen citrate	(G,E)	
	4995-91-9	nickel(II) octanoate	(E)	
	10101-96-9	nickel(II) selenite	(E)	
	21784-78-1	nickel(II) silicate	(E)	
	2223-95-2	nickel(II) stearate; nickel(II) octadecanoate	(E)	
	7757-95-1	nickel(II) sulfite	(E)	
	16083-14-0	nickel(II) trifluoroacetate	(E)	
	85508-43-6	nickel(II)isodecanoate	(E)	
	29317-63-3	nickel(II)isooctanoate	(E)	
	85508-44-7	nickel(II)neodecanoate	(E)	
	93920-10-6	nickel(II)neononanoate	(E)	
	93920-09-3	nickel(II)neoundecanoate	(E)	
	13654-40-5	nickel(II)palmitate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	3349-08-4	nickel(II)propionate	(E)	2,330
	52625-25-9	nickel3,5-bis(tert-butyl)-4-hydroxybenzoate(1:2)	(E)	
	14998-37-9	nickelacetate	(E)	
	27016-75-7	nickelarsenide	(E)	
	4454-16-4	nickelbis(2-ethylhexanoate)	(E)	
	39819-65-3	nickelbis(benzenesulfonate)	(E)	
	18718-11-1	nickelbis(dihydrogenphosphate)	(E)	
	84852-37-9	nickelbis(isononanoate)	(E)	
	14507-36-9	nickelbis(phosphinate)	(E)	
	12619-90-8	nickelboride	(E)	
	65229-23-4	nickelboronphosphide	(E)	
	14550-87-9	nickeldibromate	(E)	
	13462-88-9	nickeldibromide	(E)	
	13462-90-3	nickeldiiodide	(E)	
	12201-89-7	nickeldisilicide	(E)	
	11113-74-9	nickelhydroxide	(E)	
	27637-46-3	nickelisoctanoate	(E)	
	11099-02-8	nickeloxide	(E)	
	36026-88-7	nickelphosphinate	(E)	
	11132-10-8	nickelpotassiumfluoride	(E)	
	31748-25-1	nickelsilicate(3:4)	(E)	
	11113-75-0	nickelsulfide	(E)	
	15852-21-8	nickeltelluriumtetraoxide	(E)	
	15851-52-2	nickeltelluriumtrioxide	(E)	
	54-11-5	Nicotine	(G,E)	
	93957-49-4	N-isopropyl-3-(4-fluorophenyl)-1H-indole	(E)	
	101-72-4	N-isopropyl-N'-phenyl-p-phenylenediamine	(E)	
	1929-82-4	nitrapyrin (ISO); 2-chloro-6-trichloromethylpyridine	(E)	
	14216-75-2	Nitric acid, nickel salt	(G,E)	
	98-95-3	Nitrobenzene	(P,G,E)	
	1836-75-5	Nitrofen	(G,E)	
	75-52-5	Nitromethane	(P)	
	621-64-7	nitrosodipropylamine	(E)	
	74401-04-0	N-methyl-4-(p-formylstyryl)pyridinium methylsulfate	(E)	
	100-61-8	N-Methylaniline	(P,G,E)	
	696-44-6	N-methyl-m-toluidine	(E)	
	611-21-2	N-methyl-o-toluidine	(E)	
	623-08-5	N-methyl-p-toluidine	(E)	
	153719-38-1	N-nitro-N-(3-methyl-3,6-dihydro-2H-1,3,5-oxadiazin-4-yl)amine	(E)	
	112-05-0	nonanoic acid	(E)	
	25154-52-3	Nonylphenol	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	139-84-4	Nonylphenol	(G)	2,330
	136-83-4	Nonylphenol	(G)	
	32998-95-1	N-tert-butyl-3-methylpicolinamide	(E)	
	110799-28-5	N-tert-pentyl-2-benzothiazolesulfenamide	(E)	
	3244-90-4	O,O,O',O'-tetrapropyl dithiopyrophosphate	(E)	
	122431-24-7	O,O-Diethyl O-1-phenyl-3-trifluoromethylpyrazol-5-ylphosphorothioate	(G)	
	116753-76-5	O,O-tert-butylO-docosylmonoperoxyoxalate	(E)	
	124-30-1	octadecylamine	(E)	
	556-67-2	octamethylcyclotetrasiloxane	(E)	
	111-65-9	octane; n-octane	(E)	
	111850-24-9	4-(4-nitrophenylazo)-2,6-di-sec-butyl-phenol	(E)	
	124-07-2	octanoic acid	(E)	
	148878-21-1	octasodium 2-(6-(4-chloro-6-(3-(N-methyl-N-(4-chloro-6-(3,5-disulfonato-2-naphthylazo)-1-hydroxy-6-naphthylamino)-1,3,5-triazin-2-yl)aminomethyl)phenylamino)-1,3,5-triazin-2-ylamino)-3,5-disulfonato-1-hydroxy-2-naphthylazo)naphthalene-1,5-disulfonate	(E)	
	624-86-2	O-ethylhydroxylamine	E	
	103122-66-3	O-isobutyl-N-ethoxy carbonylthiocarbamate	(E)	
	1113-02-6	Omethoate	(G,E)	
	88-74-4	o-nitroaniline	(E)	
	95-54-5	o-Phenylenediamine	(P,G,E)	
	133-59-5	o-Toluenesulfonyl chloride	(P,G)	
	95-53-4	o-Toluidine	(P,G,E)	
	39807-15-3	oxadiargyl (ISO); 3-[2,4-dichloro-5-(2-propynyloxy)phenyl]-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one	(E)	
	19666-30-9	oxadiazon (ISO); 3-[2,4-dichloro-5-(1-methylethoxy)phenyl]-5-(1,1-dimethylethyl)-1,3,4-oxadiazol-2(3H)-one	(E)	
	20543-06-0	oxalicacid,nickelsalt	(E)	
	460-19-5	oxalonitrile; cyanogen	(E)	
	23135-22-0	Oxamyl	(G,E)	
	144651-06-9	oxasulfuron (ISO); oxetan-3-yl 2-[(4,6-dimethylpyrimidin-2-yl)-carbamoylsulfamoyl]benzoate	(E)	
	70987-78-9	oxiranemethanol, 4-methylbenzene-sulfonate, (S)-	(E)	
	5259-88-1	oxycarboxin (ISO); 2,3-dihydro-6-methyl-5-(N-phenylcarbamoyl)-1,4-oxothiane 4,4-dioxide	(E)	
	301-12-2	Oxydemeton-methyl	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	106-75-2	oxydiethylene bis(chloroformate)	(E)	2,330
	693-21-0	oxydiethylene dinitrate; diethylene glycol dinitrate; digol dinitrate	(E)	
	2497-07-6	oxydisulfoton (ISO); O, O-diethyl S-2-ethylsulphinyethyl phosphorodithioate	(E)	
	116163-96-3	P,P,P',P'-tetrakis-(o-methoxyphenyl)propane-1,3-diphosphine	(E)	
	3375-31-3	Palladium(II) acetate	(G)	
	60-09-3	p-Aminoazobenzene	(P,G,E)	
	104-94-9	p-anisidine; 4-methoxyaniline	E	
	2074-50-2	Paraquat dimethylsulfate	(G,E)	
	1910-42-5	Paraquat salt	(P,G,E)	
	56-38-2	Parathion	(P,G,E)	
	298-00-0	Parathion-methyl	(G,E)	
	1336-36-3	PCBs	(G,E)	
	106-47-8	p-Chloroaniline	(P,E)	
	60-11-7	p-Dimethylaminoazobenzene	P	
	1114-71-2	pebulate (ISO); N-butyl-N-ethyl-S-propylthiocarbamate	(E)	
	66246-88-6	penconazole (ISO); 1-[2-(2,4-dichlorophenyl)pentyl]-1H-1,2,4-triazole	(E)	
	66063-05-6	pencycuron (ISO); 1-[(4-chlorophenyl)methyl]-1-cyclopentyl-3-phenylurea	(E)	
	40487-42-1	pendimethalin (ISO); N-(1-ethylpropyl)-2,6-dinitro-3,4-xylidine	(E)	
	608-93-5	pentachlorobenzene	(E)	
	76-01-7	pentachloroethane	(E)	
	87-86-5	Pentachlorophenol	(G,E)	
	109-66-0	pentane	(E)	
	178452-71-6	pentasodium bis[{}{7-[4-(1-butyl-5-cyano-1,2-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridylazo)phenylsulfonlamino]-5'-nitro-3,3'-disulfonatonaphthalene-2-azobenzene-1,2'-diolato}] chromate (III)	(E)	
	1321-64-8	pentachloronaphthalene	(E)	
	79-21-0	peracetic acid . . . %	E	
	1763-23-1	perfluorooctane sulfonic acid; heptadecafluorooctane-1-sulfonic acid	(E)	
	52645-53-1	Permethrin	(P,G,E)	
	106700-29-2	pethoxamide (ISO); 2-chloro-N-(2-ethoxyethyl)-N-(2-methyl-1-phenylprop-1-enyl)acetamide	(E)	
	2275-14-1	Phencapton	(G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	13684-63-4	phenmedipham (ISO); methyl 3-(3-methylcarbaniloxy)carbanilate	(E)	2,330
	121158-58-5	phenol, dodecyl-, branched	(E)	
	74499-35-7	phenol,(tetrapropenyl)derivatives	(E)	
	210555-94-5	phenol,4-dodecyl-,branched	(E)	
	2597-03-7	Phenthoate	(P,G,E)	
	162881-26-7	phenyl bis(2,4,6-trimethylbenzoyl)-phosphine oxide	(E)	
	122-60-1	Phenyl glycidyl ether	(P,E)	
	89392-03-0	phenyl N-(4,6-dimethoxypyrimidin-2-yl)carbamate	(E)	
	25265-76-3	Phenylenediamine(o-,m-,p-isomer mixture)	(P,G)	
	100-63-0	Phenylhydrazine	(P,G,E)	
	27140-08-5	phenylhydrazinehydrochloride	E	
	59-88-1	phenylhydraziniumchloride	E	
	52033-74-6	phenylhydraziniumsulphate(2:1)	E	
	62-38-4	phenylmercury acetate	(E)	
	100-57-2	Phenylmercury hydroxide	(G,E)	
	55-68-5	Phenylmercury nitrate	(G,E)	
	298-02-2	Phorate	(P,G,E)	
	4104-14-7	Phosacetim	(G,E)	
	2310-17-0	Phosalone	(P,G,E)	
	732-11-6	Phosmet	(G,E)	
	13171-21-6	Phosphamidon	(P,G,E)	
	7803-51-2	Phosphine	(P,G,E)	
	17169-61-8	phosphoricacid,calciumnickelsalt	(E)	
	814-49-3	Phosphorochloridic acid diethyl ester	(G)	
	7723-14-0	Phosphorus	(P,E)	
	10026-13-8	Phosphorus pentachloride	(P,G)	
	14816-18-3	phoxim (ISO); α-(diethoxyphosphinothioylimino) phenylacetoneitrile	(E)	
	93971-95-0	phthalocyanine-N-[3-(diethylamino)propyl]sulfonamide copper complex	(E)	
	83-26-1	Pindone	(G,E)	
	6094-40-2	piperazine hydrochloride	(E)	
	142-64-3	piperazinedihydrochloride	(E)	
	1951-97-9	piperazinephosphate	(E)	
	24151-93-7	piperophos (ISO); S-2-methylpiperidinocarbonylmethyl-O,O-dipropyl phosphorodithioate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	23103-98-2	Pirimicarb	(G,E)	2,330
	23505-41-1	Pirimiphos-ethyl	(G,E)	
	29232-93-7	pirimiphos-methyl (ISO); O-(2-diethylamino-6-methylpyrimidin-4-yl) O,O-dimethyl phosphorothioate	(E)	
	65996-93-2	pitch, coal tar, high-temp.; [The residue from the distillation of high temperature coal tar. A black solid with an approximate softening point from 30 °C to 180 °C (86 °F to 356 °F). Composed primarily of a complex mixture of three or more membered condensed ring aromatic hydrocarbons.]	(E)	
	100-01-6	p-nitroaniline	(E)	
	32289-58-0	Poly(hexamethylene biguanide)hydrochloride; PHMB	(G,E)	
	176429-22-4	poly-[[[(4-((4-(ethyl-ethylene)amino)phenyl)-(4-(ethyl-(2-ox yethylene)amino)phenyl)methinyl)-3-methylcyclohexa-2,5- dienylidene)-N-ethyl-N-(2-hydroxyethyl)ammonium acetate]	(E)	
	176429-27-9	poly-[[[(4-((4-(ethyl-ethylene)amino)phenyl)-((4-(ethyl-(2-ox yethylene)amino)phenyl)methinyl)cyclohexa-2,5- dienyli- dene)-N-ethyl-N-(2-hydroxyethyl)ammonium acetate]	(E)	
	89697-78-9	Polyhexamethylene guanidine phosphate; PHMG phosphate	(G)	
	57028-96-3	Polyhexamethyleneguanidinephosphate;PHMGphosphate	(G)	
	143747-73-3	Polymer of 1,3-dibromopropane and N,N-diethyl-N',N'-dimethyl-1,3-propanediamine	(E)	
	299-45-6	potasan; O,O-diethyl O-(4-methylcoumarin-7-yl) phosphorothioate	(E)	
	96566-70-0	potassium 2-hydroxycarbazole-1-carboxylate	(E)	
	3811-04-9	potassium chlorate	(E)	
	7789-00-6	Potassium chromate	(G,E)	
	7778-50-9	Potassium dichromate	(G,E)	
	184637-63-6	potassium N-(4-fluorophenyl)glycinate	(E)	
	7758-09-0	potassium nitrite	E	
	2795-39-3	Potassium perfluorooctanesulfonate	(G,E)	
	7722-64-7	potassium permanganate	(E)	
	37199-66-9	potassium polysulphides	(E)	
110081-40-8	potassium sodium 5'-(6-chloro-4-(2-(2-vinylsulfonylethoxy)ethylamino)-1,3,5-triazin-2-ylamino)-4'-hydroxy-2,3'-azodinaphthalene-1,2',5,7'-disulfonate	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	154336-20-6	potassium sodium 6,13-dichloro-3,10-bis{ }{2-[4-[3-(2-hydroxysulphonyloxyet hanesulfonyl)phenylamino]-6-(2,5-disulfonatophenylamino)-1,3,5-triazin-2-ylamino]ethylamino} }benzo[5,6][1,4]oxazi no[2,3-b]phenoxazine-4,11-disulfonate	(E)	2,330
	10007-85-9	potassium 3,6-dichloro-o-anisate	(E)	
	7778-73-6	potassium pentachlorophenolate	(E)	
	106-50-3	p-Phenylenediamine	(P,G,E)	
	23031-36-9	prallethrin (ISO); ETOC; 2-methyl-4-oxo-3-(prop-2-ynyl)cyclopent-2-en-1-yl 2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarbox ylate	(E)	
	7093-55-2	pregn-5-ene-3,20-dione bis(ethylene ketal)	(E)	
	67747-09-5	prochloraz (ISO); N-propyl-N-[2-(2,4,6-trichlorophenoxy)ethyl]-1H-imidazol e-1-carboxamide	(E)	
	41198-08-7	Profenofos	(P,G,E)	
	26399-36-0	profluralin (ISO); N-(cyclopropylmethyl)-α,α,α-trifluoro-2,6-dinitro-N-prop yl-p-toluidine	(E)	
	2631-37-0	Promecarb	(G,E)	
	23950-58-5	Pronamide	(P,E)	
	107-19-7	prop-2-yn-1-ol; propargyl alcohol	(E)	
	1918-16-7	propachlor (ISO); 2-chloro-N-isopropylacetanilide; α-chloro-N-isopropylacetanilide	(E)	
	709-98-8	propanil (ISO); 3',4'-dichloropropionanilide	E	
	111479-05-1	Propaquizafop	(G)	
	2312-35-8	Propargite	(P,G,E)	
	139-40-2	propazine (ISO); 2-chloro-4,6-bis(isopropylamino)-1,3,5-triazine	(E)	
	31218-83-4	Propetamphos	(P,G,E)	
	60207-90-1	propiconazole (ISO); (±)-1-[2-(2,4-dichlorophenyl)-4-propyl-1,3-dioxolan-2-yl methyl]-1H-1,2,4-triazole	(E)	
	9016-72-2	propineb (ISO); polymeric zinc propylenebis(dithiocarbamate)	E	
	114-26-1	Propoxur	(P,G,E)	
	181274-15-7	propoxycarbazone-sodium	(E)	
	198705-81-6	propyl((4-(5-oxo-3-propylisoxazolidin-4-ylidene)methin)phe nyl)propoxycarbonylmethyleneamino)acetate	(E)	
	103-65-1	propylbenzene	(E)	
	2122-19-2	propylenethiourea	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	189278-12-4	proquinazid (ISO); 6-iodo-2-propoxy-3-propylquinazolin-4(3H)-one	(E)	2,330
	52888-80-9	prosulfocarb(ISO); S-benzyl N,N-dipropylthiocarbamate	(E)	
	94125-34-5	prosulfuron (ISO); 1-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-3-[2-(3,3,3-trifluoropropyl)phenylsulfonyl]urea	(E)	
	2275-18-5	Prothoate	(G,E)	
	140-93-2	proxan-sodium (ISO); sodium O-isopropylidithiocarbonate	(E)	
	15024-10-9	p-tolyl 4-chlorobenzoate	(E)	
	20018-09-1	p-tolyl diiodomethyl sulfone	(G)	
	123312-89-0	pymetrozine (ISO); (E)-4,5-dihydro-6-methyl-4-(3-pyridylmethyleneamino)-1,2,4-triazin-3(2H)-one	(E)	
	24691-76-7	pyracarbolid (ISO); 3,4-dihydro-6-methyl-2H-pyran-5-carboxanilide	(E)	
	89784-60-1	Pyraclofos	(G)	
	129630-17-7	pyraflufen(ISO);2-chloro-5-(4-chloro-5-difluoromethoxy-1-methylpyrazol-3-yl)-4-fluorophenoxyacetic acid	(E)	
	129630-19-9	pyraflufen-ethyl (ISO); 2-chloro-5-(4-chloro-5-difluoromethoxy-1-methylpyrazol-3-yl)-4-fluorophenoxyacetic acid ethyl ester	(E)	
	4023-02-3	pyrazole-1-carboxamide monohydrochloride	(E)	
	13457-18-6	pyrazophos (ISO); O,O-diethyl O-(6-ethoxycarbonyl-5-methylpyrazolo[2,3-a]pyrimidin-2-yl) phosphorothioate	(E)	
	96489-71-3	Pyridaben	(P,G,E)	
	55512-33-9	pyridate (ISO); O-(6-chloro-3-phenylpyridazin-4-yl) S-octyl thiocarbonate	(E)	
	971-66-4	Pyridine-triphenyl borane(1/1)	(G)	
	53112-28-0	pyrimethanil (ISO); N-(4,6-dimethylpyrimidin-2-yl)aniline	(E)	
	87-66-1	pyrogallol; 1,2,3-trihydroxybenzene	(E)	
	57369-32-1	pyroquilon (ISO); 1,2,5,6-tetrahydropyrrolo[3,2,1-ij]quinolin-4-one	(E)	
63449-41-2	quaternary ammonium compounds, benzyl-C8-18-alkyldimethyl, chlorides	E		
173010-79-2	Quaternary ammonium compounds, coco alkyl(2,3-dihydroxypropyl)dimethyl, 3-phosphates (esters), chlorides, sodium salts	(G)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	13593-03-8	Quinalphos	(P,G,E)	2,330
	2797-51-5	Quinoclamine	(G)	
	91-22-5	Quinoline	(P,G,E)	
	124495-18-7	quinoxifen (ISO); 5,7-dichloro-4-(4-fluorophenoxy)quinoline	(E)	
	82-68-8	quintozene (ISO); pentachloronitrobenzene	(E)	
	118658-98-3	reaction mass of 7-[4-(3-diethylaminopropylamino)-6-(3-diethylammonio- propylamino)-1,3,5-triazin-2-ylamino]-4-hydroxy-3-(4-phen- ylazophenylazo)-naphthalene-2-sulfonate, acetic acid, lactic acid (2:1:1)	(E)	
	127519-17-9	reaction mass of branched and linear C7-C9 alkyl 3-[3-(2H-benzotriazol-2-yl)-5-(1,1-dimethylethyl)-4-hydro- xyphenyl]propionates	(E)	
	63767-86-2	reaction mass of diastereoisomers of 1-(1-hydroxyethyl)-4-(1-methylethyl)cyclohexane	(E)	
	151006-61-0	reaction mass of isomers of branched tetracosane	(E)	
	125643-61-0	reaction mass of isomers of: C7-9-alkyl 3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate	(E)	
	73807-39-3	reaction mass of isomers of: methyldiphenylmethane; dimethyldiphenylmethane	(E)	
	132983-41-6	reaction mass of isomers of: mono-(2-tetradecyl)naphthalenes; di-(2-tetradecyl)naphthalenes; tri-(2-tetradecyl)naphthalenes	(E)	
	171866-24-3	reaction mass of: 2,2'-[[cis-1,2-cyclohexanediylbis(nitrilomethylidene)]bis[ph- enolate]](2-)N,N',O,O'-copper complex; 2,2'-[[trans-1,2-cyclohexanediylbis(nitrilomethylidene)]bis[phenolate]](2-)N,N',O,O'-copper complex	(E)	
	98769-75-6	reaction mass of: (2R,3R)-3-(2-ethoxyphenoxy)-2-hydroxy-3-phenylpropyla- mmonium methanesulfonate; (2S,3S)-3-(2-ethoxyphenoxy)-2-hydroxy-3-phenylpropyla- mmonium methanesulfonate	(E)	
	72963-72-5	reaction mass of: [2,4-dioxo-(2-propyn-1-yl)imidazolidin-3-yl]methyl(1R)-ci- s-chrysanthemate; [2,4-dioxo-(2-propyn-1-yl)imidazolidin-3-yl]methyl(1R)-tr- ans-chrysanthemate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	96792-67-5	reaction mass of: 1-(2,3,6,7,8,9-hexahydro-1,1-dimethyl-1H-benz(g)inden-4-yl)ethanone; 1-(2,3,5,6,7,8-hexahydro-1,1-dimethyl-1H-benz(f)inden-4-yl)ethanone; 1-(2,3,6,7,8,9-hexahydro-1,1-dimethyl-1H-benz(g)inden-5-yl)ethanone; 1-(2,3,6,7,8,9-hexahydro-3,3-dimethyl-1H-benz(g)inden-5-yl)ethanone	(E)	2,330
	52783-21-8	reaction mass of: 1-(4-isopropylphenyl)-1-phenylethane; 1-(3-isopropylphenyl)-1-phenylethane; 1-(2-isopropylphenyl)-1-phenylethane	(E)	
	12223-77-7	reaction mass of: 1,4-diamino-2-chloro-3-phenoxyanthraquinone; 1,4-diamino-2,3-bis-phenoxyanthraquinone	(E)	
	165038-51-7	reaction mass of: 1,5-bis[(2-ethylhexyl)amino]-9,10-anthracenedione; 1-[(2-ethylhexyl)amino]-5-[3-[(2-ethylhexyl)oxy]propyl]amino-9,10-anthracenedione; 1,5-bis[3-[(2-ethylhexyl)oxy]propyl]amino-9,10-anthracenedione; 1-[(2-ethylhexyl)amino]-5-[(3-methoxypropyl)amino]-9,10-anthracene dione; 1-[3-[(2-ethylhexyl)oxy]propyl]amino-5-[(3-methoxypropyl)amino]-9,10-anthracenedione; 1,5-bis[(3-methoxypropyl)amino]-9,10-anthracenedione	(E)	
	196965-91-0	reaction mass of: 1-heptyl-4-ethyl-2,6,7-trioxabicyclo[2.2.2]octane; 1-nonyl-4-ethyl-2,6,7-trioxabicyclo[2.2.2]octane	(E)	
	88230-35-7	reaction mass of: 1-hexyl acetate; 2-methyl-1-pentyl acetate; 3-methyl-1-pentyl acetate; 4-methyl-1-pentyl acetate; other mixed linear and branched C6-alkyl acetates	(E)	
	71566-50-2	reaction mass of: 1-methyl-1-(3-(1-methylethyl)phenyl)ethyl-1-methyl-1-phenylethylperoxide, 63 % by weight; 1-methyl-1-(4-(1-methylethyl)phenyl)ethyl-1-methyl-1-phenylethylperoxide, 31 % by weight	(E)	
	86403-32-9	reaction mass of: 2,2,6,6-tetramethylpiperidin-4-yl-hexadecanoate; 2,2,6,6-tetramethylpiperidin-4-yl-octadecanoate	(E)	
	32144-25-5	reaction mass of: 2,2'-bis(tert-pentylperoxy)-p-diisopropylbenzene; 2,2'-bis(tert-pentylperoxy)-m-diisopropylbenzene	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	187547-46-2	reaction mass of: 2,4,6-tri(butylcarbamoyl)-1,3,5-triazine; 2,4,6-tri(methylcarbamoyl)-1,3,5-triazine; [(2-butyl-4,6-dimethyl)tricarbamoyl]-1,3,5-triazine; [(2,4-dibutyl-6-methyl)tricarbamoyl]-1,3,5-triazine	(E)	2,330
	111850-00-1	reaction mass of: 2,6,9-trimethyl-2,5,9-cyclododecatrien-1-ol; 6,9-dimethyl-2-methylen-5,9-cyclododecadien-1-ol	(E)	
	111381-12-5	reaction mass of: 2-[[4-[bis(2-acetoxyethyl)amino]phenyl]azo]-5,6-dichlorobenzothiazole; 2-[[4-[bis(2-acetoxyethyl)amino]phenyl]azo]-6,7-dichlorobenzothiazole (1:1)	(E)	
	111381-11-4	reaction mass of: 2-[[4-[N-ethyl-N-(2-acetoxyethyl)amino]phenyl]azo]-5,6-dichlorobenzothiazole; 2-[[4-[N-ethyl-N-(2-acetoxyethyl)amino]phenyl]azo]-6,7-dichlorobenzothiazole (1:1)	(E)	
	143145-93-1	reaction mass of: 2-[2-acetyl-amino-4-[N,N-bis[2-ethoxy-carbonyloxy]ethyl]amino]phenylazo]-5,6-dichloro-1,3-benzothiazole; 2-[2-acetyl-amino-4-[N,N-bis[2-ethoxy-carbonyloxy]ethyl]amino]phenylazo]-6,7-dichloro-1,3-benzotriazole (1:1)	(E)	
	67739-11-1	reaction mass of: 2-methyl-1-(6-methylbicyclo[2.2.1]hept-5-en-2-yl)pent-1-en-3-ol; 2-methyl-1-(1-methylbicyclo[2.2.1]hept-5-en-2-yl)-pent-1-en-3-ol; 2-methyl-1-(5-methylbicyclo[2.2.1]hept-5-en-2-yl)pent-1-en-3-ol	(E)	
	32480-08-3	reaction mass of: 3,7,11-trimethyl-cis-6,10-dodecadienal; 3,7,11-trimethyl-trans-6,10-dodecadienal	(E)	
	8069-76-9	reaction mass of: 4,6-dinitro-2-(3-octyl)phenyl methyl carbonate and 4,6-dinitro-2-(4-octyl)phenyl methyl carbonate; dinocton-6	(E)	
	202420-04-0	reaction mass of: 4-chloro-7-methylbenzotriazole sodium salt; 4-chloro-5-methylbenzotriazole sodium salt; 5-chloro-4-methylbenzotriazole sodium salt	(E)	
	163879-69-4	reaction mass of: 5-[(4-[(7-amino-1-hydroxy-3-sulfo-2-naphthyl)azo]-2,5-diethoxyphenyl)azo]-2-[(3-phosphonophenyl)azo]benzoic acid; 5-[(4-[(7-amino-1-hydroxy-3-sulfo-2-naphthyl)azo]-2,5-diethoxyphenyl)azo]-3-[(3-phosphonophenyl)azo]benzoic acid	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	55965-84-9	reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7]; and 2-methyl-2H-isothiazol-3-one [EC no. 220-239-6] (3:1); reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7]; and 2-methyl-4-isothiazolin-3-one [EC no. 220-239-6] (3:1)	(E)	2,330
	52658-19-2	reaction mass of: 7,9,9-trimethyl-3,14-dioxo-4,13-dioxo-5,12-diazahexadecane-1,16-diyl-prop-2-enoate; 7,7,9-trimethyl-3,14-dioxo-4,13-dioxo-5,12-diazahexadecan-1,16-diyl-prop-2-enoate	(E)	
	151006-58-5	reaction mass of: branched icosane; branched docosane; branched tetracosane	(E)	
	151006-59-6	reaction mass of: branched triacontane; branched dotriacontane; branched tetratriacontane; branched hexatriacontane	(E)	
	114765-88-7	reaction mass of: cis-(5-ammonium-1,3,3-trimethyl)-cyclohexanemethylammonium phosphate (1:1); trans-(5-ammonium-1,3,3-trimethyl)-cyclohexanemethylammonium phosphate (1:1)	(E)	
	35541-81-2	reaction mass of: cis-1,4-dimethylcyclohexyl dibenzoate; trans-1,4-dimethylcyclohexyl dibenzoate	(E)	
	166301-21-9	reaction mass of: cis-2-isobutyl-5-methyl 1,3-dioxane; trans-2-isobutyl-5-methyl 1,3-dioxane	(E)	
	147732-60-3	reaction mass of: disodium hexyldiphenyl ether disulphonate; disodium dihexyldiphenyl ether disulphonate	(E)	
	58856-63-6	reaction mass of: dodecanoic acid (35-40 %); poly(1-7)lactate esters of dodecanoic acid (60-65 %)	(E)	
	171090-93-0	reaction mass of: esters of C14-C15 branched alcohols with 3,5-di-t-butyl-4-hydroxyphenyl propionic acid; C15 branched and linear alkyl 3,5-bis(1,1-dimethylethyl)-4-hydroxybenzenepropanoate; C13 branched and linear alkyl 3,5-bis(1,1-dimethylethyl)-4-hydroxybenzenepropanoate	(E)	
	160987-57-5	reaction mass of: ethyl 2-((4-(5,6-dichlorobenzothiazol-2-ylazo)phenyl)ethylamino)benzoate; ethyl 2-((4-(6,7-dichlorobenzothiazol-2-ylazo)phenyl)ethylamino)benzoate	(E)	
	80657-64-3	reaction mass of: ethyl exo-tricyclo[5.2.1.0 ^{2,6}]decane-endo-2-carboxylate; ethyl endo-tricyclo[5.2.1.0 ^{2,6}]decane-exo-2-carboxylate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	130296-87-6	reaction mass of: hydroxyaluminium bis[2-hydroxy-3,5-di-tert-butylbenzoate]; 3,5-di-tert-butyl-salicylic acid	(E)	2,330
	141847-13-4	reaction mass of: isobutyl hydrogen 2-(α-2,4,6-trimethylnon-2-enyl)succinate; isobutyl hydrogen 2-(β-2,4,6-trimethylnon-2-enyl)succinate	(E)	
	508202-43-5	reaction mass of: pentasodium bis[6-anilino-3,5'-disulfonato naphthalene-2-azobenzene-1,2'-diolato]cobaltate(III); tetra sodium [6-anilino-3,5'-disulfonato naphthalene-2-azobenzene-1,2'-diolato][6-anilino-5'-sulfamoyl-3-sulfonato naphthalene-2-azobenzene-1,2'-diolato]cobaltate(III); trisodium bis[6-anilino-5'-sulfamoyl-3-sulfonato naphthalene-2-azobenzene-1,2'-diolato]cobaltate(III)	(E)	
	136213-76-8	reaction mass of: sodium 3,3'-(1,4-phenylenebis(carbonylimino-3,1-propanediylimino))bis(10-amino-6,13-dichloro-4,11-triphenodioxazinedisulfonate); lithium 3,3'-(1,4-phenylenebis(carbonylimino-3,1-propanediylimino))bis(10-amino-6,13-dichloro-4,11-triphenodioxazinedisulfonate (9:1))	(E)	
	141880-36-6	reaction mass of: sodium/potassium 7-[[[3-[[4-((2-hydroxy-naphthyl)azo)phenyl]azo]phenyl]sulfonyl]amino]-naphthalene-1,3-disulfonate	(E)	
	117527-94-3	reaction mass of: tert-alkyl(C12-C14)ammonium bis[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-); tert-alkyl(C12-C14)ammonium bis[1-[(2-hydroxy-4-nitrophenyl)azo]-2-naphthalenolato(2-)]-chromate(1-); tert-alkyl(C12-C14)ammonium bis[1-[[5-(1,1-dimethylpropyl)-2-hydroxy-3-nitrophenyl]azo]-2-naphthalenolato(2-)]-chromate(1-); tert-alkyl(C12-C14)ammonium [[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]-[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]]-chromate(1-); tert-alkyl(C12-C14)ammonium [[1-[[5-(1,1-dimethylpropyl)-2-hydroxy-3-nitrophenyl]azo]-2-naphthalenolato(2-)]-[1-[(2-hydroxy-5-nitrophenyl)azo]-2-naphthalenolato(2-)]]-chromate(1-); tert-alkyl(C12-C14)ammonium ((1-(4(or 5)-nitro-2-oxidophenylazo)-2-naphtholato)(1-(3-nitro-2-oxido-5-pentylphenylazo)-2-naphtholato))chromate(1-)	(E)	
	174591-51-6	reaction mass of: tetradecanoic acid (42.5-47.5 %); poly(1-7)lactate esters of tetradecanoic acid (52.5-57.5 %)	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	104558-95-4	reaction mass of: thiobis(4,1-phenylene)-S,S,S',S'-tetraphenyldisulfonium bishexafluorophosphate; diphenyl(4-phenylthiophenyl)sulfonium hexafluorophosphate; propylene carbonate	(E)	2,330
	116193-72-7	reaction mass of: trans-2-(1-methylethyl)-1,3-dioxane-5-carboxylic acid; cis-2-(1-methylethyl)-1,3-dioxane-5-carboxylic acid	(E)	
	186148-38-9	reaction mass of: triisopropanolamine salt of 1-amino-4-(3-propionamidoanilino)anthraquinone-2-sulfonic acid; triisopropanolamine salt of 1-amino-4-[3,4-dimethyl-5-(2-hydroxyethylaminosulfonyl) anilino]anthraquinone-2-sulfonic acid	(E)	
	192268-65-8	reaction mass of: triphenylthiophosphate and tertiary butylated phenyl derivatives	(E)	
	226996-19-6	reaction product of 3,5-di-tert-butylsalicylic acid and zirconium oxychloride, dehydrated, basic Zr : DTBS = 1.0 : 1.0 to 1.0 : 1.5	(E)	
	122886-55-9	reaction product of diphenylmethanediisocyanate, octylamine and oleylamine (molar ratio 1:1.86:0.14)	(E)	
	220444-73-5	reaction products of diisopropanolamine with formaldehyde (1:4)	(E)	
	553664-68-9	Reaction products of epichlorohydrin, 2-mercaptoethanol, sodium sulfide and thiourea	(G)	
	129217-90-9	Reaction products of: aniline-terephthalaldehyde-o-toluidine condensate with maleic anhydride	(E)	
	125139-08-4	Reaction products of: poly(vinyl acetate), partially hydrolyzed, with (E)-2-(4-formylstyryl)-3,4-dimethylthiazoliummethyl sulfate	(E)	
	144171-61-9	reaction mass of (S)-Indoxacarb and (R)-Indoxacarb 75:25; met hyl 7-chloro-2-((methoxycarbonyl)[4-(trifluoromethoxy)phe nyl]carbamoyl)-2,5-dihydroindeno[1,2-e][1,3,4]oxadiazine- 4a(3H)-carboxylate	(E)	
	10453-86-8	Resmethrin	(P,G,E)	
	101-90-6	resorcinol diglycidyl ether; 1,3-bis(2,3-epoxypropoxy)benzene	(E)	
	108-46-3	resorcinol; 1,3-benzenediol	(E)	
	83-79-4	Rotenone	(G,E)	
	78-48-8	S,S,S-Tributyl phosphorotrithioate	(P,G)	
	2703-37-9	S-[2-(ethylsulphinyl)ethyl] O,O-dimethyl phosphorodithioate	(E)	
	553-00-4	salts of 2-naphthylamine	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	612-82-8	salts of 4,4'-bi-o-toluidine; salts of 3,3'-dimethylbenzidine; salts of o-toluidine	(E)	2,330
	531-86-2	salts of benzidine	(E)	
	21136-70-9	salts of benzidine	(E)	
	36341-27-2	salts of benzidine	(E)	
	531-85-1	salts of benzidine	(E)	
	64969-36-4	salts of 4,4'-bi-o-toluidine; salts of 3,3'-dimethylbenzidine; salts of o-toluidine	(E)	
	74753-18-7	salts of 4,4'-bi-o-toluidine; salts of 3,3'-dimethylbenzidine; salts of o-toluidine	(E)	
	28434-00-6	S-bioallethrin; (S)-3-allyl-2-methyl-4-oxocyclopent-2-enyl(1R,3R)-2,2-dimethyl-3-(2-methylprop-1-enyl)cyclopropanecarboxylate	(E)	
	26259-45-0	secbumeton (ISO); 2-sec-butylamino-4-ethylamino-6-methoxy-1,3,5-triazine	(E)	
	7782-49-2	Selenium	(G,E)	
	19622-19-6	S-ethyl N-(dimethylaminopropyl)thiocarbamate hydrochloride; prothiocarb hydrochloride	(E)	
	68130-19-8	silicic acid, lead nickel salt	(E)	
	37321-15-6	silicic acid, nickel salt	(E)	
	26042-64-8	Silver hexafluoroantimonate(1-)	(G)	
	7761-88-8	Silver nitrate	(G,E)	
	7783-93-9	Silver perchlorate	(G)	
	7783-98-4	Silver permanganate	(G)	
	155925-27-2	silver sodium zirconium hydrogenphosphate	(E)	
	7783-95-1	Silver(2+) fluoride	(G)	
	26042-63-7	Silver(I) hexafluorophosphate	(G)	
	122-34-9	simazine (ISO); 6-chloro-N,N'-diethyl-1,3,5-triazine-2,4-diamine	(E)	
	1014-70-6	simetryn (ISO); 2,4-bis(ethylamino)-6-methylthio-1,3,5-triazine	(E)	
	94551-87-8	slimes and sludges, copper electrolyte refining, decopperised	(E)	
	92129-57-2	slimes and sludges, copper electrolytic refining, decopperised, nickel sulfate	(E)	
	87392-12-9	S-metolachlor; reaction mass of (S)-2-chloro-N-(2-ethyl-6-methyl-phenyl)-N-(2-methoxy-1-methyl-ethyl)-acetamide (80-100%)	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	84057-97-6	sodium 1-amino-4-[2-methyl-5-(4-methylphenylsulfonylamino)phenylamino]anthraquinone-2-sulfonate	(E)	2,330
	81992-66-7	sodium 2-[[4-[(4,6-dichloro-1,3,5-triazin-2-yl)amino]phenyl]sulfonyl]ethyl sulfate	(E)	
	31361-99-6	sodium 2-anilino-5-(2-nitro-4-(N-phenylsulfamoyl)anilinobenzenesulfonate	(E)	
	132-27-4	sodium 2-biphenylate; 2-phenylphenol, sodium salt	E	
	38411-13-1	sodium 2-ethylhexanolate	(E)	
	155160-86-4	sodium 3,5-bis(tetradecyloxy-carbonyl)benzenesulfinate	(E)	
	1982-69-0	sodium 3,6-dichloro-o-anisate	(E)	
	136213-75-7	sodium 4-(4-chloro-6-(N-ethylanilino)-1,3,5-triazin-2-ylamino)-2-(1-(2-chlorophenyl)-5-hydroxy-3-methyl-1H-pyrazol-4-ylazo)benzenesulfonate	(E)	
	156738-27-1	sodium 4-[4-(4-hydroxyphenylazo)phenylamino]-3-nitrobenzenesulfonate	(E)	
	118685-34-0	sodium 5-n-butylbenzotriazole	(E)	
	26628-22-8	Sodium azide	(P,G,E)	
	7775-09-9	sodium chlorate	(E)	
	7758-19-2	Sodium chlorite	(P,G)	
	7775-11-03	Sodium chromate	(G,E)	
	917-61-3	sodium cyanate	(E)	
	10588-01-9	Sodium dichromate	(G,E)	
	128-04-1	Sodium dimethyldithiocarbamate	(P,G)	
	62-74-8	Sodium fluoroacetate	(G,E)	
	7681-52-9	sodium hypochlorite, solution ... % Cl active	E	
	7632-00-0	sodium nitrite	E	
	131-52-2	sodium pentachlorophenolate	(E)	
	1344-08-7	sodium polysulphides	E	
	141250-43-3	sodium salt of 4-amino-3,6-bis[[5-[[4-chloro-6-[(2-methyl-4-sulfo-phenyl)amino]-1,3,5-triazin-2-yl]amino]-2-sulfo-phenyl]azo]-5-hydroxy-2,7-naphthalenedisulfonic acid	(E)	
	3926-62-3	sodium salt of chloroacetic acid; sodium chloroacetate	E	
	184246-86-4	sodium salt of the polymer of: sodium 2-methyl-but-1,3-diene-1-sulfonate with acrylic acid and 2-hydroxyethyl-2-methylacrylate	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	10102-18-8	sodium selenite	(E)	2,330
	62476-59-9	sodium 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoate; acifluorfen-sodium	(E)	
	131929-60-7	spinosynA	(E)	
	131929-63-0	spinosynD	(E)	
	154171-76-3	spiro[1,3-dioxolane-2,5'-(4',4',8',8'-tetramethyl-hexahydro-3',9'-methanonaphthalene)]	(E)	
	203313-25-1	spirotetramat (ISO); (5s,8s)-3-(2,5-dimethylphenyl)-8-methoxy-2-oxo-1-azaspiro[4,5]dec-3-en-4-yl ethyl carbonate	(E)	
	118134-30-8	spiroxamine (ISO); 8-tert-butyl-1,4-dioxaspiro[4.5]decan-2-ylmethyl(ethyl)(propyl)amine	(E)	
	7789-06-02	Strontium chromate	(G,E)	
	1039756-60-9	Strontium. chlorohydroxy hydrogenated resin acids[29H,31Hphthalocyaninato(2-)-kN29,kN30,kN31,kN32]copper sulfoderivs.complexes	(G)	
	68310-42-9	Strychnidin-10-one, 2,3-dimethoxy-, compd. with (S) mono(1-methylheptyl)-1,2-benzenedicarboxylate (1:1)	(E)	
	68239-26-9	Strychnidin-10-one, 2,3-dimethoxy-, mono[(R)-1-methylheptyl]-1,2-benzenedicarboxylate]	(E)	
	57-24-9	Strychnine	(G,E)	
	99105-77-8	sulcotrione (ISO); 2-[2-chloro-4-(methylsulfonyl)benzoyl]cyclohexane-1,3-dione	(E)	
	95-06-7	sulfallate (ISO); 2-chloroallyl N,N-dimethyldithiocarbamate	(E)	
	141776-32-1	sulfosulfuron (ISO); 1-(4,6-dimethoxypyrimidin-2-yl)-3-(2-ethylsulfonylimidazo[1,2-a]pyridin-3-yl)sulfonylurea	(E)	
	3689-24-5	Sulfotep	(G,E)	
	946578-00-3	sulfoxaflor (ISO); [methyl(oxo){1-[6-(trifluoromethyl)-3-pyridyl]ethyl}-λ6-sulfanylidene]cyanamide	(E)	
	10025-67-9	Sulfur chloride	(G,E)	
	7664-93-9	Sulfuric acid	(P,G)	
	19287-89-9	Sulfuric acid silver salt	(G)	
	2699-79-8	Sulfuryl fluoride	(P,G,E)	
	5329-14-6	sulphamidic acid; sulphamic acid; sulfamic acid	(E)	
	10545-99-0	sulphur dichloride	E	
	13451-08-6	sulphur tetrachloride	E	
	35400-43-2	Sulprofos	(P,G)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	87-90-1	Symclosene; 1,3,5-Trichloro-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	(G,E)	2,330
	102851-06-9	tau-fluvalinate (ISO); cyano-(3-phenoxyphenyl)methyl N-[2-chloro-4-(trifluoromethyl)phenyl]-D-valinate	(E)	
	76-03-9	TCA (ISO); trichloroacetic acid	(E)	
	650-51-1	TCA-sodium (ISO); sodium trichloroacetate	(E)	
	107534-96-3	tebuconazole (ISO); 1-(4-chlorophenyl)-4,4-dimethyl-3-(1,2,4-triazol-1-ylmethyl)pentan-3-ol	(E)	
	112410-23-8	tebufenozide (ISO); N-tert-butyl-N'-(4-ethylbenzoyl)-3,5-dimethylbenzohydrazide	(E)	
	119168-77-3	Tebufenpyrad	(P,G,E)	
	96182-53-5	Tebupirimfos	(G)	
	34014-18-1	tebuthiuron (ISO); 1-(5-tert-butyl-1,3,4-thiadiazol-2-yl)-1,3-dimethylurea	(E)	
	117-18-0	tecnazene (ISO); 1,2,4,5-tetrachloro-3-nitrobenzene	(E)	
	79538-32-2	Tefluthrin	(G)	
	335104-84-2	tembotrione (ISO); 2-{2-chloro-4-(methylsulfonyl)-3-[(2,2,2-trifluoroethoxy)methyl]benzoyl}cyclohexane-1,3-dione	(E)	
	13071-79-9	Terbufos	(G,E)	
	33693-04-8	terbumeton (ISO); 2-tert-butylamino-4-ethylamino-6-methoxy-1,3,5-triazine	(E)	
	2593-15-9	Terrazole	(P,E)	
	98737-29-2	tert-butyl (1S)-N-[1-((2S)-2-oxiranyl)-2-phenylethyl]carbamate	(E)	
	33610-13-8	tert-butyl (5S,6R,7R)-3-bromomethyl-5,8-dioxo-7-(2-(2-phenylacetamido)-5-thia-1-azabicyclo[4.2.0] oct-2-ene-2-carboxylate	(E)	
	35000-38-5	tert-butyl (triphenylphosphoranylidene) acetate	(E)	
	1663-39-4	tert-butyl acrylate	(E)	
	3457-61-2	tert-butyl α,α-dimethylbenzyl peroxide	(E)	
	134620-00-1	tetraammine palladium (II) hydrogen carbonate	(E)	
	123439-82-7	tetraammine platinum (II) hydrogen carbonate	(E)	
	183130-96-3	tetra-ammonium 2-[6-[7-(2-carboxylato-phenylazo)-8-hydroxy-3,6-disulfonato-1-naphthylamino]-4-hydroxy-1,3,5-triazin-2-ylamino] benzoate	(E)	
	79-94-7	tetrabromobisphenol-A; 2,2',6,6'-tetrabromo-4,4'-isopropylidenediphenol	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	156126-48-6	tetrabutylammonium 2-amino-6-iodopurinate	(E)	2,330
	120307-06-4	tetrabutylammonium butyltriphenylborate	(E)	
	220689-12-3	tetrabutyl-phosphonium nonafluoro-butane-1-sulfonate	(E)	
	13463-39-3	tetracarbonylnickel; nickel tetracarbonyl	(E)	
	127-18-4	Tetrachloroethylene	(P,G,E)	
	118-75-2	tetrachloro-p-benzoquinone	(E)	
	117-08-8	tetrachlorophthalic anhydride	(E)	
	112281-77-3	tetraconazole (ISO); (±) 2-(2,4-dichlorophenyl)-3-(1H-1,2,4-triazol-1-yl)propyl-1,1,2,2-tetrafluoroethylether	(E)	
	1333-22-8	tetracopper hexahydroxide sulphate	(E)	
	12527-76-3	tetracopperhexahydroxidesulphatehydrate	(E)	
	1449-55-4	tetracyclohexylstannane	(E)	
	88377-66-6	tetradecylammonium bis(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-)	(E)	
	136210-30-5	tetraethyl N,N'-(methylenedicyclohexane-4,1-diyl)bis-.sc.dl.sc.-aspartate	(E)	
	107-49-3	Tetraethyl pyro-phosphate	(G,E)	
	192439-46-6	tetrahydro-3-methyl-5-((2-phenylthio)thiazol-5-ylmethyl)-[4H]-1,3,5-oxadiazinan-4-ylidene-N-nitroamine	(E)	
	26266-63-7	tetrahydrophthalicanhydride	(E)	
	110-01-0	tetrahydrothiophene	(E)	
	61571-06-0	tetrahydrothiopyran-3-carboxaldehyde	(E)	
	91788-83-9	tetrakis(1,2,2,6,6-pentamethyl-4-piperidyl)-1,2,3,4-butane tetracarboxylate	(E)	
	225786-91-4	tetrakis(bis(2-hydroxyethyl)methylammonium) 3-(4-(7-acetylamino-1-hydroxy-3-sulfonatophthalen-2-ylazo)-5-methoxy-2-sulfonatophenylazo)-7-(4-amino-3-sulfonatophenylamino)-4-hydroxynaphthalene-2-sulfonate	(E)	
	10591-85-2	tetrakis(phenylmethyl)thioperoxydi(carbothioamide)	(E)	
	116340-05-7	tetrakis(tetramethylammonium) 6-amino-4-hydroxy-3-(7-sulfonato-4-(4-sulfonatophenylazo)-1-naphthylazo)naphthalene-2,7-disulfonate	(E)	
	131013-83-7	tetrakis(tetramethylammonium)3,3'-(6-(2-hydroxyethylamino)1,3,5-triazine-2,4-diylbisimino(2-methyl-4,1-phenyleneazo))bisnaphthalene-1,5-disulfonate	(E)	
	116810-46-9	tetrakis(trimethylhexadecylammonium) hexa-mu-oxotetra-mu3-oxodi-mu5-oxotetradecaooxooctamolybdate(4-)	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	107246-80-0	tetralithium 6-amino-4-hydroxy-3-[7-sulfonato-4-(5-sulfonato-2-naphthylazo)-1-naphthylazo]naphthalene-2,7-disulfonate	(E)	2,330
	75-74-1	Tetramethyl lead	(G)	
	75-57-0	Tetramethylammonium chloride; N,N,N-Trimethyl methanaminium chloride	(G)	
	79723-02-7	Tetramethylammonium hydrogen phthalate	(P,G,E)	
	75-59-2	Tetramethylammonium hydroxide	(G)	
	97-74-5	tetramethylthiuram monosulphide	(E)	
	1314-85-8	tetraphosphorus trisulphide; phosphorus sesquisulphid	E	
	148732-74-5	Tetrasodium (c-(3-(1-(3-(e-6-dichloro-5-cyanopyrimidin-f-yl(methyl)amino)propyl)-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridylazo)-4-sulfonatophenylsulfamoyl)phthalocyanine-a,b,d-trisulfonato(6-))nickelato II, where a is 1 or 2 or 3 or 4,b is 8 or 9 or 10 or 11,c is 15 or 16 or 17 or 18, d is 22 or 23 or 24 or 25 and where e and f together are 2 and 4 or 4 and 2 respectively	(E)	
	116912-62-0	tetrasodium [5-((4-amino-6-chloro-1,3,5-triazin-2-yl)amino)-2-((2-hydroxy-3,5-disulfonatophenylazo)-2-sulfonatobenzylidenehydrazino)benzoate]copper(II)	(E)	
	141048-13-7	tetrasodium [7-(2,5-dihydroxy-KO2-7-sulfonato-6-[4-(2,5,6-trichloropyrimidin-4-ylamino)phenylazo)-(N1,N7-N)-1-naphthylazo]-8-hydroxy-KO8-naphthalene-1,3,5-trisulfonato(6-)]cuprate(II)	(E)	
143683-23-2	tetrasodium 1,2-bis(4-fluoro-6-[5-(1-amino-2-sulfonatoanthrachinon-4-ylamino)-2,4,6-trimethyl-3-sulfonatophenylamino]-1,3,5-triazin-2-ylamino)ethane	(E)		
85665-98-1	tetrasodium 4-amino-3,6-bis(5-[4-chloro-6-(2-hydroxyethylamino)-1,3,5-triazin-2-ylamino]-2-sulfonatophenylazo)-5-hydroxynaphthalene-2,7-disulfonate	(E)		
130201-57-9	tetrasodium 5-[4-chloro-6-(N-ethyl-anilino)-1,3,5-triazin-2-ylamino]-4-hydroxy-3-(1,5-disulfonatophthalen-2-ylazo)-naphthalene-2,7-disulfonate	(E)		
172277-97-3	tetrasodium dihydrogen 1,1"-dihydroxy-8,8"-[p-phenylbis(imino-){6-[4-(2-aminoethyl)piperazin-1-yl]}]-1,3,5-triazine-4,2-diyl-imino)]bis(2,2'-azonaphthalene-1',3,6-trisulfonate)	(E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	124605-82-9	tetra-sodium/lithium 4,4'-bis-(8-amino-3,6-disulfonato-1-naphthol-2-ylazo)-3-methylazobenzene	(E)	2,330
	7440-28-0	thallium	(E)	
	7446-18-6	Thallium sulfate	(G,E)	
	3535-84-0	thallium thiocyanate	(E)	
	96491-05-3	Thenylchlor	(P,G)	
	148-79-8	thiabendazol (ISO); 2-(thiazole-4-yl)benzimidazole	(E)	
	153719-23-4	thiamethoxam (ISO); 3-(2-chloro-thiazol-5-ylmethyl)-5-methyl[1,3,5]oxadiazinan-4-ylidene-N-nitroamine	(E)	
	25366-23-8	thiazafluron (ISO); 1,3-dimethyl-1-(5-trifluoromethyl-1,3,4-thiadiazol-2-yl)urea	(E)	
	79277-27-3	thifensulfuron-methyl (ISO); methyl 3-(4-methoxy-6-methyl-1,3,5-triazin-2-ylcarbamoylsulfamoyl)thiophene-2-carboxylate	(E)	
	62-55-5	thioacetamide	(E)	
	28249-77-6	thiobencarb (ISO); S-4-chlorobenzyl diethylthiocarbamate	(E)	
	463-56-9	thiocyanic acid	(E)	
	31895-21-3	Thiocyclam	(G)	
	59669-26-0	Thiodicarb	(P,G)	
	39196-18-4	Thiofanox	(G,E)	
	23564-05-8	Thiophanate-methyl	(P,E)	
	79-19-6	Thiosemicarbazide	(P,G)	
	62-56-6	Thiourea	(P,E)	
	137-26-8	Thiram	(P,G,E)	
	89-83-8	thymol	(E)	
	7646-78-8	tin tetrachloride; stannic chloride	(E)	
	53408-94-9	tin(II) methanesulphonate	(E)	
	57018-04-9	tolclofos-methyl (ISO); O-(2,6-dichloro-p-tolyl)-O,O-dimethyl thiophosphate	(E)	
	584-84-9	Toluene 2,4-diisocyanate	(P,G,E)	
	91-08-7	Toluene 2,6-diisocyanate	(P,G,E)	
	26471-62-5	Toluene diisocyanate(2,4-,2,6-,mixed isomer mixture)	(P,G,E)	
	65321-67-7	toluene-2,4-diammonium sulphate; 4-methyl-m-phenylenediamine sulfate	(E)	
	6369-59-1	Toluene-2,5-diamine sulfate	(G,E)	
	615-50-9	Toluene-2,5-diamine sulfate	(G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	26915-12-8	Toluidine	(G)	2,330
	540-25-0	Toluidine sulphate(1:1)	(G,E)	
	540-23-8	Toluidinium chloride	(G,E)	
	731-27-1	Tolyfluanid	(G,E)	
	87820-88-0	tralkoxydim (ISO); 2-(N-ethoxypropanimidoyl)-3-hydroxy-5-mesitylcyclohex-2-en-1-one	(E)	
	66841-25-6	Tralomethrin	(G)	
	6876-12-6	trans-1-methyl-4-(1-methylvinyl)cyclohexene	(E)	
	42031-28-7	trans-2-isopropyl-5-carboxy-1,3-dioxane	(E)	
	120578-03-2	trans-3-[2-(7-chloro-2-quinoliny)vinyl]benzaldehyde; 3-[(E)-2-(7-chloro-2-quinoliny)vinyl]benzaldehyde	(E)	
	211387-26-7	trans-7,7'-dimethyl-(4H,4H')-(2,2')bi[benzo[1,4]thiazinylidene]-3,3'-dione	(E)	
	156-60-5	trans-dichloroethylene	(E)	
	115-96-8	Tri(2-chloroethyl)phosphate	(P,E)	
	43121-43-3	triadimefon (ISO); 1-(4-chlorophenoxy)-3,3-dimethyl-1-(1,2,4-triazol-1-yl)butanone	(E)	
	2303-17-5	tri-allate (ISO); S-2,3,3-trichloroallyl diisopropylthiocarbamate	(E)	
	221354-37-6	triammonium 4-[4-[7-(4-carboxylatoanilino)-1-hydroxy-3-sulfonato-2-naphthylazo]-2,5-dimethoxyphenylazo]benzoate	(E)	
	82097-50-5	triasulfuron (ISO); 1-[2-(2-chloroethoxy)phenylsulfonyl]-3-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)urea	(E)	
	112143-82-5	Triazamate	(G)	
	24017-47-8	Triazophos	(P,G,E)	
	101200-48-0	tribenuron-methyl (ISO); methyl 2-[N-(4-methoxy-6-methyl-1,3,5-triazin-2-yl)-N-methylcarbamoylsulfamoyl]benzoate	(E)	
	1461-22-9	Tributyl tin chloride ; TBTCL	(G)	
	83-10-04	Tributyl tin fluoride ; TBTF	(G)	
	1067-97-6	Tributyl tin hydroxide	(G)	
	3090-36-6	Tributyl tin laurate	(G)	
	2155-70-6	Tributyl tin methacrylate	(G)	
	56-35-9	Tributyl tin oxide ; bis(tributyltin)oxide ; TBTO	(G)	
	102-82-9	Tributylamine	(P,G)	
	1702-42-7	Tributylmethylphosphonium iodide	(G)	
	81741-28-8	Tributyltetradecylphosphonium chloride	(G)	
	52-68-6	Trichlorfon	(P,G,E)	
	545-06-2	Trichloroacetonitrile	(P,G,E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	79-01-6	Trichloroethylene	(P,G,E)	2,330
	327-98-0	Trichloronat	(G,E)	
	3380-34-5	Triclosan	(P,G,E)	
	78-32-0	triclesyl phosphate (m-m-m-, m-m-p-, m-p-p-, p-p-p-); tritolyl phosphate (m-m-m-, m-m-p-, m-p-p-, p-p-p-)	(E)	
	78-30-8	triclesyl phosphate (o-o-o-, o-o-m-, o-o-p-, o-m-m-, o-m-p-, o-p-p-); tritolyl phosphate (o-o-o-, o-o-m-, o-o-p-, o-m-m-, o-m-p-, o-p-p-)	(E)	
	24602-86-6	tridemorph (ISO); 2,6-dimethyl-4-tridecylmorpholine	(E)	
	15606-95-8	triethyl arsenate	(E)	
	1420-06-0	trifenmorph (ISO); 4-tritylmorpholine	(E)	
	141517-21-7	trifloxystrobin (ISO); (E,E)-α-methoxyimino-{}{2-[[[1-[3-(trifluoromethyl)phenyl]ethylidene]amino]oxy]methyl]benzeneacetic acid methyl ester	(E)	
	68694-11-1	triflumizole (ISO); (1E)-N-[4-chloro-2-(trifluoromethyl)phenyl]-1-(1H-imidazol-1-yl)-2-propoxyethanimine	(E)	
	76-05-1	trifluoroacetic acid . . . %	(E)	
	7637-07-2	Trifluoroborane	(P,G)	
	1582-09-8	Trifluralin	(G,E)	
	126535-15-7	triflusulfuron-methyl; methyl 2-({[4-(dimethylamino)-6-(2,2,2-trifluoroethoxy)-1,3,5-triazin-2-yl]carbonyl}sulfamoyl)-3-methylbenzoate	(E)	
	2451-62-9	Triglycidyl isocyanurate; 1,3,5-Tris (oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione	(G,E)	
	12519-85-6	trihydrogenhydroxybis[orthosilicato(4-)]trinickelate(3-)	(E)	
	7446-27-7	trilead bis(orthophosphate)	(E)	
	149564-65-8	trilithium bis(4-((4-(diethylamino)-2-hydroxyphenyl)azo)-3-hydroxy-1-naphthalenesulfonato(3-))chromate(3-)	(E)	
	117409-78-6	trilithium-1-hydroxy-7-(3-sulfonatoanilino)-2-(3-methyl-4-(2-methoxy-4-(3-sulfonatophenylazo)phenylazo)phenylazo)naphthalene-3-sulfonate	(E)	
	13477-70-8	trinickel bis(arsenate); nickel(II) arsenate	(E)	
	74646-29-0	trinickel bis(arsenite)	(E)	
	12137-12-1	trinickel tetrasulfide	(E)	
	10381-36-9	trinickelbis(orthophosphate)	(E)	
	12007-02-2	trinickelboride	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	869-59-0	trioctylstannane	(E)	2,330
	101-02-0	triphenyl phosphite	(E)	
	900-95-8	Triphenyl tin acetate	(G,E)	
	332350-93-3	Triphenyl(phenylmethyl)phosphonium 1,1,2,2,3,3,4,4,4-nonafluoro-N-methyl-1-butanefulfonamide(1:1)	(G,E)	
	115-86-6	Triphenylphosphate	(G)	
	603-35-0	Triphenylphosphine	(G)	
	76-87-9	Triphenyltin hydroxide	(P,G,E)	
	1109-15-5	Tris(2,3,4,5,6-pentafluorophenyl)borane	(G)	
	126-72-7	Tris(2,3-dibromopropyl)phosphate	(G)	
	88122-99-0	tris(2-ethylhexyl)-4,4',4''-(1,3,5-triazine-2,4,6-triyltriimino)tribenzoate	(E)	
	778583-04-3	tris(2-hydroxyethyl)ammonium 7-{{4-[4-(2-cyanoamino-4-hydroxy-6-oxidopyrimidin-5-ylazo)benzamido]-2-ethoxy-phenylazo}}naphthalene-1,3-disulfonate	(E)	
	52301-18-5	tris(isopropenyloxy)phenyl silane	(E)	
	26523-78-4	tris(nonylphenyl) phosphite	(E)	
	131013-81-5	tris(tetramethylammonium) 5-hydroxy-1-(4-sulphonatophenyl)-4-(4-sulphonatophenylazo)pyrazole-3-carboxylate	(E)	
	7784-09-0	Trisilver orthophosphate	(G)	
	182926-43-8	trisodium 2,4-diamino-3,5-bis-[4-(2-sulfonatoethoxy)sulfonyl]phenylazo]benzenesulfonate	(E)	
	215612-56-9	trisodium 3-[2-acetylamino-4-[4-chloro-6-[4-(2-sulfonatoxyethylsulfononyl)phenylamino]-1,3,5-triazine-2-ylamino]phenylazo]naphthalene-1,5-disulfonate	(E)	
	136213-71-3	trisodium 5-amino-3-[5-(2-bromoacryloylamino)-2-sulfonatophenylazo]-4-hydroxy-6-(4-vinylsulfonylphenylazo)naphthalene-2,7-disulfonate	(E)	
	92408-46-3	trisodium 5-benzamido-4-hydroxy-3-(4-methyl-2-sulfonatophenylazo)naphthalene-2,7-disulfonate	(E)	
	93952-24-0	trisodium bis(2-(5-chloro-4-nitro-2-oxidophenylazo)-5-sulphonato-1-naphtholato)chromate(1-)	(E)	
	13775-53-6	trisodium hexafluoroaluminate	(E)	
	129050-62-0	trisodium N,N-bis(carboxymethyl)-β-alanine	(E)	
	131983-72-7	triticonazole (ISO); (RS)-(E)-5-(4-chlorobenzylidene)-2,2-dimethyl-1-(1H-1,2,4-triazol-1-methyl)cyclopentanol	(E)	

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	142469-14-5	tritosulfuron (ISO) (containing \leq 0,02% AMTT); 1-[4-methoxy-6-(trifluoromethyl)-1,3,5-triazin-2-yl]-3-[2-(trifluoromethyl)benzenesulfonyl]urea (containing \leq 0,02% AMTT)	(E)	2,330
	7779-90-0	trizinc bis(orthophosphate)	(E)	
	2244-21-5	troclosene potassium	(E)	
	51580-86-0	troclosene sodium, dihydrate	(E)	
	2893-78-9	Troclosene sodium; 1,3-Dichloro-1,3,5-triazine-2,4,6(1H,3H,5H)-trione sodium salt	(G,E)	
	8006-64-2	turpentine, oil	(E)	
	7440-61-1	uranium	(E)	
	166242-53-1	UVCB condensation product of: tetrakis-hydroxymethylphosphonium chloride, urea and distilled hydrogenated C16-18 tallow alkylamine	(E)	
	109-52-4	valeric acid	(E)	
	2275-23-2	Vamidothion	(P,G,E)	
	58834-75-6	vanadyl pyrophosphate	(E)	
	1929-77-7	vernolate (ISO); S-propyl dipropylthiocarbamate	(E)	
	50471-44-8	vinclozolin (ISO); N-3,5-dichlorophenyl-5-methyl-5-vinyl-1,3-oxazolidine-2,4-dione	(E)	
	108-05-4	Vinyl acetate	(P)	
	81-81-2	Warfarin	(P,G,E)	
	5543-58-8	Warfarin	(G,E)	
	5543-57-7	Warfarin	(G,E)	
	12185-10-3	White phosphorus	(G,E)	
	31512-74-0	WSCP	(G)	
	1300-71-6	Xylenol	(P,G,E)	
	95-87-4	Xylenol	(G,E)	
	71975-58-1	Xylenol	(G,E)	
	576-26-1	Xylenol	(G,E)	
	526-75-0	Xylenol	(G,E)	
	108-68-9	Xylenol	(G)	
	105-67-9	Xylenol	(G,E)	
	2425-10-7	xylylcarb (ISO); 3,4-dimethylphenyl N-methylcarbamate; 3,4-xylyl methylcarbamate; MPMC	(E)	
	52315-07-8	Zeta-cypermethrin	(P,G,E)	
	136-23-2	zinc bis(dibutyldithiocarbamate)	(E)	
	14324-55-1	zinc bis(diethyldithiocarbamate)	(E)	
7646-85-7	Zinc chloride	(G,E)		

○ 생태독성 물질 (CAS No. 有) (계속)

유해 특성	CAS	목록	구분	물질수
생태독성	1314-13-2	zinc oxide	(E)	2,330
	1314-84-7	Zinc phosphide	(G,E)	
	7440-66-6	zinc powder - zinc dust (pyrophoric)	(E)	
	7733-02-0	Zinc sulfate	(G,E)	
	7446-19-7	zinc sulphate (hydrous) (mono-, hexa- and hepta hydrate)	(E)	
	137-30-4	Ziram	(P,G,E)	
	156052-68-5	zoxamide (ISO); (RS)-3,5-dichloro-N-(3-chloro-1-ethyl-1-methyl-2-oxopropyl)-p-toluamide	(E)	
	26027-38-3	α -(4-Nonylphenyl)- ω -hydroxy poly(oxy-1,2-ethanediyl)	(G)	
	125613-45-8	α , ω -dihydroxypoly(hex-5-en-1-ylmethylsiloxane)oxysilane with (hydrolysis product of silica and methyltrimethoxysilane)iazole	(E)	
	65405-84-7	α ,2,2,6-Tetramethylcyclohexenebutanal	(G)	
	98-08-8	α , α , α -trifluorotoluene; benzotrifluoride	(E)	
	80-15-9	α , α -dimethylbenzyl hydroperoxide; cumene hydroperoxide	(E)	
	144736-29-8	α [2-[[[(2-hydroxyethyl)methylamino]acetyl]amino]propyl]- ω -(nonylphenoxy)poly[oxo(methyl-1,2-ethanediyl)]	(E)	
	176022-82-5	α -[2-[Bis(2-hydroxyethyl)amino]propyl]- ω -hydroxypoly[oxy(methyl-1,2-ethanediyl)]etherwith α -hydro- ω -hydroxypoly(oxy-1,2-ethanediyl)(1:2),mono-C12-16-alkylethers	(G)	
	67375-30-8	α -cypermethrin (ISO); racemate comprising (R)- α -cyano-3-phenoxybenzyl (1S,3S)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate; (S)- α -cyano-3-phenoxybenzyl (1R,3R)-3-(2,2-dichlorovinyl)-2,2-dimethylcyclopropanecarboxylate	(E)	
	203574-04-3	α -hydro- ω -[[[(1,1-dimethylethyl)dioxy]carbonyl]oxy]-poly[oxy(methyl-1,2-ethanediyl)] ether with 2,2-bis(hydroxymethyl)-1,3-propanediol (4:1); reaction product of: α -hydro- ω -((chlorocarbonyl)oxy)-poly(oxy(methyl-1,2-ethanediyl)) ether with 2,2-bis(hydroxymethyl)-1,3-propanediol with potassium 1,1-dimethylethylperoxalate	(E)	
	69430-40-6	α -trimethylsilyl- ω -trimethylsiloxypoly[oxy(methyl-3-(2-(2-methoxypropoxy)propoxy)propylsilanediyl)]-co-oxy(dimethylsilane)	(E)	
125109-85-5	β -methyl-3-(1-methylethyl)-benzenepropanal	(E)		

○ 폭발성 물질 (CAS No. 無)

유해 특성	목록	구분	물질수
폭발성	cellulose nitrate; nitrocellulose	E	5
	hydrazine-trinitromethane	E	
	Hydroxylamine, salts	G	
	Picric acid, salts	G	
	salts of picric acid	E	

○ 인화성 물질 (CAS No. 無)

유해 특성	목록	구분	물질수
인화성	(ethyl-3-oxobutanoato-O'1,O'3)(2-dimethylaminoethanolato)(1-methoxypropan-2-olato)aluminium(III), dimerised	E	17
	2-methyl-5-tert-butylthiophenol	E	
	3-hydroxy-1,1-dimethylbutyl 2-ethyl-2-methylheptaneperoxoate	E	
	5-(2-bromophenyl)-2-tert-butyl-2H-tetrazole	E	
	Beryllium and its compounds	P	
	butyl (dialkyloxy(dibutoxyphosphoryloxy))titanium (trialkyloxy)titanium phosphate	E	
	magnesium, powder or turnings	E	
	pentanol isomers, with the exception fo those specified elsewhere in this Annex	E	
	poly-(methyl methacrylate)-co-(butylmethacrylate)-co-(4-acryloxybutyl-isopropenyl- α , α -dimethylbenzyl carbamate)-co-(maleicanhydride)	E	
	R,R-2-hydroxy-5-(1-hydroxy-2-(4-phenylbut-2-ylamino)ethyl)benzamide hydrogen 2,3-bis(benzoyloxy)succinate	E	
	reaction mass of: bis(isotridecylammonium)mono(di-(4-methylpent-2-yloxy)thiophosphorothionylisopropyl)phosphate; isotridecylammonium bis(di-(4-methylpent-2-yloxy)thiophosphorothionylisopropyl)phosphate	E	
	reaction mass of: N-(3-(trimethoxysilyl)propyl)ethylenediamine; N-benzyl-N-(3-(trimethoxysilyl)propyl)ethylenediamine; N-benzyl-N'-[3-(trimethoxysilyl)propyl]ethylenediamine; N,N'-bis-benzyl-N'-[3-(trimethoxysilyl)propyl]ethylenediamine; N,N,N'-tris-benzyl-N'-[3-(trimethoxysilyl)propyl]ethylenediamine; N,N-bis-benzyl-N'-[3-(trimethoxysilyl)propyl]ethylenediamine	E	
	reaction product of: (2-hydroxy-4-(3-propenoxy)benzophenone and triethoxysilane) with (hydrolysis product of silica and methyltrimethoxysilane)	E	
	reaction product of: 1,2,3-propanetricarboxylic acid, 2-hydroxy, diethyl ester, 1-propanol and zirconium tetra-n-propanolate	E	
	reaction product of: acetophenone, formaldehyde, cyclohexylamine, methanol and acetic acid	E	
Reaction products of tungsten hexachloride with 2-methylpropan-2-ol, nonylphenol and pentane-2,4-dione	E		
sodium((n-butyl) _x (ethyl) _y -1,5-dihydro)aluminate) x = 0,5, y = 1,5	E		

○ 자연발화성 물질 (CAS No. 無)

유해 특성	목록	구분	물질수
자연발화성	aluminium alkyls	E	10
	magnesium alkyls	E	
	magnesium, powder or turnings	E	
	potassium iron(III) 1,3-propanediamine-N,N,N',N'-tetraacetate hemihydrate	E	
	reaction mass of: 1,2-naphthoquinonediazide-5-sulfonylchloride (or sulfonic acid)monoester with 4,4'-(1-(4-(1-(4-hydroxyphenyl)-1-methylethyl)phenyl)ethylidene) bisphenol; 1,2-naphthoquinonediazide-5-sulfonylchloride (or sulfonic acid)diester with 4,4'-(1-(4-(1-(4-hydroxyphenyl)-1-methylethyl)phenyl)ethylidene) bisphenol; 1,2-naphthoquinonediazide-5-sulfonylchloride (or sulfonic acid)triester with 4,4'-(1-(4-(1-(4-hydroxyphenyl)-1-methylethyl)phenyl)ethylidene) bisphenol	E	
	sodium((n-butyl)x(ethyl)y-1,5-dihydro)aluminate) x = 0,5, y = 1,5	E	
	trialkylboranes	E	
	trialkylboranes, liquid	E	
	Zinc and its compounds	P	
	zirconium powder (non pyrophoric)	E	

○ 금수성 물질 (CAS No. 無)

유해 특성	목록	구분	물질수
금수성	aluminium alkyls	E	5
	Barium and its compounds	P	
	magnesium alkyls	E	
	magnesium, powder or turnings	E	
	sodium((n-butyl)x(ethyl)y-1,5-dihydro)aluminate) x = 0,5, y = 1,5	E	

○ 산화성 물질 (CAS No. 無)

유해 특성	목록	구분	물질수
산화성	2-hydroxyethylammonium perbromide	E	4
	Chloric acid, salts	G	
	Dichromic acid, salts	G	
	Nitrous acid, salts	P, G	

○ 부식성 물질 (CAS No. 無)

유해 특성	목록	구분	물질수
부식성	(ethyl-1,2-ethanediy)[-2-[[[(2-hydroxyethyl)methylamino]acetyl]-propyl]ω-(nonylphenoxy)poly]oxy-(methyl-1,2-ethanediy)	E	45
	2-(4-(3-(4-chlorophenyl)-2-pyrazolin-1-yl)phenylsulfonyl)ethyl-dimethylammonium formate	E	
	2,4-dichloro-3-ethylphenol	E	
	2,5-bis-isocyanatomethyl-bicyclo[2.2.1]heptane	E	
	2-hydroxyethylammonium perbromide	E	
	3-(4-fluorophenyl)-2-methylpropionylchloride	E	
	7,7-dimethyl-3-oxa-6-aza-octan-1-ol	E	
	alkyl(rapeseed oil), bis(2-hydroxyethyl)ammonium fluoride	E	
	aluminium alkyls	E	
	calcium octadecylxylenesulphonate	E	
	Condensation product of: 3-(7-carboxyhept-1-yl)-6-hexyl-4-cyclohexene-1,2-dicarboxylic acid with polyamines (primarily amino-ethyl-piperazine and triethylenetetramine)	E	
	diethyl 2,4-dihydroxycyclodisiloxane-2,4-diylbis(trimethylene)diphosphonate, tetrasodium salt, reaction products with disodium metasilicate	E	
	ethylenediammonium O,O-bis(octyl) phosphorodithioate, mixed isomers	E	
	Fluoroboric acid, salts	G	
	Fluorosilicic acid, salts	G	
	glutamic acid, reaction products with N-(C12-14-alkyl)propylenediamine	E	
	hydrazine bis(3-carboxy-4-hydroxybenzenesulfonate)	E	
	hydrobromic acid ... %	E	
	hydrochloric acid ... %	E	
	Inorganic antimony compounds	G	
	Inorganic tin, salts	G	
	magnesium alkyls	E	
	N,N-bis(cocoyl-2-oxypropyl)-N,N-dibutylammonium bromide	E	
	N1,N1,N1,N4,N4,N4-Hexabutyl-1,4-butanediaminium, hydroxide (1:2)	G	
	oleum ... % SO3	E	
	platinum(IV) nitrate/nitric acid solution	E	
	polyethylenepolyamines with the exception of those specified elsewhere in this Annex	E	
	p-toluenesulphonic acid, containing more than 5 % H2SO4	E	
	reaction mass of: 1,2-dimethylpropylidene dihydroperoxide; dimethyl 1,2-benzenedicarboxylate	E	
	reaction mass of: 1,7-dimethyl-2-[(3-methylbicyclo[2.2.1]hept-2-yl)methyl]bicyclo[2.2.1]heptane; 2,3-dimethyl-2-[(3-methylbicyclo[2.2.1]hept-2-yl)methyl]bicyclo[2.2.1]heptane	E	

○ 부식성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
부식성	reaction mass of: bis(isotridecylammonium)mono(di-(4-methylpent-2-yloxy)thiophosphorot hionylisopropyl)phosphate; isotridecylammonium bis(di-(4-methylpent-2-yloxy)thiophosphorothionylisopropyl)phosphate	E	45
	reaction mass of: di-(1-octane-N,N,N-trimethylammonium) octylphosphate; 1-octane-N,N,N-trimethylammonium di-octylphosphate; 1-octane-N,N,N-trimethylammonium octylphosphate	E	
	reaction mass of: dodecyl N-(2,2,6,6-tetramethylpiperidin-4-yl)-β-alaninate; tetradecyl N-(2,2,6,6-tetramethylpiperidin-4-yl)-β-alaninate	E	
	reaction mass of: hexyldioctylphosphineoxide; dihexyloctylphosphineoxide; trioctylphosphineoxide	E	
	reaction mass of: sodium 1-tridecyl-4-allyl-(2 or 3)-sulfobutanedioate; sodium 1-dodecyl-4-allyl-(2 or 3)-sulfobutanedioate	E	
	reaction mass of: succinic acidmonopersuccinic acid dipersuccinic acidmonomethyl ester of succinic acidmonomethyl ester of persuccinic aciddimethyl succinate glutaric acidmonoperglutaric acid diperglutaric acidmonomethyl ester of glutaric acidmonomethyl ester of perglutaric aciddimethyl glutarate adipic acidmonoperadipic acid diperadipic acidmonomethyl ester of adipic acidmonomethyl ester of peradipic aciddimethyl adipatehydrogen peroxidemethanolwater	E	
	reaction product of: acetophenone, formaldehyde, cyclohexylamine, methanol and acetic acid	E	
	reaction product of: borax, hydrogen peroxide, acetic acid anhydride and acetic acid	E	
	Reaction products of tungsten hexachloride with 2-methylpropan-2-ol, nonylphenol and pentane-2,4-dione	E	
	Reaction products of: trimethylhexamethylene diamine (a mixture of 2,2,4-trimethyl-1,6-hexanediamine and 2,4,4-trimethyl-1,6-hexanediamine, EINECS listed), Epoxide 8 (mono[(C10-C16-alkyloxy)methyl]oxirane derivatives) and p-toluene-sulfonic acid	E	
	sodium((n-butyl)x(ethyl)y-1,5-dihydro)aluminate) x = 0,5, y = 1,5	E	
	trialkylboranes	E	
	trialkylboranes, liquid	E	
	tributyltetradecylphosphonium tetrafluoroborate	E	
α-hydroxypoly(methyl-(3-(2,2,6,6-tetramethylpiperidin-4-yloxy)propyl)sil oxane)	E		

○ 생태독성 물질 (CAS No. 無)

유해 특성	목록	구분	물질수
생태독성	(+/-)-(R*,R*)-6-fluoro-3,4-dihydro-2-oxiranyl-2H-1-benzopyran; 6-fluoro-2-(2-oxiranyl)chromane	(E)	490
	(±)-2-(2,4-dichlorophenyl)-3-(1H-1,2,4-triazol-1-yl)propan-1-ol	(E)	
	(±)-4-(3-chlorophenyl)-6-[(4-chlorophenyl)hydroxy(1-methyl-1H-imidazo 1-5-yl)methyl]-1-methyl-2(1H)-quinolin	(E)	
	(±)-α-[(2-acetyl-5-methylphenyl)-amino]-2,6-dichlorobenzene-aceto-nitr ile	(E)	
	(1R,4R)-4-methoxy-2,2,7,7-tetramethyltricyclo(6.2.1.0(1,6))undec-5-ene	(E)	
	(1S,1'R)-[1-(3',3'-dimethyl-1'-cyclohexyl)ethoxycarbonyl]methyl propanoate	(E)	
	(1α5α6α)-6-nitro-3-benzyl-3-azabicyclo[3.1.0]hexane methanesulfonate salt	(E)	
	(2-hydroxy-3-(3,4-dimethyl-9-oxo-10-thiaanthracen-2-yloxy)propyl)trim ethylammonium chloride	(E)	
	(2R*,3S*)-2-(2,4-difluorophenyl)-3-(5-fluoro-4-pyrimidinyl)-1-(1H-1,2,4-t riazol-1-yl)butan-2-ol (1R)-10-camphorsulfonate	(E)	
	(2R,3S)-N-(3-amino-2-hydroxy-4-phenylbutyl)-N-isobutyl-4-nitrobenzen esulfonamide hydrochloride	(E)	
	(3S-trans)-phenyl-3-[(1,3-benzodioxol-5-yloxy)methyl]-4-(4-fluorophenyl)-1-piperidinecarboxylate	(E)	
	4-(6-diethylamino-2-methylpyridin-3-yl)imino-4,5-dihydro-3-methyl-1-(4-methylphenyl)-1H-pyrazol-5-one	(E)	
	(C16 or C18-n-alkyl)(C16 or C18-n-alkyl)ammonium 2-((C16 or C18-n-alkyl)(C16 or C18-n-alkyl)carbamoyl)benzenesulphonate	(E)	
	(chlorophenyl)(chlorotolyl)methane, mixed isomers	(E)	
	(E)-(7R,11R)-3,7,11,15-tetramethylhexadec-2-ene-1-ol	(E)	
	(E)-3-methyl-5-cyclopentadecen-1-one	(E)	
	(ethyl-1,2-ethanediyl)[-2-[[[(2-hydroxyethyl)methylamino]acetyl]-propyl]ω -(nonylphenoxy)poly]oxy-(methyl-1,2-ethanediyl)	(E)	
	(R,S)-1-[2-amino-1(4-methoxyphenyl)ethyl]cyclohexanol acetate	(E)	
(R,S)-4-(4-dimethylamino-1-(4-fluorophenyl)-1-hydroxybutyl)-3-(hydroxy methyl)benzonitrile hemisulfate	(E)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	(S)-1,1-diphenyl-1,2-propanediol	(E)	490
	(S)-azetidine-2-carboxylic acid 4-cyanobenzylamide hydrochloride	(E)	
	(Z)-1-benzo[b]thien-2-ylethanone oxime hydrochloride	(E)	
	1-(4-morpholinophenyl)butan-1-one	(E)	
	1,1'-(1,3-phenylenedioxy)bis(3-(2-(prop-2-enyl)phenoxy)propan-2-ol)	(E)	
	1,2,3,4,5,6-hexachlorocyclohexanes with the exception of those specified elsewhere in this Annex	(E)	
	1,3-bis(4-benzoyl-3-hydroxyphenoxy)prop-2-yl acetate	(E)	
	1,3-bis[12-hydroxy-octadecamide-N-methylene]-benzene	(E)	
	1-Decylpyridinium bis(fluorosulfonyl)imide	(E)	
	1-ethyl-5,6,7,8-tetrahydroquinolinium tosylate	(E)	
	1-imidazol-1-yl-octadecan-2-ol	(E)	
	2-(4-(3-(4-chlorophenyl)-2-pyrazolin-1-yl)phenylsulfonyl)ethyl-dimethylammonium formate	(E)	
	2-(4-(4-cyano-3-methylisothiazol-5-ylazo)-N-ethyl-3-methylanilino)ethyl acetate	(E)	
	2-(4-(diethylaminopropylcarbamoyl)phenylazo)-3-oxo-N-(2,3-dihydro-2-oxobenzimidazol-5-yl)butyramide	(E)	
	2-(4-methyl-2-phenyl-1-piperazinyl)benzenemethanol monohydrochloride	(E)	
	2,2,6,6,-Tetramethyl-4-aminopiperidine reaction product with mixture of dodecyl acrylate and tetradecyl acrylate	(E)	
	2,2'-[3,3'-(piperazine-1,4-diyl)dipropyl]bis(1H-benzimidazo[2,1-b]benzo[1,m,n][3,8]phenanthroline-1,3,6-trione	(E)	
	2,2-dialkyl-4-hydroxymethyl-1,3-dioxolane; reaction products with ethylene oxide (alkyl is C1-12 and the sum to C13, average degree of ethoxylation is 3.5)	(E)	
	2,2'-dithio di(ethylammonium)-bis(dibenzylthiocarbamate)	(E)	
	2,2-spirobi(6-hydroxy-4,4,7-trimethylchromane)	(E)	
2,4-bis(((2-(dimethylammonio)ethyloxy)carbonyl)phen-2-ylazo)benzene-1,3-diol sulfate	(E)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	2,4-bis(((2-(dimethylammonio)ethoxy)carbonyl)phen-2-ylazo)benzene-1,3-diolbis(methanesulfonate)	(E)	490
	2,4-bis[N'-(4-methylphenyl)ureido]toluene	(E)	
	2,4-dichloro-3-ethylphenol	(E)	
	2,4-dimethyl-6-(1-methyl-pentadecyl)phenol	(E)	
	2,5-bis(1,1-dimethylbutyl)hydroquinone	(E)	
	2,5-bis-isocyanatomethyl-bicyclo[2.2.1]heptane	(E)	
	2,5-Furandione reaction products with aniline-1,4-bis(chloromethyl)benzene copolymer	(E)	
	2,6,6,7,8,8-hexamethyldecahydro-2H-indeno[4,5-b]furan	(E)	
	2,6-bis(2,3,4-trihydroxybenzyl)-p-cresol ester with 6-diazo-5,6-dihydro-5-oxo-1-naphthalenesulfonate	(E)	
	2,9-bis(3-(diethylamino)propylsulfamoyl)quino(2,3-b)acridine-7,14-dione	(E)	
	2-[4-[N-(4-acetoxybutyl)-N-ethyl]amino-2-methylphenylazo]-3-acetyl-5-nitrothiophene	(E)	
	2-{{4-(2-ammoniopropylamino)-6-[4-hydroxy-3-(5-methyl-2-methoxy-4-sulfamoylphenylazo)-2-sulfonatonaphth-7-ylamino]-1,3,5-triazin-2-ylamino}}-2-aminopropyl formate	(E)	
	2-alkoxyloxyethyl hydrogen maleate, where alkoyl represents (by weight) 70 to 85 % unsaturated octadecoyl, 0.5 to 10 % saturated octadecoyl, and 2 to 18 % saturated hexadecoyl	(E)	
	2-amino-4-bromo-5-chlorobenzoic acid	(E)	
	2'-anilino-3'-methyl-6'-dipentylaminospiro(isobenzofuran-1(1H),9'-xanthene)-3-one	(E)	
	2-dodec-1-enylbutanedioic acid, 4-methyl ester zinc salt	(E)	
	2-ethoxyethyl 2-(4-(2,6-dihydro-2,6-dioxo-7-phenyl-1,5-dioxaindacen-3-yl)phenoxy)acetate	(E)	
	2-hydroxy-3-(2-ethyl-4-methylimidazol)propyl neodecanoate	(E)	
	2-hydroxyethylammonium perbromide	(E)	
	2-methyl-1-pentylpyridinium bromide	(E)	
	2-methyl-5-(1,1,3,3-tetramethylbutyl)hydroquinone	(E)	
2-methyl-5-tert-butylthiophenol	(E)		
2-n-hexadecylhydroquinone	E		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	3-(4-fluorophenyl)-2-methylpropionylchloride	(E)	490
	3,3,8,8,10,10-hexamethyl-9-[1-(4-oxiranylmethoxy-phenyl)-ethoxy]-1,5-dioxa-9-aza-spiro[5.5]undecane	(E)	
	3,3'-Dichlorobenzidine, salts	(E)	
	3,4-dichloro-N-[5-chloro-4-[2-[4-(hexadecyloxy)phenylsulfonyl]butyramido]-2-hydroxyphenyl]benzamide	(E)	
	3,4-dichloro-N-[5-chloro-4-[2-[4-dodecyloxyphenylsulfonyl]butyramido]-2-hydroxyphenyl]benzamide	(E)	
	3-[(4'-acetoxy-3'-methoxyphenyl) propyl]trimethoxysilane	(E)	
	3-hydroxy-1,1-dimethylbutyl 2-ethyl-2-methylheptaneperoxoate	(E)	
	4-(1(or 4 or 5 or 6)-methyl-8,9,10-trinorborn-5-en-2-yl)pyridine, reaction mass of isomers	(E)	
	4-(2-carboxymethylthio)ethoxy-1-hydroxy-5-isobutyloxycarbonylamino-N-(3-dodecyloxypropyl)-2-naphthamide	(E)	
	4-(5-(5-[1-(4-carboxyphenyl)hexahydro-2,4,6-trioxypyrimidin-5-ylidene]penta-1,3-dienyl)-1,2,3,4-tetrahydro-6-hydroxy-2,4-dioxypyrimidin-1-yl)benzoic acid-triethylamine salt	(E)	
	4,4'-methylene bis(3-chloro-2,6-di-ethylphenylisocyanate)	(E)	
	4,7-methanoctahydro-1H-indene-diyl dimethyl bis(2-carboxybenzoate)	(E)	
	4-benzyloxy-4'-(2,3-epoxy-2-methylprop-1-yloxy)diphenylsulfone	(E)	
	4-chlorophenyl cyclopropyl ketone O-(4-aminobenzyl)oxime	(E)	
	4-dimethylaminobenzenediazonium 3-carboxy-4-hydroxybenzenesulfonate	(E)	
	4-hexadecyl-1-phenylpyrazolidin-3-one	(E)	
	4-nonylphenol, reaction products with formaldehyde and dodecane-1-thiol	(E)	
	5-(2-bromophenyl)-2-tert-butyl-2H-tetrazole	(E)	
	5(or 6)-tert-butyl-2'-chloro-6'-ethylamino-3',7'-dimethylspiro(isobenzofuran-1(1H),9'-xanthene)-3-one	(E)	
	5-acetyl-3-amino-10,11-dihydro-5H-dibenz[b,f]azepine-hydrochloride	(E)	
5-tert-butyl-3-isoxazolylamine hydrochloride	(E)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	6-docosyloxy-1-hydroxy-4-(1-(4-hydroxy-3-methylphenanthren-1-yl)-3-oxo-2-oxaphenalen-1-yl)naphthalene-2-carboxylic acid	(E)	490
	6-fluoro-2-methyl-3-(4-methylthiobenzyl)indene	(E)	
	A reaction mass of: (1,3-dioxo-2H-benz(de)isoquinolin-2-ylpropyl)hexadecyldimethylammonium 4-toluenesulfonate; (1,3-dioxo-2H-benz(de)isoquinolin-2-ylpropyl)hexadecyldimethylammonium bromide	(E)	
	alkali salts and alkali earth salts of thiocyanic acid, with the exception of those specified elsewhere in this Annex	(E)	
	Alkyl aniline	(G)	
	Alkyl aniline, salts	(G)	
	alkyl(rapeseed oil), bis(2-hydroxyethyl)ammonium fluoride	(E)	
	Aluminium and its compounds	P	
	aluminium-magnesium-carbonate-hydroxide-perchlorate-hydrate	(E)	
	Amine, tert-alkyl(C=12-14), 1-amino-9,10-dihydro-9,10-dioxo-4-(2,4,6-trimethylanilino)-anthracene-2-sulfonic acid	(G)	
	ammonium (η-6-2-(2-(1,2-dicarboxylatoethylamino)ethylamino)butane-1,4-dioato(4-))iron(3+) monohydrate	(E)	
	ammonium 7-(2,6-dimethyl-8-(2,2-dimethylbutyryloxy)-1,2,6,7,8,8a-hexahydro-1-naphthyl)-3,5-dihydroxyheptanoate	(E)	
	Aniline, salts	(G)	
	antimony compounds, with the exception of the tetroxide (Sb2O4), pentoxide (Sb2O5), trisulphide (Sb2S3), pentasulphide (Sb2S5) and those specified elsewhere in this Annex	(E)	
	arsenic acid and its salts with the exception of those specified elsewhere in this Annex	(E)	
	Arsenic and its compounds	P	
	Arsenic compounds	(G)	
	arsenic compounds, with the exception of those specified elsewhere in this Annex	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	Benzidine, salts	(G)	490
	benzyldimethyloctadecylammonium 3-nitrobenzenesulfonate	(E)	
	Beryllium and its compounds	P	
	beryllium compounds with the exception of aluminium beryllium silicates, and with those specified elsewhere in this Annex	(E)	
	bis(3-(trimethoxysilyl)propyl)amine	(E)	
	bis(4-fluorophenyl)-methyl-(1,2,4-triazol-4-ylmethyl)silane hydrochloride	(E)	
	bis-(6-hydroxy-4-methyl-5-(3-methylimidazolium-1-yl)-3-(4-phenylazo)-1H-pyridin-2-one)ethylene dilactate	(E)	
	bis(dimethyl-(2-hydroxyethyl)ammonium) 1,2-ethanediyl-bis(2-hexadecenylsuccinate)	(E)	
	bis(hydrogenated tallow C16-18-alkyl)hydroxylamine	(E)	
	bis[(1-methylimidazol)-(2-ethyl-hexanoate)], zinc complex	(E)	
	bis[[2,2',2''-nitrilotris-[ethanolato]]-1-N,O]-bis[2-(2-methoxyethoxy)ethoxy]-titanium	(E)	
	branched, octyl 3-[3,5-di(tert-butyl)-4-hydroxyphenyl]propanoate	(E)	
	butyl (dialkyloxy(dibutoxyphosphoryloxy))titanium (trialkyloxy)titanium phosphate	(E)	
	C12-14-tert-alkyl ammonium 1-amino-9,10-dihydro-9,10-dioxo-4-(2,4,6-trimethylanilino)-anthracen-2-sulfonate	(E)	
	Cadmium and its compounds	P	
	Cadmium compounds	(G)	
	cadmium compounds, with the exception of cadmium sulphoselenide (xCdS.yCdSe), reaction mass of cadmium sulphide with zinc sulphide (xCdS.yZnS), reaction mass of cadmium sulphide with mercury sulphide (xCdS.yHgS), and those specified elsewhere in this Annex	(E)	
	calcium 2,2,bis[(5-tetrapropylene-2-hydroxy)phenyl]ethanoate	(E)	
	calcium octadecylxylenesulphonate	(E)	
	Cartap, salts	(G)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	cerium oxide isostearate	(E)	490
	Chlordimeform, salts	(G)	
	chloroanilines, with exception of those specified elsewhere in this Annex	(E)	
	chlorodinitrobenzene	(E)	
	chloronitroanilines with the exception of those specified elsewhere in this Annex	(E)	
	Chromicacid, salts	(G)	
	Chromium (VI) compounds, with the exception of barium chromate and of compounds specified elsewhere in this Annex	(E)	
	Cobalt and its compounds	P	
	cobalt lithium nickel oxide	(E)	
	Condensation product of: 3-(7-carboxyhept-1-yl)-6-hexyl-4-cyclohexene-1,2-dicarboxylic acid with polyamines (primarily amino-ethyl-piperazine and triethylenetetramine)	(E)	
	Copper and its compounds	P	
	copper flakes (coated with aliphatic acid)	(E)	
	cyanomethyltrimethylammoniummethylsulfate	(E)	
	cyclopentyl 2-phenylethyl ether	(E)	
	di(C9-11-alkyl) cyclohexane-1,4-dicarboxylate	(E)	
	diamminediisocyanatozinc	E	
	diammonium 1-hydroxy-2-(4-(4-carboxyphenylazo)-2,5-dimethoxyphenylazo)-7-amino-3-naphthalenesulfonate	(E)	
	Dichromic acid, salts	(G)	
	dimethyl (3-methyl-4-(5-nitro-3-ethoxycarbonyl-2-thienyl)azo)phenylnitrilodipropionate	(E)	
	dimethyl-1-{{2-methoxy-5-(2-methyl-butoxycarbonyl)phenylcarbamoyl}-[2-octadecyl-1,1-dioxo-1,2,4-benzothiadiazin-3-yl]methyl}imidazole-4,5-dicarboxylate	(E)	
diphenyl(4-phenylthiophenyl)sulfonium hexafluoroantimonate	(E)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	disodium (3-methyl-4-(5-nitro-2-oxidophenylazo)-1-phenylpyrazololato)(1-(3-nitro-2-oxido-5-sulfonatophenylazo)-2-naphtholato)chromate(1-)	(E)	490
	disodium 4-amino-6-((4-((4-(2,4-diaminophenyl)azo)phenylsulfamoyl)phenyl)azo)-5-hydroxy-3-((4-nitrophenyl)azo)naphthalene-2,7-disulfonate	(E)	
	disodium S,S-hexane-1,6-diyl-di(thiosulphate) dihydrate	(E)	
	disodium salt of 1-hydroxy-4-(β-(4-(1-hydroxy-3,6-disulfo-8-acetylamino-2-naphthylazo)phenoxy)ethoxy)-N-dodecyl-2-naphthamide	(E)	
	DNOC, salts	(G)	
	esters of 2,4-D	(E)	
	esters of mecoprop and of mecoprop-P	(E)	
	ethoxylated bis phenol A di-(norbornene carboxylate)	(E)	
	ethyl 4-((4-diethylamino-2-methylphenyl)imino)-4,5-dihydro-1-isopropyl-5-oxo-1H-pyrazole-3-carboxylate	(E)	
	ethyl trans-2,2,6-trimethylcyclohexanecarboxylate	(E)	
	ethylenediammonium O,O-bis(octyl) phosphorodithioate, mixed isomers	(E)	
	fatty acids, tall-oil, reaction products with iminodiethanol and boric acid	(E)	
	fluoroacetates, soluble	(E)	
	Fluoroaceticacid, salts	(G)	
	glutamic acid, reaction products with N-(C12-14-alkyl)propylenediamine	E	
	Guazatine, salts	(G)	
	hexadecyl 3-amino-4-isopropoxybenzoate	(E)	
	hexahydrocyclopenta[c]pyrrole-1-(1H)-ammonium N-ethoxycarbonyl-N-(p-tolylsulfonyl)azanide	(E)	
	hydrazine bis(3-carboxy-4-hydroxybenzenesulfonate)	(E)	
	hydrogen sodium N-carboxylatoethyl-N-octadec-9-enylmaleamate	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	Hydroxylamine, salts	(G)	490
	Inorganic antimony compounds	(G)	
	inorganic compounds of mercury with the exception of mercuric sulphide and those specified elsewhere in this Annex	(E)	
	Inorganic cyanide compounds	(G)	
	Inorganic lead compounds	(G)	
	Inorganic tin, salts	(G)	
	Inorganicsilver, salts	(G)	
	Inorganiczinc, salts	(G)	
	iron, complexes with diazotised 4-aminobenzenesulfonamide, diazotised 3-aminobenzenesulfonic acid, diazotised 3-amino-4-hydroxybenzenesulfonamide, diazotised 3-amino-4-hydroxy-N-phenylbenzenesulfonamide, diazotised 5-amino-2-(phenylamino)benzenesulfonic acid and resorcinol, sodium salts	(E)	
	isopentyl 4-{{2-[5-cyano-1,2,3,6-tetrahydro-1-(2-isopropoxyethoxy-carbonylmethyl)-4-methyl-2,6-dioxo-3-pyridylidene]hydrazino}} benzoate	(E)	
	isopropylammonium 2-(3-benzoylphenyl)propionate	(E)	
	isostearic acid monoisopropanolamide	(E)	
	Lead alkyls	(G,E)	
	Lead and its compounds	P	
	Lead compounds	(G)	
	lead compounds with the exception of those specified elsewhere in this Annex	(E)	
magnesium salts, fatty acids, C16-18 and C18 unsaturated, branched and linear	(E)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	Main component: acetoacetic acid anilide/3-amino-1-hydroxybenzene (ATAN-MAP): trisodium $\{ \{ 6-[(2 \text{ or } 3 \text{ or } 4)\text{-amino-(4 \text{ or } 5 \text{ or } 6)\text{-hydroxyphenylazo}]\text{-5'-(phenylsulfamoyl)-3-sulfonatonaphthalene-2-azobenzene-1,2'\text{-diolato}} \} - \{ \{ 6''-[1\text{-(phenylcarbamoyl)ethylazo}]\text{-5''''-(phenylsulfamoyl)-3''-sulfonatonaphthalene-2''-azobenzene-1'',2''''-diolato} \} \}$ chromate (III); by-product 1: acetoacetic acid anilide/acetoacetic acid anilide (ATAN-ATAN): trisodium bis $\{ \{ 6-[1\text{-(phenylcarbamoyl)ethylazo}]\text{-5'-(phenylsulfonyl)-3-sulfonatonaphthalene-2-azobenzene-1,2'\text{-diolato}} \} \}$ chromate (III); by-product 2: 3-amino-1-hydroxybenzene/3-amino-1-hydroxybenzene (MAP-MAP): trisodium bis $\{ \{ 6-[(2 \text{ or } 3 \text{ or } 4)\text{-amino-(4 \text{ or } 5 \text{ or } 6)\text{-hydroxyphenylazo}]\text{-5'-(phenylsulfamoyl)-3-sulfonatonaphthalene-2-azobenzene-1,2'\text{-diolato}} \} \}$ chromate (III)	(E)	490
	Malachite green	(G)	
	Mercury and its compounds	P	
	Mercury compounds	(G)	
	metal salts of thiocyanic acid, with the exception of those specified elsewhere in this Annex	(E)	
	methyl 2-(4-butanefulfonamidophenoxy)tetradecanoate	(E)	
	Methylmercury compounds	(G)	
	methyl-phenylene diamine; diaminotoluene; [technical product - reaction mass of 4-methyl-m-phenylene diamine (EC No 202-453-1) and 2-methyl-m-phenylene diamine (EC No 212-513-9)]	(E)	
	milbemectin (ISO); [reaction mass of milbemycin A3 (CAS No 51596-10-2) and milbemycin A4 (CAS No 51596-11-3) (30:70)]	(E)	
	Mixture of 3a,4,4a,5,8,8a,9,9a-Octahydro-4,9:5,8-dimethano-1H-benz[f]indene(7158-25-0) and 4,4a,4b,5,8,8a,9,9a-Octahydro-1,4:5,8-dimethano-1H-fluorene(35184-08-8)]	(G)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	Mixture of pentaerythritol tetrakis(3-mercaptobutanoate)(31775-89-0) and pentaerythritol tris(3-mercaptobutanoate)(1027326-93-7)	(G)	490
	Mixture of trihexyl-phosphineoxide, tri-n-octyl phoshine oxide, dioctyl mono-octyl dihexylphosphine oxide	(G)	
	mono-(tetrapropylammonium) hydrogen 2,2'-dithiobisbenzoate	(E)	
	monoalkyl or monoaryl or monoalkylaryl esters of acrylic acid with the exception of those specified elsewhere in this Annex	(E)	
	monolithium 5-[[2,4-dihydroxy-5-[(2-hydroxy-3,5-dinitrophenyl)azo]phenyl]azo]-2-naphthalenesulfonate], iron complex, monohydrate	(E)	
	monosodium aqua-[5-[[2,4-dihydroxy-5-[(2-hydroxy-3,5-dinitrophenyl)azo]phenyl]azo]-2-naphthalenesulfonate], iron complex	(E)	
	N-(2-(6-chloro-7-methylpyrazolo(1,5-b)-1,2,4-triazol-4-yl)propyl)-2-(2,4-di-tert-pentylphenoxy)octanamide	(E)	
	N-(3,5-dichloro-4-ethyl-2-hydroxyphenyl)-2-(3-pentadecylphenoxy)-butanamide	(E)	
	N,N''-(methylenedi-4,1-phenylene)bis[N'-octyl]urea	(E)	
	N,N,N',N'-tetramethyl-3,3'-(propylenebis(iminocarbonyl-4,1-phenylenazo(1,6-dihydro-2-hydroxy-4-methyl-6-oxopyridine-3,1-diyl)))di(propylammonium) dilactate	(E)	
	N,N,N-trimethyl-2,3-bis(stearoyloxy)propylammonium chloride	(E)	
	N,N-bis(cocoyl-2-oxypropyl)-N,N-dibutylammonium bromide	(E)	
	N,N-di-[poly(oxyethylene)-co-poly(oxypropylene)]-4-[(3,5-dicyano-4-methyl-2-thienyl)azo]-3-methylaniline	(E)	
	N-[ethyl(3-methylbutyl)amino]-3-methyl-1-phenyl-spiro[[1]benzo-pyrano[2,3-c]pyrazole-4(1H),1'(3'H)-isobenzofuran]-3'-one	(E)	
	N-Alkyl toluidine	(G)	
	N-Alkyl toluidine, salts	(G)	
	Nickel and its compounds	P	
Nicotine, salts	(G)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	Nitriolotriacetic acid and its salts	P	490
	nitrotoluidines, with the exception of those specified elsewhere in this Annex	(E)	
	Nitrous acid, salts	P	
	Nitrous acid, salts	(G)	
	N-methylbenzene-1,2-diammonium hydrogen phosphate	(E)	
	O,O,O-tris(2(or 4)-C9-10-isoalkylphenyl) phosphorothioate	(E)	
	O-hexyl-N-ethoxycarbonylthiocarbamate	(E)	
	O'-methyl O-(1-methyl-2-methacryloyloxy-ethyl)-1,2,3,6-tetrahydrophthalate	(E)	
	organic compounds of mercury with the exception of those specified elsewhere in this Annex	(E)	
	Paraquat, salts	(G)	
	Pentachlorophenol, salts	(G)	
	pentakis[3-(dimethylammonio)propylsulfamoyl]-[(6-hydroxy-4,4,8,8-tetramethyl-4,8-diazoniaundecane-1,11-diyl)disulfamoyl]di[phthalocyaninecopper(II)] heptalactate	(E)	
	pentapotassium 2-(4-(5-[1-(2,5-disulfonatophenyl)-4,5-dihydro-3-methylcarbamoyl-5-oxopyrazol-4-ylidene]-3-methyl-1,3-pentadienyl)-3-methylcarbamoyl-5-oxidopyrazol-1-yl)benzene-1,4-disulfonate	(E)	
	pentapotassium 2-(4-{5-[1-(2,5-disulfophenyl)-4,5-dihydro-3-methylcarbamoyl-5-oxopyrazol-4-ylidene]-3-(2-pyrrolidinone-1-yl)-1,3-pentadienyl}-3-methylcarbamoyl-5-oxopyrazol-1-yl)benzene-1,4-disulfonate	(E)	
	pentasodium 4-amino-6-(5-(4-(2-ethyl-phenylamino)-6-(2-sulfatoethanesulfonyl)-1,3,5-triazin-2-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-sulfatoethanesulfonyl)phenylazo)naphthalene-2,7-disulfonate	(E)	
pentasodium 7-(4-(4-(5-amino-4-sulfonato-2-(4-((2-(sulfonato-ethoxy)sulfonyl)phenylazo)phenylamino)-6-chloro-1,3,5-triazin-2-yl)amino-2-ureidophenylazo)naphthalene-1,3,6-trisulfonate	(E)		
Phenylenediamine, salts	(G)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	platinum(IV) nitrate/nitric acid solution	(E)	490
	polyethylenepolyamines with the exception of those specified elsewhere in this Annex	(E)	
	Polymeric reaction product of bicyclo[2.2.1]hepta-2,5-diene, ethene, 1,4-hexadiene, 1-propene with N,N-di-2-propenylformamide	(E)	
	polyphosphoric acid, copper, sodium, magnesium, calcium, silver and zinc salt	(E)	
	potassium 4-iodo-2-sulfonato-benzoic acid	(E)	
	potassium iron(III) 1,3-propanediamine-N,N,N',N'-tetraacetate hemihydrate	(E)	
	Product by process iron complex of azo dyestuffs obtained by coupling a mixture of diazotized 2-amino-1-hydroxybenzene-4-sulfanilide and 2-amino-1-hydroxybenzene-4-sulfonamide with resorcin, the obtained mixture being subsequently submitted to a second coupling reaction with a mixture of diazotized 3-aminobenzene-1-sulfonic acid (metanilic acid) and 4'-amino-4-nitro-1,1'-diphenylamine-2-sulfonic acid and metallization with ferric chloride, sodium salt	(E)	
	product-by-process definition polyazodyestuff obtained by coupling 4-[4-(1-amino-8-hydroxy-3,6-disulfo-2-naphthylazo)phenylsulfonylamino]benzenediazonium with reaction mass of 4-carboxybenzenediazonium and diphenylamine-3-sulfo-4,4'-bisdiazonium, and further coupling of the obtained compounds with reaction mass of naphth-2-ol and 3-aminophenol, sodium salts; sodium chloride	(E)	
	pyraclostrobin (ISO); methyl N-{2-[1-(4-chlorophenyl)-1H-pyrazol-3-yloxymethyl]phenyl}(N-methoxy)carbamate	(E)	
	pyrethrins including cinerins, with the exception of those specified elsewhere in this Annex	(E)	
R,R-2-hydroxy-5-(1-hydroxy-2-(4-phenylbut-2-ylamino)ethyl)benzamide hydrogen 2,3-bis(benzoyloxy)succinate	(E)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass (ratio not known) of: ammonium 1-C14-C18-alkyloxycarbonyl-2-(3-allyloxy-2-hydroxypropoxycarbonyl)ethane-1-sulfonate; ammonium 2-C14-C18-alkyloxycarbonyl-1-(3-allyloxy-2-hydroxypropoxycarbonyl)ethane-1-sulfonate	(E)	490
	reaction mass of 1,1'-(methylenebis(4,1-phenylene))dipyrrole-2,5-dione and N-(4-(4-(2,5-dioxopyrrol-1-yl)benzyl)phenyl)acetamide and 1-(4-(4-(5-oxo-2H-2-furylidenamino)benzyl)phenyl)pyrrole-2,5-dione	(E)	
	reaction mass of 2-acryloyloxyethyl hydrogen cyclohexane-1,2-dicarboxylate and 2-methacryloyloxyethyl hydrogen cyclohexane-1,2-dicarboxylate	(E)	
	reaction mass of 4 diastereoisomers of 2,7-dimethyl-10-(1-methylethyl)-1-oxaspiro[4.5]deca-3,6-diene	(E)	
	reaction mass of 5-heptyl-1,2,4-triazol-3-ylamine and 5-nonyl-1,2,4-triazol-3-ylamine	(E)	
	reaction mass of C12-14-tert-alkylammonium diphenyl phosphorothioate and dinonyl sulphide (or disulphide)	(E)	
	reaction mass of complexes of: titanium, 2,2'-oxydiethanol, ammonium lactate, nitrilotris(2-propanol) and ethylene glycol	(E)	
	reaction mass of copper(I) O,O-diisopropyl phosphorodithioate and copper(I) O-isopropyl O-(4-methylpent-2-yl) phosphorodithioate and copper(I) O,O-bis(4-methylpent-2-yl) phosphorodithioate	(E)	
	reaction mass of dodecyl 3-(2,2,4,4-tetramethyl-21-oxo-7-oxa-3,20-diazadispiro(5,1,11,2)hencosan-20-yl)propionate and tetradecyl 3-(2,2,4,4-tetramethyl-21-oxo-7-oxa-3,20-diazadispiro(5,1,11,2)hencosan-20-yl)propionate	(E)	
	reaction mass of esters of 5,5',6,6',7,7'-hexahydroxy-3,3,3',3'-tetramethyl-1,1'-spirobiindan and 2-diazo-1,2-dihydro-1-oxo-5-sulfonaphthalene	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
	reaction mass of iron complexes of: 1,3-dihydroxy-4-[(5-phenylaminosulfonyl)-2-hydroxyphenylazo]-n-(5-amino-sulfonyl-2-hydroxyphenylazo)benzene and: 1,3-dihydroxy-4-[(5-phenylaminosulfonyl)-2-hydroxyphenylazo]-n-[4-(4-nitro-2-sulfophenylamino)phenylazo]benzene (n=2,5,6)	(E)	
	reaction mass of isomers of: dibenzylbenzene; dibenzyl(methyl)benzene; dibenzyl(dimethyl)benzene; dibenzyl(trimethyl)benzene	(E)	
	reaction mass of isomers of: sodium phenethylnaphthalenesulfonate; sodium naphthylethylbenzenesulfonate	(E)	
	reaction mass of isomers of: α -((dimethyl)biphenyl)- ω -hydroxypoly(oxyethylene)	(E)	
생태독성	reaction mass of mono to tetra(lithium and/or sodium)3-amino-10-[4-(4-amino-3-sulfonatoanilino)-6-[methyl-(2-sulfonatoethyl)amino]-1,3,5-triazin-2-ylamino]-6-13-dichlorobenzo[1,2-B:4,5-B']di[1,4]benzoxazine-4,11-disulfonate; mono to tetra(lithium and/or sodium)3-amino-10-[4,6-bis(4-amino-3-sulfonatoanilino)-1,3,5-triazin-2-ylamino]-6-13-dichlorobenzo[1,2-B:4,5-B']di[1,4]benzoxazine-4,11-disulfonate; mono to penta(lithium and/or sodium)10,10'-diamino-6,6',13,13'-tetrachloro-3,3'-[6-[methyl-(2-sulfonatoethyl)amino]-1,3,5-triazin-2,4-diylidimino]bis[benzo[1,2-B:4,5-B']di[1,4]benzoxazine-4,11-disulfonate; mono to hepta(lithium and/or sodium)10-amino-6,6',13,13'-tetrachloro-10'[4-(4-amino-3-sulfonatoanilino)-[6-methyl-(2-sulfonatoethyl)amino]-1,3,5-triazin-2,4-diimino]bis[benzo[1,2-B:4,5-B']di[1,4]benzoxazine-4,11-disulfonate; mono to hepta(lithium and/or sodium)10,10'-diamino-6,6',3,3'[(2-sulfonato)-1,4-phenylenediiminobis[6-methyl-(2-sulfonatoethyl)amino]-1,3,5-triazin-2,4-diylidimino]bis[benzo[1,2-B:4,5-B']di[1,4]benzoxazine-4,11-disulfonate	(E)	490
	reaction mass of N,N'-ethane-1,2-diylbis(hexanamide) and 12-hydroxy-N-[2-[(1-oxyhexyl)amino]ethyl]octadecanamide and N,N'-ethane-1,2-diylbis(12-hydroxyoctadecanamide)	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
	reaction mass of n-octadecylaminodiethyl bis(hydrogen maleate); n-octadecylaminodiethyl hydrogen maleate hydrogenphthalate	(E)	
	reaction mass of O,O'-diisopropyl (pentathio)dithioformate and O,O'-diisopropyl (trithio)dithioformate and O,O'-diisopropyl (tetrathio)dithioformate	(E)	
	reaction mass of substituted dodecyl and/or tetradecyl, diphenyl ethers. The substance is produced by the Friedel Crafts reaction. The catalyst is removed from the reaction product. Diphenyl ether is substituted by C1-C10 alkyl groups. The alkyl groups are bonded randomly between C1 and C6. Linear C12 and C14, 50/50 used.	(E)	
	reaction mass of triesters of 2,2-bis(hydroxymethyl)butanol with C7-alkanoic acids and 2-ethylhexanoic acid	(E)	
생태독성	reaction mass of α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω -hydroxypoly(oxyethylene) and α-3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyl-ω -3-(3-(2H-benzotriazol-2-yl)-5-tert-butyl-4-hydroxyphenyl)propionyloxy poly(oxyethylene)	(E)	490
	reaction mass of: (1R*,2S*)-2-acetyl-1,2,3,4,5,6,7,8-octahydro-1,2,8,8-tetramethylnaphthalene; (2R*,3S*)-2-acetyl-1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethylnaphthalene	(E)	
	reaction mass of: (1RS,2RS,3SR,6RS,9SR)-9-methoxytricyclo[5.2.1.0(2,6)]decane-3-carbaldehyde; (1RS,2RS,3RS,6RS,8SR)-8-methoxytricyclo[5.2.1.0(2,6)]decane-3-carbaldehyde; (1RS,2RS,4SR,6RS,8SR)-8-methoxytricyclo[5.2.1.0(2,6)]decane-4-carbaldehyde	(E)	
	reaction mass of: (1RS,2SR,7SR,8SR,E) 9 and 10-ethylidene-3-oxatricyclo[6.2.1.0(2,7)]undecan-4-one; (1RS,2SR,7SR,8SR,Z)-10-ethylidene-3-oxatricyclo[6.2.1.0(2,7)]undecan-4-one; (1RS,2SR,7SR,8SR,Z)-9-ethylidene-3-oxatricyclo[6.2.1.0(2,7)]undecan-4-one	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: (1'α,3'α,6'α)-2,2,3',7',7'-pentamethylspiro(1,3-dioxane-5,2'-norcarane); (1'α,3'β,6'α)-2,2,3',7',7'-pentamethylspiro(1,3-dioxane-5,2'-norcarane)	(E)	490
	reaction mass of: (3-methoxy)propylammonium/[tris-(2-hydroxyethyl)]ammonium 2-(2-(bis(2-hydroxyethyl)amino)ethoxycarbonylmethyl)hexadec-4-enoate; (3-methoxy)propylammonium/[tris-(2-hydroxyethyl)]ammonium 2-(2-(bis(2-hydroxyethyl)amino)ethoxycarbonylmethyl)tetradec-4-enoate; (3-methoxy)propylammonium/[tris-(2-hydroxyethyl)]ammonium 2-(3-methoxypropylcarbamoylmethyl)hexadec-4-enoate; (3-methoxy)propylammonium/[tris-(2-hydroxyethyl)]ammonium 2-(3-methoxypropylcarbamoylmethyl)tetradec-4-enoate	(E)	
	reaction mass of: (3R)-[1S-(1α, 2α, 6β-((2S)-2-methyl-1-oxo-butoxy)-8α)hexahydro-2,6-dimethyl-1-naphth alene]-3,5-dihydroxyheptanoic acid; inert biomass from <i>Aspergillus terreus</i>	(E)	
	reaction mass of: (E)-2,12-tridecadiennitrile; (E)-3,12-tridecadiennitrile; (Z)-3,12-tridecadiennitrile	(E)	
	reaction mass of: (E)-oxacyclohexadec-12-en-2-one; (E)-oxacyclohexadec-13-en-2-one; a) (Z)-oxacyclohexadec-(12)-en-2-one and b) (Z)-oxacyclohexadec-(13)-en-2-one	(E)	
	reaction mass of: (R,R)-1,1,1,2,2,3,4,5,5,5-decafluoropentane; (S,S)-1,1,1,2,2,3,4,5,5,5-decafluoropentane	(E)	
	reaction mass of: [1-(methoxymethyl)-2-(C12-alkoxy)-ethoxy]acetic acid; [1-(methoxymethyl)-2-(C14-alkoxy)-ethoxy]acetic acid	(E)	
	reaction mass of: 1-(1,1-dimethylpropyl)-4-ethoxy-cis-cyclohexane; 1-(1,1-dimethylpropyl)-4-ethoxy-trans-cyclohexane	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: 1,1,1-tris(phenyl-4'-(3''-diazo-3'',4''-dihydro-4''-oxo-naphthalene-1''-sulfonato)ethane; 1,1,1-tris(phenyl-4'-(6''-diazo-5'',6''-dihydro-5''-oxo-naphthalene-1''-sulfonato)ethane; reaction product of 1,1,1-tris(p-hydroxyphenyl)ethane with 6-diazo-5,6-dihydro-5-oxo-1-naphthylsulfonylchloride and 3-diazo-3,4-dihydro-4-oxo-1-naphthylsulfonylchloride (2:1); reaction product of 1,1,1-tris(p-hydroxyphenyl)ethane with 6-diazo-5,6-dihydro-5-oxo-1-naphthylsulfonylchloride and 3-diazo-3,4-dihydro-4-oxo-1-naphthylsulfonylchloride (1:2)	(E)	490
	reaction mass of: 1,2-dimethylpropylidene dihydroperoxide; dimethyl 1,2-benzenedicarboxylate	(E)	
	reaction mass of: 1,2-naphthoquinonediazide-5-sulfonylchloride (or sulfonic acid)monoester with 4,4'-(1-(4-(1-(4-hydroxyphenyl)-1-methylethyl)phenyl)ethylidene)bisphenol; 1,2-naphthoquinonediazide-5-sulfonylchloride (or sulfonic acid)diester with 4,4'-(1-(4-(1-(4-hydroxyphenyl)-1-methylethyl)phenyl)ethylidene)bisphenol; 1,2-naphthoquinonediazide-5-sulfonylchloride (or sulfonic acid)triester with 4,4'-(1-(4-(1-(4-hydroxyphenyl)-1-methylethyl)phenyl)ethylidene)bisphenol	(E)	
	reaction mass of: 1,3,5-tris(3-aminomethylphenyl)-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione; reaction mass of oligomers of 3,5-bis(3-aminomethylphenyl)-1-poly[3,5-bis(3-aminomethylphenyl)-2,4,6-trioxo-1,3,5-(1H,3H,5H)-triazin-1-yl]-1,3,5-(1H,3H,5H)-triazine-2,4,6-trione	(E)	
	reaction mass of: 1,3-dihex-5-en-1-yl-1,1,3,3-tetramethyldisiloxane; 1,3-dihex-n-en-1-yl-1,1,3,3-tetramethyldisiloxane	(E)	
	reaction mass of: 1,7-dimethyl-2-[(3-methylbicyclo[2.2.1]hept-2-yl)methyl]bicyclo[2.2.1]heptane; 2,3-dimethyl-2-[(3-methylbicyclo[2.2.1]hept-2-yl)methyl]bicyclo[2.2.1]heptane	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: 1-[di(4-octylphenyl)aminomethyl]-5-methyl-1H-benzotriazole; 1-[di(4-octylphenyl)aminomethyl]-4-methyl-1H-benzotriazole; reaction mass of: N-[(5-methyl-1H-benzotriazol-1-yl)methyl]-4-octyl-N-(4-octylphenyl)anil ine; N-[(4-methyl-1H-benzotriazol-1-yl)methyl]-4-octyl-N-(4-octylphenyl)anil ine	(E)	490
	reaction mass of: 1-ethoxy-1,1,2,3,3,3-hexafluoro-2-(trifluoromethyl)propane; 1-ethoxy-1,1,2,2,3,3,4,4,4-nonafluorobutane	(E)	
	reaction mass of: 1-methyl-3-hydroxypropyl 3,5-[1,1-dimethylethyl]-4-hydroxydihydro-cinnamate and/or 3-hydroxybutyl 3,5-[1,1-dimethylethyl]-4-hydroxydihydrocinnamate; 1,3-butanediol bis[3-(3'-(1,1-dimethylethyl)4'-hydroxy-phenyl)propionate] isomers; 1,3-butanediol bis[3-(3',5'-(1,1-dimethylethyl)-4'-hydroxyphenyl)propionate] isomers	(E)	
	reaction mass of: 2-(3-(2,6-dichloro-4-nitrophenylazo)carbazol-9-yl)ethanol; 2-(2-(3-(2,6-dichloro-4-nitro-phenylazo)-carbazol-9-yl)-ethoxy)ethanol; 3-(2,6-dichloro-4-nitrophenylazo)carbazol	(E)	
	reaction mass of: 2-(hexylthio)ethylamine hydrochloride; sodium propionate	(E)	
	reaction mass of: 2,2'-(heptane-1,7-diyl)bis-1,3-dioxolane; 2,2'-(heptane-1,6-diyl)bis-1,3-dioxolane	(E)	
	reaction mass of: 2,2'-[(3,3'-dichloro[1,1'-biphenyl]-4,4'-diyl)bis(azo)]bis[N-(2,4-dimethylph enyl)]-3-oxo-butanamide; 2-[[3,3'-dichloro-4'-[[1[[2,4-dimethylphenyl)amino]carbonyl]-2-oxopropy l]azo][1,1'-biphenyl]-4-yl]azo]-N-(2-methylphenyl)-3-oxo-butanamide; 2-[[3,3'-dichloro-4'-[[1[[2,4-dimethylphenyl)amino]carbonyl]-2-oxopropy l]azo][1,1'-biphenyl]-4-yl]azo]-N-(2-carboxylphenyl)-3-oxo-butanamide	(E)	
	reaction mass of: 2,2'-[[2-hydroxyethyl)imino]bis(methylene)bis[4-dodecylphenol]; formaldehyde, oligomer with 4-dodecyl phenol and 2-aminoethanol(n = 2); formaldehyde, oligomer with 4-dodecyl phenol and 2-aminoethanol(n = 3, 4 and higher)	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
	reaction mass of: 2,2'-dimethyl-2,2'-azobutanenitrile; 2-methylpentanenitrile-2-azo-2'-(2'-methylpropanenitrile); 2,2'-dimethyl-2,2'-azoheptanenitrile; 2-methylheptanenitrile-2-azo-2'-(2'-methylpropanenitrile); 2-methylheptanenitrile-2-azo-2'-(2'-methylbutanenitrile)	(E)	
	reaction mass of: 2,4 -bis(N'-(4-methylphenyl)-ureido)-toluene; 2,6 -bis(N'-(4-methylphenyl)-ureido)-toluene	(E)	
	reaction mass of: 2-[N-(2-hydroxyethyl)stearamido]ethyl stearate; sodium [bis[2-(stearoyloxy)ethyl]amino]methylsulfonate; sodium [bis(2-hydroxyethyl)amino]methylsulfonate; N,N-bis(2-hydroxyethyl)stearamide	(E)	
	reaction mass of: 2-[N-ethyl-4-[(5,6-dichlorobenzothiazol-2-yl)azo]-m-toluidino]ethyl acetate; 2-[N-ethyl-4-[(6,7-dichlorobenzothiazol-2-yl)azo]-m-toluidino]ethyl acetate (1:1)	(E)	
생태독성	reaction mass of: 2-{3,6-bis-[(2-ethylphenyl)-methylamino]-xanthylium-9-yl}-benzenesulfo nate (2-10%); 2-{3,6-bis-[(2,3-dimethylphenyl)-methylamino]-xanthylium-9-yl}-benzene sulfonate (2-10%); 2-{3,6-bis-[(2,4-dimethylphenyl)-methylamino]-xanthylium-9-yl}-benzene sulfonate (2-10%); 2-{3,6-bis-[(2,5-dimethylphenyl)-methylamino]-xanthylium-9-yl}-benzene sulfonate (2-10%); 2-{3-[(2,3-dimethylphenyl)-methylamino]-6-[(2-ethylphenyl)-methylamin o]-xanthylium-9-yl}-benzenesulfonate (7-20%); 2-{3-[(2,4-dimethylphenyl)-methylamino]-6-[(2-ethylphenyl)-methylamin o]-xanthylium-9-yl}-benzenesulfonate (7-20%); 2-{3-[(2,5-dimethylphenyl)-methylamino]-6-[(2-ethylphenyl)-methylamin o]-xanthylium-9-yl}-benzenesulfonate (7-20%); 2-{3-[(2,3-dimethylphenyl)-methylamino]-6-[(2,4-dimethylphenyl)-methyl amino]-xanthylium-9-yl}-benzenesulfonate (7-20%); 2-{3-[(2,3-dimethylphenyl)-methylamino]-6-[(2,5-dimethylphenyl)-methyl amino]-xanthylium-9-yl}-benzenesulfonate (7-20%); 2-{3-[(2,4-dimethylphenyl)-methylamino]-6-[(2,5-dimethylphenyl)-methyl amino]-xanthylium-9-yl}-benzenesulfonate (7-20%)	(E)	490
	reaction mass of: 2-chloro-5-sec-tetradecylhydroquinones where sec-tetradecyl = 1-methyltridecyl; 1-ethyl-dodecyl; 1-propylundecyl; 1-butyldecyl; 1-pentyl-nonyl; 1-hexyloctyl	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: 2-ethyl-[2,6-dibromo-4-[1-[3,5-dibromo-4-(2-hydroxyethoxy)phenyl]-1-methylethyl]phenoxy]propenoate; 2,2'-diethyl-[4,4'-bis(2,6-dibromophenoxy)-1-methylethylidene]dipropenoate; 2,2'-[(1-methylethylidene)bis[[2,6-dibromo-4,1-phenylene)oxy]ethanol]]	(E)	490
	reaction mass of: 2-ethylhexyl 2,3,4,5-tetrabromobenzoate; bis(2-ethylhexyl) 3,4,5,6-tetrabromophthalate	(E)	
	reactionmassof:2-hydroxy-3-(methacryloyloxy)propyl (2-benzoyl)benzoate; 1-hydroxymethyl-2-(methacryloyloxy)ethyl (2-benzoyl)benzoate; x-hydroxy-y-(methacryloyloxy)propyl(or -ethyl) (2-benzoyl)benzoate	(E)	
	reaction mass of: 2-methoxy-4-(tetrahydro-4-methylene-2H-pyran-2-yl)-phenol; 4-(3,6-dihydro-4-methyl-2H-pyran-2-yl)-2-methoxyphenol	(E)	
	reaction mass of: 3-((5-cyano-1,6-dihydro-1,4-dimethyl-2-hydroxyl-6-oxo-3-pyridinyl)azo)-benzoyloxy-2-phenoxyethane; 3-((5-cyano-1,6-dihydro-1,4-dimethyl-2-hydroxy-6-oxo-3-pyridinyl)azo)-benzoyloxy-2-ethyloxy-2-(ethylphenol)	(E)	
	reaction mass of: 3-(4-ethylphenyl)-2,2-dimethylpropanenitrile; 3-(2-ethylphenyl)-2,2-dimethylpropanenitrile; 3-(3-ethylphenyl)-2,2-dimethylpropanenitrile	(E)	
	reaction mass of: 3,3'-dicyclohexyl-1,1'-methylenebis(4,1-phenylene)diurea; 3-cyclohexyl-1-(4-(4-(3-octadecylureido)benzyl)phenyl)urea; 3,3'-dioctadecyl-1,1'-methylenebis(4,1-phenylene)diurea	(E)	
	reaction mass of: 3-[(4-amino-2-chloro-5-nitrophenyl)amino]-propane-1,2-diol; 3,3'-(2-chloro-5-nitro-1,4-phenylenediimino)bis(propan-1,2-diol)	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
	<p style="text-align: center;">reaction mass of:</p> <p>3-{5-[3-(4-{1,6-dihydro-2-hydroxy-4-methyl-1-[3-(methylammonio)propyl]-6-oxo-3-pyridylazo}benzamido)phenylazo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-1-pyridyl}propyl(methyl)ammonium di(acetate);</p> <p>3-{5-[4-(3-{1,6-dihydro-2-hydroxy-4-methyl-1-[3-(methylammonio)propyl]-6-oxo-3-pyridylazo}benzamido)phenylazo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-1-pyridyl}propyl(dimethyl)ammonium di(acetate);</p> <p>3-{5-[3-(4-{1-[3-(dimethylammonio)propyl]-1,6-dihydro-2-hydroxy-4-methyl-6-oxo-3-pyridylazo}benzamido)phenylazo]-1,2-dihydro-6-hydroxy-4-methyl-2-oxo-1-pyridyl}propyl(dimethyl)ammonium di(acetate)</p>	(E)	
	<p style="text-align: center;">reaction mass of:</p> <p>3a,4,5,6,7,7a-hexahydro-4,7-methano-1H-indene-6-carboxaldehyde;</p> <p>3a,4,5,6,7,7a-hexahydro-4,7-methano-1H-indene-5-carboxaldehyde</p>	(E)	
생태독성	<p style="text-align: center;">reaction mass of:</p> <p>3-cyano-5-(2-cyano-4-nitro-phenylazo)-2-(2-hydroxy-ethylamino)-4-methyl-6-[3-(2-phenoxyethoxy)propylamino]pyridine;</p> <p>3-cyano-5-(2-cyano-4-nitro-phenylazo)-6-(2-hydroxy-ethylamino)-4-methyl-2-[3-(2-phenoxyethoxy)propylamino]pyridine;</p> <p>3-cyano-5-(2-cyano-4-nitro-phenylazo)-2-amino-4-methyl-6-[3-(3-hydroxypropoxy)propylamino]pyridine;</p> <p>3-cyano-5-(2-cyano-4-nitro-phenylazo)-6-amino-4-methyl-2-[3-(3-methoxypropoxy)propylamino]pyridine</p>	(E)	490
	<p style="text-align: center;">reaction mass of:</p> <p>4-(1,3a,4,6,7,7a-hexahydro-4,7-methanoinden-5-ylidene)-3-methylbutan-2-ol;</p> <p>4-(3,3a,4,6,7,7a-hexahydro-4,7-methanoinden-5-ylidene)-3-methylbutan-2-ol;</p> <p>1-(1,3a,4,6,7,7a-hexahydro-4,7-methanoinden-5-ylidene)pentan-3-ol;</p> <p>1-(3,3a,4,6,7,7a-hexahydro-4,7-methanoinden-5-ylidene)pentan-3-ol;</p> <p>(E)-4-(3a,4,5,6,7,7a-hexahydro-1H-4,7-methanoinden-5-yl)-3-methylbut-3-en-2-ol;</p> <p>(E)-4-(3a,4,5,6,7,7a-hexahydro-3H-4,7-methanoinden-5-yl)-3-methylbut-3-en-2-ol</p>	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: 4-(2,2,3-trimethylcyclopent-3-en-1-yl)-1-methyl-2-oxabicyclo[2.2.2]octane; 1-(2,2,3-trimethylcyclopent-3-en-1-yl)-5-methyl-6-oxabicyclo[3.2.1]octane; spiro[cyclohex-3-en-1-yl-[(4,5,6,6a-tetrahydro-3,6',6',6'a-tetramethyl)-1,3'(3'aH)-[2H]cyclopenta[b]furan]; spiro[cyclohex-3-en-1-yl-[4,5,6,6a-tetrahydro-4,6',6',6'a-tetramethyl)-1,3'(3'aH)-[2H]cyclopenta[b]]furan]	(E)	490
	reaction mass of: 4,4',4''-[(2,4,6-trioxo-1,3,5(2H,4H,6H)-triazine-1,3,5-triyl)tris[methylene(3,5,5-trimethyl-3,1-cyclohexanediyl)iminocarbonyloxy-2,1-ethanediyl(ethylamino)]]trisbenzenediazoniumtri[bis(2-methylpropyl)naphthalenesulfonate]; 4,4',4''',4''''-[[5,5'-[carbonylbis[imino(1,5,5-trimethyl-3,1-cyclohexanediyl)methylene]]-2,4,6-trioxo-1,3,5(2H,4H,6H)-triazine-1,1',3,3'-tetrayl]tetrakis[methylene(3,5,5-trimethyl-3,1-cyclohexanediyl)iminocarbonyloxy-2,1-ethanediyl(ethylamino)]]tetrakisbenzenediazoniumtetra[bis(2-methylpropyl)naphthalenesulfonate]	(E)	
	reaction mass of: 4,7-bis(mercaptomethyl)-3,6,9-trithia-1,11-undecanedithiol; 4,8-bis(mercaptomethyl)-3,6,9-trithia-1,11-undecanedithiol; 5,7-bis(mercaptomethyl)-3,6,9-trithia-1,11-undecanedithiol	(E)	
	reaction mass of: 4-[(3-decyloxypropyl)(3-isobutoxy-1-isobutoxycarbonyl-3-oxopropyl)amino]-4-oxobutyric acid; 4-[(3-isobutoxy-1-isobutoxycarbonyl-3-oxopropyl)(3-octyloxypropyl)amino]-4-oxobutyric acid	(E)	
	reaction mass of: 4-[[bis-(4-fluorophenyl)methylsilyl]methyl]-4H-1,2,4-triazole; 1-[[bis-(4-fluorophenyl)methylsilyl]methyl]-1H-1,2,4-triazole	(E)	
	reaction mass of: 5-(2-cyano-4-nitrophenylazo)-2-(2-(2-hydroxyethoxy)ethylamino)-4-methyl-6-phenylaminonicotinonitrile; 5-(2-cyano-4-nitrophenylazo)-6-(2-(2-hydroxyethoxy)ethylamino)-4-methyl-2-phenylaminonicotinonitrile	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: 5-(N-methylperfluorooctylsulfonamido)methyl-3-octadecyl-1,3-oxazolidin-2-one; 5-(N-methylperfluoroheptylsulfonamido)methyl-3-octadecyl-1,3-oxazolidin-2-one	(E)	490
	reaction mass of: 5-endo-butyl-bicyclo[2.2.1]hept-2-ene; 5-exo-butyl-bicyclo[2.2.1]hept-2-ene (80:20)	(E)	
	reaction mass of: 6,7-epoxy-1,2,3,4,5,6,7,8-octahydro-1,1,2,4,4,7-hexamethylnaphthalene; 7,8-epoxy-1,2,3,4,6,7,8,8a-octahydro-1,1,2,4,4,7-hexamethylnaphthalene	(E)	
	reaction mass of: 7-chloro-1-ethyl-6-fluoro-1,4-dihydro-4-oxo-quinoline-3-carboxylic acid; 5-chloro-1-ethyl-6-fluoro-1,4-dihydro-4-oxo-quinoline-3-carboxylic acid	(E)	
	reaction mass of: 9-nonyl-10-octyl-19-carbonyloxyhexadecylnonadecanoic acid; 9-nonyl-10-octyl-19-carbonyloxyoctadecylnonadecanoic acid; dihexadecyl 9-nonyl-10-octylnonadecandioate; 1-octadecyl,19-hexadecyl 9-nonyl-10-octylnonadecandioate; dioctadecyl 9-nonyl-10-octylnonadecandioate	(E)	
	reaction mass of: ammonium-1,2-bis(hexyloxy-carbonyl)ethanesulfonate; ammonium-1-hexyloxy-carbonyl-2-octyloxy-carbonylethanesulfonate; ammonium-2-hexyloxy-carbonyl-1-octyloxy-carbonylethanesulfonate	(E)	
	reaction mass of: bis(1S,2S,4S)-(1-benzyl-4-tert-butoxycarboxamido-2-hydroxy-5-phenyl)pentylammonium succinate; isopropyl alcohol	(E)	
	reaction mass of: bis(5-dodecyl-2-hydroxybenzaldehyde-oximate) copper (II) C12-alkyl group is branched; 4-dodecylsalicylaldehyde oxime	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: bis(isotridecylammonium)mono(di-(4-methylpent-2-yloxy)thiophosphorothionylisopropyl)phosphate; isotridecylammonium bis(di-(4-methylpent-2-yloxy)thiophosphorothionylisopropyl)phosphate	(E)	490
	reaction mass of: bis(N-cyclohexyl-N'-phenyleneureido)methylene; bis(N-octadecyl-N'-phenyleneureido)methylene; bis(N-dicyclohexyl-N'-phenyleneureido)methylene (1:2:1)	(E)	
	reaction mass of: bis(tris(2-(2-hydroxy(1-methyl)ethoxy)ethyl)ammonium) 7-anilino-4-hydroxy-3-(2-methoxy-5-methyl-4-(4-sulfonatophenylazo)phenylazo)naphthalene-2-sulfonate; bis(tris(2-(2-hydroxy(2-methyl)ethoxy)ethyl)ammonium) 7-anilino-4-hydroxy-3-(2-methoxy-5-methyl-4-(4-sulfonatophenylazo)phenylazo)naphthalene-2-sulfonate	(E)	
	reaction mass of: bis[(2-ethyl-1-oxohexyl)oxy]dioctyl stannane; bis[((2-ethyl-1-oxohexyl)oxy)dioctylstannyl]oxide; bis(1-phenyl-1,3-decanedionyl)dioctyl stannane; ((2-ethyl-1-oxohexyl)oxy)-(1-phenyl-1,3-decanedionyl)dioctyl stannane	(E)	
	reaction mass of: butan-2-one oxime; syn-O,O'-di(butan-2-one oxime)diethoxysilane	(E)	
	reaction mass of: calcium bis(C10-14 branched alkyl salicylate); calcium bis(C18-30-alkyl salicylate); calcium C10-14 branched alkylsalicylato-C18-30-alkyl salicylate; calcium bis (C10-14 branched alkyl phenolate); calcium bis (C18-30-alkyl phenolate); calcium C10-14 branched alkylphenolato-C18-30-alkyl phenolate; C10-14 branched alkyl phenol; C18-30-alkyl phenol	(E)	
	reaction mass of: carbonato-bis-N-ethyl-2-isopropyl-1,3-oxazolidine; methyl carbonato-N-ethyl-2-isopropyl-1,3-oxazolidine; 2-isopropyl-N-hydroxyethyl 1,3-oxazolidine	(E)	
	reaction mass of: cis-9-octadecenedioic acid; cis-9-cis-12-octadecadienedioic acid; hexadecanedioic acid; octadecanedioic acid	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: disodium (6-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)(1-(5-chloro-2-oxidophenylazo)-2-naphtholato)chromate(1-); trisodium bis(5-(4-anisidino)-3-sulfonato-2-(3,5-dinitro-2-oxidophenylazo)-1-naphtholato)chromate(1-)	(E)	490
	reaction mass of: disodium 4-(3-ethoxycarbonyl-4-(5-(3-ethoxycarbonyl-5-hydroxy-1-(4-sulfonatophenyl)pyrazol-4-yl)penta-2,4-dienylidene)-4,5-dihydro-5-oxopyrazol-1-yl)benzenesulfonate; trisodium 4-(3-ethoxycarbonyl-4-(5-(3-ethoxycarbonyl-5-oxido-1-(4-sulfonatophenyl)pyrazol-4-yl)penta-2,4-dienylidene)-4,5-dihydro-5-oxopyrazol-1-yl)benzenesulfonate	(E)	
	reaction mass of: Disodium 6-[3-carboxy-4,5-dihydro-5-oxo-4-sulfonatophenyl]pyrazolin-4-yl-azo]-3-[2-oxido-4-(ethansulfonyl)-5-methoxyphenylazo]-4-oxidonaphthalene-2-sulfonate copper (II) complex; Disodium 6-[3-carboxy-4,5-dihydro-5-oxo-4-sulfonatophenyl]pyrazolin-4-yl-azo]-3-[2-oxido-4-(2-hydroxyethylsulfonyl)-5-methoxyphenylazo]-4-oxidonaphthalene-2-sulfonate copper (II) complex	(E)	
	reaction mass of: dodecanoic acid; poly(1-7)lactate esters of dodecanoic acid	(E)	
	reaction mass of: dodecyl N-(2,2,6,6-tetramethylpiperidin-4-yl)-β-alaninate; tetradecyl N-(2,2,6,6-tetramethylpiperidin-4-yl)-β-alaninate	(E)	
	reaction mass of: dodecyloxy-1-methyl-1-[oxy-poly-(2-hydroxymethylethanoxy)]pentadecane; dodecyloxy-1-methyl-1-[oxy-poly-(2-hydroxymethylethanoxy)]heptadecane	(E)	
	reaction mass of: dodecylphenyl dodecylhydroxybenzenecarboxylate; bis(dodecylphenyl)dodecyl hydroxybenzenedicarboxylate	(E)	
	reaction mass of: endo-2-methyl-exo-3-methyl-exo-2-[(exo-3-methylbicyclo[2.2.1]hept-2-yl)methyl]bicyclo[2.2.1]heptane; exo-2-methyl-exo-3-methyl-endo-2-[(endo-3-methylbicyclo[2.2.1]hept-2-yl)methyl]bicyclo[2.2.1]heptane	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: ethyl (2R,3R)-3-isopropylbicyclo[2.2.1]hept-5-ene-2-carboxylate; ethyl (2S,3S)-3-isopropylbicyclo[2.2.1]hept-5-ene-2-carboxylate	(E)	490
	reaction mass of: hexyldioctylphosphineoxide; dihexyloctylphosphineoxide; trioctylphosphineoxide	(E)	
	reaction mass of: isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-(n)-dodecylphenol; isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-(n)-tetracosylphenol; isomers of 2-(2H-benzotriazol-2-yl)-4-methyl-5,6-didodecyl-phenol. n = 5 or 6	(E)	
	reaction mass of: methyl 1,4-dimethylcyclohexanecarboxylate ("para-isomer" including cis- and trans- isomers); methyl 1,3-dimethylcyclohexanecarboxylate ("meta-isomer" including cis- and trans-isomers)	(E)	
	reaction mass of: methyl 3-((1E)-2-methylprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate; methyl 3-((1Z)-2-methylprop-1-enyl)-2,2-dimethylcyclopropanecarboxylate (20:80)	(E)	
	reaction mass of: mono- and di-glycerols of canola oil; canola oil acid amide of branched 1,3-propanediamine,N-[3-(tridecyloxy)-propyl]; N,N-diorgano dithiocarbamate molybdenum complex	(E)	
	reaction mass of: N-(3-(trimethoxysilyl)propyl)ethylenediamine; N-benzyl-N-(3-(trimethoxysilyl)propyl)ethylenediamine; N-benzyl-N'-[3-(trimethoxysilyl)propyl]ethylenediamine; N,N'-bis-benzyl-N'-[3-(trimethoxysilyl)propyl]ethylenediamine; N,N,N'-tris-benzyl-N'-[3-(trimethoxysilyl)propyl]ethylenediamine; N,N-bis-benzyl-N'-[3-(trimethoxysilyl)propyl]ethylenediamine	(E)	
	reaction mass of: N-(3-dimethylamino-4-methyl-phenyl)-benzamide; N-(3-dimethylamino-2-methyl-phenyl)-benzamide; N-(3-dimethylamino-3-methyl-phenyl)-benzamide	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
	reaction mass of: N,N''-(methylenedi-4,1-phenylene)bis[N'-phenylurea]; N-(4-[[4-[[[(phenylamino)carbonyl]amino]phenylmethyl]phenyl]-N'-cyclohexylurea]; N,N''-(methylenedi-4,1-phenylene)bis[N'-cyclohexylurea]	(E)	
	reaction mass of: N,N-di(hydrogenated alkyl C14-C18)phthalamic acid; dihydrogenated alkyl (C14-C18)amine	(E)	
	reaction mass of: N,N'-Ethane-1,2-diylbis(decanamide); 12-Hydroxy-N-[2-[1-oxydecyl]amino]ethyl]octadecanamide; N,N'-Ethane-1,2-diylbis(12-hydroxyoctadecanamide)	(E)	
	reaction mass of: N-[5-[bis-(2-methoxyethyl)amino]-2-(2-butyl-4,6-dicyano-1,3-dioxo-2,3-dihydro-1H-isoindol-5-yl-azo)phenyl]acetamide; N-[2-(2-butyl-4,6-dicyano-1,3-dioxo-2,3-dihydro-1H-isoindol-5-ylazo)5-diethylaminophenyl]acetamide	(E)	
생태독성	reaction mass of: N-aminoethylpiperazonium mono-2,4,6-trimethylnonyldiphenyl ether di-sulfonate; N-aminoethylpiperazonium di-2,4,6-trimethylnonyldiphenyl ether di-sulfonate	(E)	490
	reaction mass of: O,O',O''-(methylsilanetriyl)tris(4-methyl-2-pentanone oxime) (3 stereoisomers)	(E)	
	reaction mass of: pentaerythriol tetraesters with heptanoic acid and 2-ethylhexanoic acid	(E)	
	reaction mass of: pentasodium 2-{{4-{{3-methyl-4-[6-sulfonato-4-(2-sulfonato-phenylazo)-naphthalen-1-ylazo]-phenylamino}}-6-[3-(2-sulfato-ethanesulfonyl)-phenylamino]-1,3,5-triazin-2-ylamino}}-benzene-1,4-disulfonate; pentasodium 2-{{4-{{3-methyl-4-[7-sulfonato-4-(2-sulfonato-phenylazo)-naphthalen-1-ylazo]-phenylamino}}-6-[3-(2-sulfato-ethanesulfonyl)-phenylamino]-1,3,5-triazin-2-ylamino}}-benzene-1,4-disulfonate	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
	<p style="text-align: center;">reaction mass of: pentasodium</p> <p>3-(4-(4-(7-(2,4-diamino-5-sulfonato-3-(4-sulfonatophenylazo)phenylazo)-1-hydroxy-3-sulfonatophthalen-2-ylazo)-2-sulfonatophenylamino)phenylazo)-4-hydroxy-6-(2-oxo-1-phenylcarbamoylpropylazo)naphthalene-2-sulfonate; pentasodium</p> <p>6-((2,4-diamino-5-sulfonatophenyl)azo)-3-((4-((4-((7-((2,4-diamino-5-sulfonatophenyl)azo)-1-hydroxy-3-sulfonatophthalen-2-yl)azo)phenyl)amino)-2-sulfonatophenyl)azo)-4-hydroxynaphthalene-2-sulfonate; pentasodium</p> <p>6-((2,4-diamino-5-sulfonato-3-(4-sulfonatophenyl)azo)phenyl)azo)-3-((4-((4-((1,7-dihydroxy-3-sulfonatophthalen-2-yl)azo)-2-sulfonatophenyl)amino)phenyl)azo)-4-hydroxynaphthalene-2-sulfonate; hexasodium</p> <p>6-((2,4-diamino-5-sulfonatophenyl)azo)-3-((4-((4-((7-((2,4-diamino-5-sulfonato-3-(4-sulfonatophenyl)azo)phenyl)azo)-1-hydroxy-3-sulfonatophthalen-2-yl)azo)-2-sulfonatophenyl)amino)phenyl)azo)-4-hydroxynaphthalene-2-sulfonate</p>	(E)	
생태독성	<p style="text-align: center;">reaction mass of: pentasodium</p> <p>4-amino-5-hydroxy-3-[(E)-4-[2-(sulfonatooxy)ethylsulfonyl]phenylazo]-6-[(E)-2-sulfonato-4-[2-(sulfonatooxy)ethylsulfonyl]phenylazo]naphthalene-2,7-disulfonate; tetrasodium</p> <p>4-amino-5-hydroxy-3-[(E)-4-[2-(sulfonatooxy)ethylsulfonyl]phenylazo]-6-[(E)-2-sulfonato-4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate; tetrasodium</p> <p>4-amino-5-hydroxy-6-[(E)-2-sulfonato-4-[2-(sulfonatooxy)ethylsulfonyl]phenylazo]-3-[(E)-4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate; trisodium</p> <p>4-amino-5-hydroxy-3-[(E)-4-(vinylsulfonyl)phenylazo]-6-[(E)-2-sulfonato-4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate; trisodium</p> <p>4-amino-5-hydroxy-3-[(2-hydroxyethylsulfonyl)-phenylazo]-6-[(E)-2-sulfonato-4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate; trisodium</p> <p>4-amino-5-hydroxy-3-[(E)-4-(vinylsulfonyl)phenylazo]-6-[(E)-2-sulfonato-4-(2-hydroxyethylsulfonyl)phenylazo]naphthalene-2,7-disulfonate</p>	(E)	490

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
	<p>reaction mass of: pentasodium 4-amino-5-hydroxy-3-[(E)-4-[2-(sulfonatooxy)ethylsulfonyl]phenylazo]-6- [(E)-2-sulfonato-4-[2-(sulfonatooxy)ethylsulfonyl]phenylazo]naphthalene- 2,7-disulfonate; tetrasodium 4-amino-5-hydroxy-3-[(E)-4-[2-(sulfonatooxy)ethylsulfonyl]phenylazo]-6- [(E)-2-sulfonato-4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate; tetrasodium 4-amino-5-hydroxy-6-[(E)-2-sulfonato-4-[2-(sulfonatooxy)ethylsulfonyl]p henylazo]-3-[(E)-4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate</p>	(E)	
생태독성	<p>reaction mass of: pentasodium 5-amino-3-(5-{[4-chloro-6-[4-(2-sulfoxyethoxysulfonato)phenylamino]-1 ,3,5-triazin-2-ylamino]}-2-sulfonatophenylazo)-6-[5-(2,3-dibromopropio nylamino)-2-sulfonatophenylazo]-4-hydroxynaphthalene-2,7-disulfonate; pentasodium 5-amino-6-[5-(2-bromoacryloylamino)-2-sulfonatophenylazo]-3-(5-{[4-c hloro-6-[4-(2-sulfoxyethoxysulfonato)phenylamino]-1,3,5-triazin-2-ylami no]}-2-sulfonatophenylazo)-4-hydroxynaphthalene-2,7-disulfonate; tetrasodium 5-amino-3-[5-{[4-chloro-6-[4-(vinylsulfonyl)phenylamino]-1,3,5-triazin- 2-ylamino]}-2-sulfonatophenylazo]-6-[5-(2,3-dibromopropionylamino)-2- sulfonatophenylazo]-4-hydroxynaphthalene-2,7-disulfonate</p>	(E)	490
	<p>reaction mass of: pentasodium 7-amino-3-[[4-[[4-[[4-[[4-[(6-amino-1-hydroxy-3-sulfonato-2-naphthyl)a zo]-7-sulfonato-1-naphthyl]azo]phenyl]amino]-3-sulfonatophenyl]azo]-6- sulfonato-1-naphthyl]azo]-4-hydroxynaphthalen-2-sulfonate; pentasodium 7-amino-8-[4-[4-[4-[4-(2-amino-5-hydroxy-7-sulfonato-naphthalen-1-yl azo)-7-sulfonatophthalen-1-ylazo]-phenylamino]-3-sulfonato-phenylazo]-6-sulfonato-naphthalen-1-ylazo]-4-hydroxy-naphthalene-2-sulfonate; pentasodium 7-amino-8-[4-[4-[4-[4-(6-amino-1-hydroxy-3-sulfonato-naphthalen-1-yl azo)-7-sulfonatophthalen-1-ylazo]-phenylamino]-3-sulfonato-phenylazo]-6-sulfonato-naphthalen-1-ylazo]-4-hydroxy-naphthalene-2-sulfonate; tetrasodium 7-amino-4-hydroxy-3-[4-[4-[4-(4-hydroxy-7-sulfonato-naphthalen-1-yla zo)-2-sulfonato-phenylamino]phenylazo]-6-sulfonato-naphthalen-1-ylazo]naphthalene-2-sulfonate; tetrasodium 7-amino-4-hydroxy-3-[4-[4-[4-(4-amino-7-sulfonato-naphthalen-1-ylazo)-2-sulfonato-phenylamino]phenylazo]-6-sulfonato-naphthalen-1-ylazo]n aphthalene-2-sulfonate</p>	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: pentasodium bis(1-(3(or 5)-(4-anilino-3-sulfonatophenylazo)-4-hydroxy-2-oxidophenylazo)-6-nitro-4-sulfonato-2-naphtholato)ferrate(1-); pentasodium [(1-(3-(4-anilino-3-sulfonatophenylazo)-4-hydroxy-2-oxidophenylazo)-6-nitro-4-sulfonato-2-naphtholato)-(5-(4-anilino-3-sulfonatophenylazo)-4-hydroxy-2-oxidophenylazo)-6-nitro-4-sulfonato-2-naphtholato]ferrate(1-)	(E)	490
	reaction mass of: phenol, 6-(1,1-dimethylethyl)-4-tetrapropyl-2-[(2-hydroxy-5-tetra-propylphenyl)methyl (C41-compound) and methane, 2,2'-bis[6-(1,1-dimethyl-ethyl)-1-hydroxy-4-tetrapropyl-phenyl]]-(C45-compound); 2,6-bis(1,1-dimethylethyl)-4-tetra-propyl-phenol and 2-(1,1-dimethylethyl)-4-tetrapropyl-phenol; 2,6-bis[(6-(1,1-dimethylethyl)-1-hydroxy-4-tetrapropylphenyl)methyl]-4-(tetrapropyl)phenol and 2-[(6-(1,1-dimethylethyl)-1-hydroxy-4-tetrapropylphenylmethyl)-6-[1-hydroxy-4-tetrapropylphenyl)methyl]-4-(tetrapropyl)phenol	(E)	
	reaction mass of: phenyl 1-(1-[2-chloro-5-(hexadecyloxy-carbonyl)phenylcarbamoyl]-3,3-dimethyl-2-oxobutyl)-1H-2,3,3a,7a-tetrahydrobenzotriazole-5-carboxylate; phenyl 2-(1-(2-chloro-5-(hexadecyloxy-carbonyl)phenylcarbamoyl)-3,3-dimethyl-2-oxobutyl)-1H-2,3,3a,7a-tetrahydrobenzotriazole-5-carboxylate; phenyl 3-(1-(2-chloro-5-(hexadecyloxy-carbonyl)phenylcarbamoyl)-3,3-dimethyl-2-oxobutyl)-1H-2,3,3a,7a-tetrahydrobenzotriazole-5-carboxylate	(E)	
	reaction mass of: potassium o-toluenephosphonate; potassium m-toluenephosphonate; potassium p-toluenephosphonate	(E)	
	reaction mass of: sec-butylphenyl(phenyl)methane, mixed isomers; 1-(sec-butylphenyl(phenyl)-2-phenylethane, mixed isomers; 1-(sec-butylphenyl-1-phenylethane, mixed isomers	(E)	
	reaction mass of: sodium 1-tridecyl-4-allyl-(2 or 3)-sulfobutanedioate; sodium 1-dodecyl-4-allyl-(2 or 3)-sulfobutanedioate	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: strontium (4-chloro-2-((4,5-dihydro-3-methyl-5-oxo-1-(3-sulfonatophenyl)-1H-pyrazol-4-yl)azo)-5-methyl)benzenesulfonate; disodium (4-chloro-2-((4,5-dihydro-3-methyl-5-oxo-1-(3-sulfonatophenyl)-1H-pyrazol-4-yl)azo)-5-methyl)benzenesulfonate	(E)	490
	reaction mass of: tetradecanoic acid; poly(1-7)lactate esters of tetradecanoic acid	(E)	
	reaction mass of: tetrasodium 4-amino-6-(5-(2,6-difluoropyrimidin-4-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(sulfatoethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate; tetrasodium 4-amino-6-(5-(4,6-difluoropyrimidin-2-ylamino)-2-sulfonatophenylazo)-5-hydroxy-3-(4-(2-sulfatoethylsulfonyl)phenylazo)naphthalene-2,7-disulfonate	(E)	
	reaction mass of: tetrasodium 7-(4-(4-fluoro-6-(4-(2-sulfonatoethylsulfonyl)phenylamino)-1,3,5-triazin-2-ylamino)-2-ureidophenylazo)naphthalene-1,3,6-trisulfonate; tetrasodium 7-(4-(4-hydroxy-6-(4-(2-sulfonatoethylsulfonyl)phenylamino)-1,3,5-triazin-2-ylamino)-2-ureidophenylazo)naphthalene-1,3,6-trisulfonate	(E)	
	reaction mass of: tetrasodium phosphonoethane-1,2-dicarboxylate; hexasodium phosphonobutane-1,2,3,4-tetracarboxylate	(E)	
	reaction mass of: tetrasodium(((2-hydroxyethyl)imino)bis(methylene))bisphosphonate, N-oxide; trisodium(((tetrahydro-2-hydroxy-4H-1,4,2-oxazaphosphorin-4-yl)-methyl)phosphonate, N-oxide, P-oxide	(E)	
	reaction mass of: thiobis(4,1-phenylene)-S,S',S',S'-tetraphenyldisulfonium bishexafluorophosphate; diphenyl(4-phenylthiophenyl)sulfonium hexafluorophosphate	(E)	
	reaction mass of: trans-2,4-dimethyl-2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-naphthalene-2-yl)-1,3-dioxolane; cis-2,4-dimethyl-2-(5,6,7,8-tetrahydro-5,5,8,8-tetramethyl-naphthalene-2-yl)-1,3-dioxolane	(E)	
	reaction mass of: trans-trans-cyclohexadeca-1,9-diene; cis-trans-cyclohexadeca-1,9-diene	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: triammonium 6-amino-3-((2,5-diethoxy-4-(3-phosphonophenyl)azo)phenyl)azo-4-hydroxy-2-naphthalenesulfonate; diammonium 3-((4-((7-amino-1-hydroxy-3-sulfo-naphthalen-2-yl)azo)-2,5-diethoxyphenyl)azo)benzoate	(E)	490
	reaction mass of: trihexadecylmethylammonium chloride; dihexadecyldimethylammonium chloride	(E)	
	reaction mass of: trihexyl citrate; dihexyloctyl citrate; dioctylhexyl citrate; dihexyldecyl citrate	(E)	
	reaction mass of: trilithium 4-amino-3-((4-((4-((2-amino-4-hydroxyphenyl)azo)phenyl)amino)-3-sulfo phenyl)azo)-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulfonate; trilithium 4-amino-3-((4-((4-((4-amino-2-hydroxyphenyl)azo)phenyl)amino)-3-sulfo phenyl)azo)-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulfonate	(E)	
	reaction mass of: tri-p-tolytin hydroxide; hexa-p-tolyl-distannoxane	(E)	
	reaction mass of: tris(3,5,5-trimethylhexylammonium) 4-amino-3-(4-(4-(2-amino-4-hydroxyphenylazo)anilino)-3-sulfonatophenylazo)-5,6-dihydro-5-oxo-6-phenylhydrazononaphthalene-2,7-disulfonate; tris(3,5,5-trimethylhexylammonium) 4-amino-3-(4-(4-(4-amino-2-hydroxyphenylazo)anilino)-3-sulfonatophenylazo)-5,6-dihydro-5-oxo-6-phenylhydrazononaphthalene-2,7-disulfonate (2:1)	(E)	
	reaction mass of: trisodium (2,4(or 2,6 or 4,6)-bis(3,5-dinitro-2-oxidophenylazo)-5-hydroxyphenolato)(2(or 4or 6)-(3,5-dinitro-2-oxidophenylazo)-5-hydroxy-4(or 2or 6)-(4-(4-nitro-2-sulfonatoanilino)phenylazo)phenolato)ferrate(1-); trisodium bis(2,4(or 2,6 or 4,6)-bis(3,5-dinitro-2-oxidophenylazo)-5-hydroxyphenolato)ferrate(1-); trisodium (2,4(or 2,6 or 4,6)-bis(3,5-dinitro-2-oxidophenylazo)-5-hydroxyphenolato)(2(or 4 or 6)-(3,5-dinitro-2-oxidophenylazo)-5-hydroxy-4(or 2 or 6)-(4-nitro-2-sulfonatophenylazo)phenolato)ferrate(1-); trisodium (2,4(or 2,6 or 4,6)-bis(3,5-dinitro-2-oxidophenylazo)-5-hydroxyphenolato)(2(or 4 or 6)-(3,5-dinitro-2-oxidophenylazo)-5-hydroxy-4(or 2 or 6)-(3-sulfonatophenylazo)phenolato)ferrate(1-); disodium 3,3'-(2,4-dihydroxy-1,3(or 1,5 or 3,5)-phenylenediazo)dibzenesulfonate	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction mass of: tri-sodium [29H, 31H-phthalocyanine-C,C,C-trisulfonato (6-)-N29,N30,N31,N32] manganate (3-); tetrasodium [29H,31H-phthalocyanine-C,C,C,C-tetrasulfonato (6-)-N29,N30,N31,N32], manganate (3-); pentasodium [29H,31H-phthalocyanine-C,C,C,C,C-pentasulfonato (6-)-N29,N30,N31,N32] manganate (3-)	(E)	490
	reaction mass of: trisodium 2-((1-(2-hydroxy-κ-O-5-(2-sulfonatoethansulfonyl)phenylazo-κ-N2)-1-phenylmethyl)azo-κ-N1)-4-sulfonatobenzoate(5-)-κ-O)cuprate(II); disodium 2-((1-(5-ethenesulfonyl-2-hydroxy-κ-O-phenylazo-κ-N2)-1-phenylmethyl)azo-κ-N1)-4-sulfonatobenzoate-κ-O-(5-))cuprate(II)	(E)	
	reaction mass of: trisodium 3-(5-(2,6-difluoropyrimidin-4-ylamino)-2-sulfonatophenylazo)-5-(4-fluoro-6-morpholin-4-yl-1,3,5-triazin-2-ylamino)-4-hydroxy-2,7-naphthalene disulfonate; trisodium 3-(5-(4,6-difluoropyrimidin-2-ylamino)-2-sulfonatophenylazo)-5-(4-fluoro-6-morpholin-4-yl-1,3,5-triazin-2-ylamino)-4-hydroxy-2,7-naphthalene disulfonate	(E)	
	reaction mass of: Trisodium 4-benzoylamino-6-(6-ethenesulfonyl-1-sulfato-naphthalen-2-ylazo)-5-hydroxynaphthalene-2,7-disulfonate; 5-(benzoylamino)-4-hydroxy-3-((1-sulfo-6-((2-(sulfooxy)ethyl)sulfonyl)-2-naphthyl)azo)naphthalene-2,7-disulfonic acid sodium salt; 5-(benzoylamino)-4-hydroxy-3-((1-sulfo-6-((2-(sulfooxy)ethyl)sulfonyl)-2-naphthyl)azo)naphthalene-2,7-disulfonic acid	(E)	
	reaction mass of: trisodium 5-{4-chloro-6-[N-ethyl-(3-(2-sulfonatooxy)ethylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[4-(vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate; trisodium 5-{4-chloro-6-[N-ethyl-3-(vinylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo]naphthalene-2,7-disulfonate; disodium 5-{4-chloro-6-[N-ethyl-3-(vinylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-4-hydroxy-3-[(4-vinylsulfonyl)phenylazo]naphthalene-2,7-disulfonate; tetrasodium 5-{4-chloro-6-[N-ethyl-3-(2-(sulfonatooxy)ethylsulfonyl)anilino]-1,3,5-triazin-2-ylamino}-3-[4-(2-(sulfonatooxy)ethylsulfonyl)phenylazo]-4-hydroxynaphthalene-2,7-disulfonate	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
	reaction mass of: trisodium N(1')-N(2):N(1''')-N(2'')-η-6-[2-amino-4-(or 6)-hydroxy-(or 4-amino-2-hydroxy)phenylazo]-6''-(1-carbaniloyl-2-hydroxyprop-1-enyl azo)-5',5'''-disulfamoyl-3,3''-disulfonatobis(naphthalene-2,1'-azobenzene-1,2'-diolato-O(1),O(2'))-chromate; trisodium N(1')-N(2):N(1''')-N(2'')-η-6,6''-bis(1-carbaniloyl-2-hydroxyprop-1-enyl azo)-5',5'''-disulfamoyl-3,3''-disulfonatobis(naphthalene-2,1'-azobenzene-1,2'-diolato-O(1),O(2'))-chromate; trisodium N(1')-N(2):N(1''')-N(2'')-η-6,6''-bis[2-amino-4-(or 6)-hydroxy-(or 4-amino-2-hydroxy)phenylazo]5',5'''-disulfamoyl-3,3''-disulfonatobis(naphthalene-2,1'-azobenzene-1,2'-diolato-O(1),O(2'))-chromate (2:1:1)	(E)	
	reaction mass of: α-[3-(3-mercaptopropanoxycarbonylamino)methylphenylaminocarbonyl]-ω-[3-(3-mercaptopropanoxycarbonylamino)methylphenylaminocarbonyloxy]-poly-(oxyethylene-co-oxypropylene); 1,2-(or 1,3-)bis[α-(3-mercaptopropanoxycarbonylamino)methylphenylaminocarbonyl]-ω-oxy-poly(oxyethylene-co-oxypropylene)]-3-(or 2-)propanol; 1,2,3-tris[α-(3-mercaptopropanoxycarbonyl-amino)methylphenylaminocarbonyl]-ω-oxy-poly-(oxyethylene-co-oxypropylene)]propane]	(E)	
생태독성	reaction mass of:[2-(anthraquinon-1-ylamino)-6-[(5-benzoylamino)-anthraquinone-1-yl amino]-4-phenyl]-1,3,5-triazine; 2,6-bis-[(5-benzoylamino)-anthraquinon-1-ylamino]-4-phenyl-1,3,5-triazine.	(E)	490
	Reaction product of ammonium molybdate and C12-C24-diethoxylated alkylamine (1:5-1:3)	(E)	
	reaction product of amorphous silica (50-85 %), butyl (1-methylpropyl) magnesium (3-15 %), tetraethyl orthosilicate (5-15 %) and titanium tetrachloride (5-20 %)	(E)	
	Reaction product of bis(4-methyl-2-pentanol)itaconate and α-methylbezy lamin	(G)	
	reaction product of cocoalkyldiethanolamides and cocoalkylmonoglycerides and molybdenumtrioxide (1.75-2.2:0.75-1.0:0.1-1.1)	(E)	
	reaction product of diphenylamine, phenothiazine, and alkenes, branched (C8-10, C9-rich)	(E)	
	reaction product of diphenylmethanediiocyanate, octylamine, 4-ethoxyaniline and ethylenediamine (1:0,37:1,53:0,05)	(E)	
	reaction product of diphenylmethanediiocyanate, octylamine, oleylamine and cyclohexylamine (1:1.58:0.32:0.097)	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction product of diphenylmethanediisocyanate, toluenediisocyanate (reaction mass of isomers: 65 % 2,4- and 35 % 2,6-diisocyanate), octylamine and oleylamine (molar ratio 4:1:9:1)	(E)	490
	reaction product of diphenylmethanediisocyanate, toluenediisocyanate (reaction mass of isomers: 65 % 2,4- and 35 % 2,6-diisocyanate), octylamine, oleylamine and 4-ethoxyaniline (molar ratio 3.88:1:6.38:0.47:2.91)	(E)	
	reaction product of diphenylmethanediisocyanate, toluenediisocyanate (reaction mass of isomers: 65 % 2,4- and 35 % 2,6-diisocyanate), octylamine, oleylamine and 4-ethoxyaniline (molar ratio 4:1:7:1:2)	(E)	
	reaction product of toluenediisocyanate (reaction mass of isomers: 65 % 2,4- and 35 % 2,6-diisocyanate) and aniline (molar ratio 1:2)	(E)	
	reaction product of: 1,2,3-propanetricarboxylic acid, 2-hydroxy, diethyl ester, 1-propanol and zirconium tetra-n-propanolate	(E)	
	reaction product of: 2,3,4,2',3',4'-hexahydroxy-5,5'-diacetyl-diphenylmethane and 6-diazo-5,6-dihydro-5-oxo-1-naphthalenesulfonylchloride and 3-diazo-3,4-dihydro-6-methoxy-4-oxo-1-naphthalenesulfonylchloride	(E)	
	Reaction product of: 2-[[4-amino-2-ureidophenylazo]-5-[(2-(sulfooxy)ethyl)sulfonyl]]benzenesulfonic acid with 2,4,6-trifluoropyrimidine and partial hydrolysis to the corresponding vinylsulfonyl derivative, mixed potassium/sodium salt	(E)	
	reaction product of: 3,5-bis-tert-butylsalicylic acid and aluminiumsulfate	(E)	
	reaction product of: acetophenone, formaldehyde, cyclohexylamine, methanol and acetic acid	(E)	
	reaction product of: borax, hydrogen peroxide, acetic acid anhydride and acetic acid	(E)	
	reaction product of: C.I. Leuco Sulfur Black 1 and reaction mass of: disodium-4-{4-[8-amino-1-hydroxy-7-(4-sulfamoylphenylazo)-3,6-disulfonato-2-naphthylazo]phenylsulfonylamino}benzediazoniumchlorid; disodium-4-{4-[2,6-dihydroxy-3-(8-hydroxy-3,6-disulfonato-1-naphthylazo)phenylazo]phenylsulfonylamino}benzenediazoniumchlorid	(E)	
	reaction product of: C.I. Leuco Sulfur Black 1 with (3-chloro-2-hydroxypropyl)trimethylammonium chloride	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	reaction product of: polyethylene-polyamine-(C16-C18)-alkylamides with monothio-(C2)-alkyl phosphonates	(E)	490
	Reaction products of hydrogenated castor-oil fatty acids, decanoic acid, octanoic acid, ethylenediamine and tetramethylenediamine	(G)	
	Reaction products of phosphoryl trichloride, o-phenylphenol and phenol	(G)	
	Reaction products of tungsten hexachloride with 2-methylpropan-2-ol, nonylphenol and pentane-2,4-dione	(E)	
	Reaction products of: copper(II) sulfate and tetrasodium 2,4-bis[6-(2-methoxy-5-sulfonatophenylazo)-5-hydroxy-7-sulfonato-2-naphthylamino]-6-(2-hydroxyethylamino)-1,3,5-triazine (2:1)	(E)	
	Reaction products of: trimethylhexamethylene diamine (a mixture of 2,2,4-trimethyl-1,6-hexanediamine and 2,4,4-trimethyl-1,6-hexanediamine, EINECS listed), Epoxide 8 (mono[(C10-C16-alkyloxy)methyl]oxirane derivatives) and p-toluene-sulfonic acid	(E)	
	S-(tricyclo(5.2.1.02,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	(E)	
	salts and esters of 2,4,5-T; salts and esters of 2,4,5-trichlorophenoxy acetic acid	(E)	
	salts and esters of dinex	(E)	
	salts and esters of dinosam	(E)	
	salts and esters of dinoseb, with the exception of those specified elsewhere in this Annex	(E)	
	salts and esters of dinoterb	(E)	
	salts and esters of MCPA	(E)	
	salts of 2,2'-dichloro-4,4'-methylenedianiline; salts of 4,4'-methylenebis(2-chloroaniline)	(E)	
	salts of 2,4-D	(E)	
	salts of 2,4-DB	(E)	
	salts of 3,3'-dichlorobenzidine; salts of 3,3'-dichlorobiphenyl-4,4'-ylenediamine	(E)	
	salts of 4,4'-carbonimidoylbis[N,N-dimethylaniline]	(E)	
	salts of aniline	(E)	
	salts of bromoxynil with the exception of those specified elsewhere in this Annex	(E)	
	salts of fenoprop; salts of 2-(2,4,5-trichlorophenoxy)propionic acid	(E)	
	Salts of glyphosate, with the exception of those specified elsewhere in this Annex	(E)	
	salts of hydrazine	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	salts of hydrogen cyanide with the exception of complex cyanides such as ferrocyanides, ferricyanides and mercuric oxycyanide and those specified elsewhere in this Annex	(E)	490
	salts of ioxynil with the exception of those specified elsewhere in this Annex	(E)	
	salts of mecoprop	(E)	
	salts of nicotine	(E)	
	salts of strychnine	(E)	
	salts of thiocyanic acid, with the exception of those specified elsewhere in this Annex	(E)	
	Selenium and its compounds	P	
	Selenium compounds	(G)	
	selenium compounds with the exception of cadmium sulphoselenide and those specified elsewhere in this Annex	(E)	
	Silver and its compounds	P	
	sodium (1-(5-(4-(4-anilino-3-sulphophenylazo)-2-methyl-5-methylsulphonamido phenylazo)-4-hydroxy-2-oxido-3-(phenylazo)phenylazo)-5-nitro-4-sulphonato-2-naphtholato)iron(II)	(E)	
	sodium (Z)-3-chloro-3-(4-chlorophenyl)-1-hydroxy-2-propene-1-sulfonate	(E)	
	sodium 3,5-dichloro-2-(5-cyano-2,6-bis(3-hydroxypropylamino)-4-methylpyridin-3-ylazo)benzenesulphonate	(E)	
	sodium 4-hydroxy-3-(N'-(2-(2-hydroxyethylenesulfonyl)ethylene)ureido)-5-nitrobenzenesulfonate	(E)	
	sodium 5-(2-carboxyphenylazo)-6-hydroxynaphthalene-2-sulfonate	(E)	
	sodium bis[tris(2-hydroxyethyl)ammonium][6-anilino-4'-(4,8-disulfonato-2-naphthylazo)-5'-methyl-3-sulfonatonaphthalene-2-azobenzene-1,2'-diolato]cuprate(II)	(E)	
	Strychnine, salts	(G)	
tall oil 2-[(tetrahydro-2H-pyran-2-yl)thio]ethyl esters	(E)		
tert-(dodecyl/tetradecyl)-ammonium bis(3-(4-((5-(1,1-dimethyl-propyl)-2-hydroxy-3-nitrophenyl)azo)-3-methyl-5-hydroxy-(1H)pyrazol-1-yl)benzenesulfonamidato)chromate	(E)		
tert-butyl(6-{2-[4-(4-fluorophenyl)-6-isopropyl-2-[methyl(methylsulfonyl)amino]pyrimidin-5-yl]vinyl}(4S,6S)-2,2-dimethyl[1,3]dioxan-4-yl)acetate	(E)		

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	Tetraalkyl lead	(G)	490
	tetrabutylammonium butyl tris-(4-tert-butylphenyl)borate	(E)	
	tetralithium 2-[6-[7-[2-(carboxylato)phenylazo]-8-hydroxy-3,6-disulfonato-1-naphthylamino]-4-hydroxy-1,3,5-triazine-2-ylamino]benzoate	(E)	
	tetrapotassium 4-[5-[3-carboxylato-4,5-dihydro-5-oxo-1-(4-sulfonatophenyl)pyrazol-4-ylidene]-3-(piperidinocarbonyl)penta-1,3-dienylidene]-5-hydroxy-1-(4-sulfonatophenyl)pyrazole-3-carboxylate	(E)	
	tetrasodium 5-(4,6-dichloro-5-cyanopyrimidin-2-ylamino)-4-hydroxy-2,3-azodinaphthalene-1,2,5,7-disulphonate	(E)	
	tetrazinc(2+)bis(hexacyanocobalt(3+))diacetate	(E)	
	thallium compounds, with the exception of those specified elsewhere in this Annex	(E)	
	thionyl chloride, reaction products with 1,3,4-thiadiazol-2,5-dithiol, tert-nonanethiol and C12-14-tert-alkylamine	(E)	
	Toluenediamine, salts	(G)	
	Toluidine, salts	(G)	
	trans-N-methyl-2-styryl-[4'-aminomethine-(1-acetyl-1-(2-methoxyphenyl)acetamido)]pyridinium acetate	(E)	
	Trialkyl tin hydroxide	(G)	
	Trialkyl tin hydroxide salts	(G)	
	Trialkyl tin hydroxide, salts	(G)	
	Trialkyl tin oxide	(G)	
	Triaryl tin hydroxide, salts	(G)	
	tributyl tin compound	(G)	
	Tributyl tin compounds	(G)	
	tributyltetradecylphosphonium tetrafluoroborate	(E)	
	tributyltin compounds, with the exception of those specified elsewhere in this annex	(E)	
	Triethyl tin compounds	(G)	
	triethyltin compounds, with the exception of those specified elsewhere in this Annex	(E)	
	Trimethyl tin compounds	(G)	
	trimethyltin compounds, with the exception of those specified elsewhere in this Annex	(E)	
	trioctyltin compounds, with the exception of those specified elsewhere in this Annex	(E)	
	Triphenyl tin compounds	(G)	
	triphenyltin compounds, with the exception of those specified elsewhere in this Annex	(E)	

○ 생태독성 물질 (CAS No. 無) (계속)

유해 특성	목록	구분	물질수
생태독성	Tripropyl tin compounds	(G)	490
	tripropyltin compounds, with the exception of those specified elsewhere in this Annex	(E)	
	tris(isopropyl/tert-butylphenyl) phosphate	(E)	
	tris(octadec-9-enylammonium) (trisulfonatophthalocyaninato)copper(II)	(E)	
	trisodium (1-(3-carboxylato-2-oxido-5-sulfonatophenylazo)-5-hydroxy-7-sulfonato naphthalen-2-amido)nickel(II)	(E)	
	trisodium (6-anilino-2-(5-nitro-2-oxidophenylazo)-3-sulphonato-1-naphtholato)(4-sulphonato-1,1'-azodi-2,2'naphtholato)chromate(1-)	(E)	
	trisodium 2-{α[2-hydroxy-3-[4-chloro-6-[4-(2,3-dibromopropionylamino)-2-sulfonatophenylamino]-1,3,5-triazin-2-ylamino]-5-sulfonatophenylazo]-benzylidenehydrazino}-4-sulfonatobenzoate, copper complex	(E)	
	trisodium bis[(3'-nitro-5'-sulfonato(6-amino-2-[4-(2-hydroxy-1-naphthylazo)phenylsulfonylamino]pyrimidin-5-azo)benzene-2',4-diolato)]chromate (III)	(E)	
	uranium compounds with the exception of those specified elsewhere in this Annex	(E)	
	Vanadium and its compounds	P	
	vanadium(IV) oxide hydrogen phosphate hemihydrate, lithium, zinc, molybdenum, iron and chlorine-doped	(E)	
	Warfarin, salts	(G)	
	xylidines with the exception of those specified elsewhere in this Annex; dimethyl anilines with the exception of those specified elsewhere in this Annex	(E)	
	zinc 2-hydroxy-5-C13-18alkylbenzoate	(E)	
	Zinc and its compounds	P	
	zinc chromates including zinc potassium chromate	(E)	
	zinc hexacyanocobaltate(III), tertiary butyl alcohol/polypropylene glycol complex	(E)	
	zinc salts, fatty acids, C16-18 and C18 unsaturated, branched and linear	(E)	
	zinc-bis(4-(n-octyloxycarbonylamino)salicylate) dihydrate	(E)	
	α-hydroxypoly(methyl-(3-(2,2,6,6-tetramethylpiperidin-4-yloxy)propyl)siloxane)	(E)	

[별표 3]

폐기물 유해특성과 유해·위험문구 연계표

폐기물 유해특성	유해·위험문구 연계표	비고
폭발성	폭발성 물질 또는 화약류 (H200, H201, H202, H203, H204)	
인화성	인화성 액체 (H224, H225, H226) 인화성 고체 (H228)	
자연발화성	자연발화성 액체 및 고체 (H250) 자기발열성 (H251, H252)	
산화성	산화성 액체 및 고체 (H271, H272)	
금수성(禁水性)	물반응성 물질 및 혼합물 (H260, H261)	
부식성	금속부식성 물질 (H290) 피부부식성 또는 자극성 물질 (H314)	
생태독성	수생환경 유해성 물질 (H400, H401, H402)	
감염성	-	폐기물관리법 시행령 별표 2의 조직물류폐기물 중 태반
용출독성	-	폐기물관리법 시행규칙 별표 1의 지정폐기물에 함유된 유해물질 (용출액을 기준으로 적용되는 것)의 기준농도 이상인 것

※ 유해·위험문구는 ‘화학물질의 분류 및 표시 등에 관한 규정(국립환경과학원고시 제2018-21호, 2018.5.23.)’을 참조한다.

[별표 4]

폐기물 유해특성별 제거 또는 안정화 기술의 적용 가능성

유해특성	폐기물 유해특성 제거 및 안정화 기술				
	물리적	화학적	생물학적	열적	안정화
폭발성		●	●		
인화성	○	●	●	●	○
자연발화성	●	●	●	●	○
금수성	●	●	○	○	
산화성	○	●	○	●	●
감염성				●	
부식성	○	●	○	○	●
용출독성	●	●	○	○	●
생태독성	●	●	●	●	○

● 상용화 기술 ○ 허용 가능한 기술

[별표 5]

물리적 처리의 기술 목록

번호	구분	요약
5-1	수선별	육안으로 식별된 품목 제거에 의한 고품 폐기물 분리
5-2	파쇄	고형 폐기물에 힘을 가해 분해하여 크기 단위를 조각, 입자로 생성하는 공정.
5-3	특수 물리 분류	특수한 탐지 및 모니터링 방법을 이용하여 고품 폐기물 스트림에서 분류하는 공정.
5-4	체 및 스크린	하나 그 이상의 체를 통하여 상이한 입자크기를 갖는 폐기물을 선별하는 공정.
5-5	침강과 침전	액상에 부유하는 고형물이 밀도에 의해 침강 및 침전되는 공정.
5-6	원심 분리	원심력을 이용하여 보통 액체에 있는 부유물 선별을 가속화하는 공정. 콜로이드 용액에서는 응집체가 첨가될 수 있음.
5-7	공기 선별	공기의 흐름을 이용하여 물체의 밀도, 크기, 모양의 차이를 이용하여 혼합된 물질을 선별하는 공정
5-8	탄도 선별	탄성, 공기 저항 및 관성이 다른 재료의 껍적의 차이를 기반으로 분리가 이루어지는 공정.
5-9	수력 분급	고정된 속도로 움직이는 액체 매체에서 크기와 밀도가 다른 입자들을 분리하는 공정.
5-10	부유 및 침강	액체 매질에서 혼합폐기물 구성성분을 밀도차이 또는 부유하는 속성에 의해 분리하는 공정
5-11	사이클론 및 원심 분리기	고형 물질 및 미립자의 혼합물에서 서로 다른 밀도와 크기의 성분을 분리하기 위한 원심력을 응용한 기반 공정. 또한 폐가스 흐름에서의 고품 입자에도 적용 가능함.
5-12	하이드로 사이클론	액체의 매체에서 원심력을 이용하여 부유물질(고형물질)을 선별하는 공정
5-13	자기, 전자기 선별	물질의 자력을 이용하여 자성의 물질과 비자성의 물질을 선별하는 공정
5-14	정전기 침전	배기가스 중의 미립자에 전하를 가하여 미립자를 하전시키고 집진전극의 표면에 포집하여 미립자를 제거하는 공정
5-15	흡착	액체 또는 기체 중 하나 이상의 구성 성분이 액체 및 기체가 접촉하게 되는 고체 매질(흡착제)에 흡착되는 공정.
5-16	결정화	용해 염을 함유한 용액을 만들어 결정 형태의 염을 얻는 공정.
5-17	여과	슬러지, 폐수, 혹은 부유 물질을 함유한 액체가 직물, 종이 등을 통과하여 고품 물질이 액체에서 걸러지는 공정. 콜로이드 용액의 경우 응집체가 추가로 필요함.
5-18	토양 세척	선별 및 외부 처리를 위해 오염 물질을 추출할 수 있도록 토양을 세척하거나 잿물로 만드는 공정.
5-19	마이크로파 조사	생체 물질을 조사하고 살균하기 위해 마이크로파를 사용하는 공정. 마이크로파 처리 공정은 폐기물의 양을 줄일 수 있음.
5-20	스트립핑 및 탈착	액체 혼합물의 휘발성분이 액체를 타고 가스 스트림을 통과하여 제거되는 공정.
5-21	멤브레인 기반 공정	실질적으로 분자 수준에서 여과되는 성분에 의해 선별될 수 있는 멤브레인 기반 공정.
5-22	세정	폐가스 스트림 혹은 액체 폐기물을 세척액, 슬러리 혹은 고체 분말과 접촉시켜 세척을 하는 공정

○ 수선별(5-1)

요약	육안으로 식별된 품목 제거에 의한 고품 폐기물을 분리하는 공정
폐기물 종류	고형 폐기물의 혼합 스트림 중 분리 가능한 품목. 유해폐기물에 대한 적용은 제한적이지만, 유해성분과 나뉘어져 일반폐기물과 섞여 있는 경우에는 일반폐기물을 처리하기 전에 충분히 선별할 수 있는 품목.
공정 원리	일괄처리(Batch)나 컨테이너 벨트에 의해 고품 폐기물에 대한 육안 식별 및 특정 품목에 대한 제거가 이루어짐.
장비/인력 /기반시설	식별대상 폐기물을 적재할 수 있거나, 일정량의 폐기물을 퍼트릴 수 있는 열린 공간에서 컨베이어 벨트가 사용되며, 많은 인력이 필요함
부작용	노동 집약적이며, 미세한 유해폐기물 선별작업은 비효율적이다. 유해 폐기물을 수선별하는 작업자의 부상을 야기할 수 있는 장소에서는 적절치 않음
비용	설비적 측면에서는 저비용의 장점이 있으나, 인력적 측면에서는 고비용이 소모된다. 임금 비율이 높거나 선별된 물품이 재활용 등의 경제성이 없다면 높은 비용을 야기할 수 있음
잔류물 및 유해성분 처리	선별된 유해 물품은 성상에 따라 처리되어야 한다. 선별의 결과로써, 주요 폐기물 스트림에서 유해 성분이 적을 것으로 예상되나 적합한 최종 처리를 정하기 위해 유해 성분을 측정되어야 함.

○ 파쇄(5-2)

요약	고형 폐기물에 힘을 가해 분해하여 크기 단위를 조각, 입자로 생성하는 공정.
폐기물 종류	작은 조각 혹은 입자로 만드는 후속 공정이 가능한 고형폐기물. 이 공정은 보통 화학, 광물 산업과 플라스틱 선별에서 볼 수 있음. 그러나 유해 폐기물과 관련된 경화제, 전자 장비, 촉매 등에 따라 고체 시안화 염을 포함할 수도 있음.
공정 원리	작은 조각 혹은 입자를 생성하는 것은 비표면적을 증가시키고, 성분 침출 및 반응 속도를 증진시킴. 이 공정은 ‘체 및 스크린 공정’과 같은 다른 후속 공정과 같이 쓰일 수 있음.
장비/인력/기반시설	분쇄기와 분쇄 공정은 부서지기 쉬운 물질의 크기를 줄이기 위한 공학적 수단이지만, 더 작은 크기의 경우 공압 드릴이나 타격 해머와 같은 수작업으로 재료를 분해할 수 있다. 잘 분쇄 되지 않는 물질은 파쇄기에 의해 크기를 감소시킬 수 있다. 자동화된 분쇄기의 경우 많은 인력이 필요하지 않으므로 유해 폐기물에 대한 노출을 줄일 수 있다. 수작업의 경우에는 많은 인력이 필요함.
부작용	유해 물질을 함유한 분진의 발생으로 환경문제를 발생할 수 있음.
비용	대형 분쇄기, 파쇄기 구입측면에서는 고비용의 단점이 있다. 정기적인 유지보수가 필요하며 운영비용은 준수하지만, 수작업의 경우에는 많은 인력이 필요 하며 그에 따른 비용이 발생함.
잔류물 및 유해성분 처리	이 공정 자체로는 성분을 선별할 수 없으며 물질의 화학적 성분을 바꿀 수 없다. 따라서 크기가 감소된 물질은 이전의 유해한 성질을 유지하므로 이에 따라 처리되어야 함.

○ 특수 물리 선별(5-3)

요약	특수한 탐지 및 모니터링 방법을 이용하여 고품 폐기물 스트림에서 성분을 선별하는 공정.
폐기물 종류	유리와 광석을 포함한 도시 고품 폐기물.
공정 원리	반사, 전도, 방사선 흡수, 모양, 색 등 측정가능한 모든 식별방법이 분리 기준이 됨.
장비/인력/기반시설	컨베이어를 통과하는 스트림에 적용된다. 선별을 위해 식별된 물품들을 제거하는 방법으로 보통 완전 자동화공정으로 운영되지만 감독인력이 필요함.
부작용	폐기물들이 서로 다른 특성을 가져야 효율적이며, 혼합 폐기물에서 물품에 대한 감지 효율은 제한됨.
비용	초기 설비측면에서는 많은 투자비용이 요구되나, 활용도가 높은 경우에는 저렴한 운영비용을 기대할 수 있음.
잔류물 및 유해성분 처리	선별대상과 효율성의 정도에 달려있다. 선별된 물품은 적절한 처리를 통해 경제성을 확보할 수 있음. 잔류물의 후속 처리를 위한 검사가 필요함.

○ 체 및 스크린(5-4)

요약	하나 그 이상의 체를 통하여 상이한 입자크기를 갖는 폐기물을 선별하는 공정.
폐기물 종류	오염된 토양, 파쇄 폐기물과 같이 이미 전처리된 폐기물. 다양한 크기의 입자 성분을 가지고 있는 고품 폐기물 스트림.
공정 원리	혼합 고체 입자로 구성된 폐기물은 특정 크기를 스크린 할 수 있는 체를 통과한다. 통과한 입자의 크기는 체의 크기에 따라 결정되며, 크기의 범위는 적절히 선택할 수 있다. 몇몇 시스템은 연속적인 분류에서 하나 이상의 스크린 크기를 사용하여 혼합 폐기물을 여러 크기로 분류한다. 스크린 시스템은 보통 체의 막힘을 방지하고 물질의 통과를 돕기 위해 진동시킨다.
장비/인력/기반시설	원리는 간단하지만 응용과정에서 많은 분야에 이용된다. 설비는 상당히 크고 자동화될 수 있으며, 자재 운반 및 이동을 제공하고 선별된 유해 폐기물을 안전하게 보관하기 위한 설비가 필요하다. 인력 요구량은 매우 낮음. 작은 크기의 스크린 작업에서는 수동방식을 사용할 수 있으나 많은 인력을 요구한다.
부작용	완전한 선별은 불가능하며 선별대상 폐기물은 일정 수준이상 건조가 필요함.
비용	대형설비 도입 시 고비용의 초기투자가 필요하지만 매우 낮은 운영비용을 기대할 수 있다. 저비용의 수동방식은 많은 인력이 필요함.
잔류물 및 유해성분 처리	선별된 유해 폐기물은 적절한 후속처리가 필요함. 유해 성분으로부터 선별된 자재의 잔류물에는 여전히 유해 성분이 포함될 수 있음(폐기물 스트림의 분리 특성에 따라서). 처리에 대한 결정은 검사 후에 이루어져야 함.

○ 침강과 침전(5-5)

요약	액상에 부유하는 고형물이 밀도에 의해 침강 및 침전되는 공정.
폐기물 종류	금속 수산화물을 포함하는 중화된 산과 알칼리. 금속 및 기타 종류를 침전시키는 폐수 흐름. 특정 기름과 물의 혼합물.
공정 원리	액체 상태에서 중력은 부유하는 물질 및 고형물을 침강시키는 역할을 한다. 이는 단순하게 용기 안에 물질을 방치하거나, 침강 또는 침전되는 물질의 일괄처리 및 효율적인 선별을 위해 침전기를 사용할 수 있다. 이 공정은 고형물을 농축하여, 액체를 깨끗하고 고형물이 없는 상태로 만든다. 효율적인 선별을 위해 물질을 가열할 수 있다. 응고제 및 응집제의 사용은 고체를 함유하는 상의 농축, 침전 성능을 향상시킬 수 있다.
장비/인력/기반시설	특히 고안된 침전조는 향상된 효과 및 효율성을 위하여 관련 펌프 설비가 필요할 수 있다. 이 공정은 일반적으로 다른 공정의 부속 공정으로 사용된다. 많은 인력을 필요로 하지 않는다.
부작용	몇몇 부유 고형물은 응집 보조제로도 손쉽게 침전되지 않는다. 강산의 중화와 같은 공정에서 생성된 고온도 혼합물은 침강 및 침전 속도가 느리다.
비용	침강 그 자체는 비용이 높은 공정이 아니다. 하지만 특별히 고안된 침전조는 어느 정도 비용이 소요된다.
잔류물 및 유해성분 처리	금속 수산화물 및 침전물 등을 포함한 침전된 고형물은 두꺼운 슬러지의 매개물이 되어야 하며, 탈수 단계(예 : 여과)가 추가로 적용될 수 있는 경향이 있다. 이 공정은 비록 높은 염도를 함유한 상등액이라도 처리되어야 하며,(원문확인필요) 최종 처분이 가능해져야 한다. 그러나 잔류물의 오염이 추가적인 처리가 필요할시 추가적인 처리를 할 필요가 있음.

○ 원심 분리(5-6)

요약	원심력을 이용하여 보통 액체에 있는 부유물 선별을 가속화하는 공정. 콜로이드 용액에서는 응집제가 첨가될 수 있음.
폐기물 종류	매우 작은 크기로 분쇄된 고형 입자의 유출액. 예를 들면, 다른 선별 및 침전 공정을 이미 거친 콜로이드 용액, 기름 및 물의 혼합물, 유제류(Emulsions) 등
공정 원리	특수 장치에서 고속으로 폐기물을 회전시키면 원심력이 생성되며, 이를 통하여 고형 부유물이나 물방울 등을 분리하는 원리이다. 장비 종류로는 디스크 원심 분리기, 초 원심 분리기 등이 있음.
장비/인력/기반시설	원심 분리는 특정 목적에 대해 전문화된 장비이므로 대부분 정도에 따라 지속적으로 운영되지만, 전문 감독관에 의해 유지보수가 필요함. 안정적인 전원 공급 장치가 필요함.
부작용	선별효율은 폐기물 특성에 민감함. 장비의 마모로 인한 유지비용이 소모됨.
비용	원심 분리는 고가의 장비이며, 전력 소비 및 유지관리비 등 높은 운영비용이 필요함
잔류물 및 유해성분 처리	공정 산출물은 금속 수산화물, 침전물 등이 많은 고체상, 자유 상태의 상으로 분리되는 불안정화 된 유제, 오염될 가능성이 있는 기름상 및 수용액상을 포함할 수 있음. 원심 분리의 특성상 분리가 완전하지는 않기 때문에 모든 산출물들은 후속 처리 산정을 위한 검사가 필요함.

○ 공기 선별(5-7)

요약	공기의 흐름을 이용하여 물체의 밀도, 크기, 모양의 차이를 이용하여 혼합된 물질을 선별하는 공정.
폐기물 종류	금속, 종이, 플라스틱의 혼합물. 금속 파편을 포함한 파편 및 전자 스크랩.
공정 원리	혼합 폐기물이 공기 흐름에 따라 밀도, 크기, 모양에 의해 분류됨. 밀도가 낮은 물질은 공기 흐름에 따라 쉽게 운반되고, 밀도가 높은 물질은 운반되지 않음. 종이, 카드, 플라스틱 및 수지, 금속류 등의 다양한 종류의 물질에 대하여 높은 선별효율을 위해 수직 및 수평 시스템과 공기 흐름 속도를 조정함.
장비/인력/기반시설	장비는 원통형 회전 분류기나 다른 모양의 고정 장비를 포함하며, 선별인력은 많이 요구되지 않지만 사전 분류 및 청소 등 유지관리 측면을 고려해야 함.
부작용	밀도 차이에 민감한 공정이므로 폐기물의 수분 함량에 따라 선별 효율이 달라질 수 있음. 효과적인 선별은 밀도의 확산이 더 많을 수 있으며, 유사한 특성의 구성물질 선별에는 효과적이지 않을 수 있음. 혼합폐기물 구성물질의 100%의 선별효율을 기대할 수 없음.
비용	전용 공정설비 및 전력소모 비용과 높은 시설 유지관리 비용 소모
잔류물 및 유해성분 처리	최종 처리과정에서 물질에 따라 유해성분이 발생될 수 있으므로 각 구성성분을 확인해야 함.

○ 탄도 선별(5-8)

요약	탄성, 공기 저항 및 관성이 다른 재료의 궤적의 차이를 기반으로 분리가 이루어지는 공정.
폐기물 종류	서로 다른 물리적 특성을 가진 성분 및 구성의 고체 물질의 혼합 폐기물로서 금속, 파쇄 폐기물, 연소 슬래그 파편 중에서 플라스틱을 선별하는 경우에 적용 가능함. 지속적으로 일관된 폐기물의 선별에 가장 적합한 공정임.
공정 원리	물질에 수평 방향의 힘이 가해지면, 공기 저항, 탄성 및 관성에 따라 측면으로 비행거리가 달라짐. 이러한 물리 법칙을 이용하여 혼합물의 구성요소를 선별 할 수 있으며, 설비는 사출 시스템으로부터 다양한 거리로 착륙하게 되는 회전 장치에서의 사출부분과 다른 파편의 수집장치를 포함함.
장비/인력/기반시설	특정 목적에 따라 장비를 제작·사용하지만, 유해 특성 및 물질 함유에 따라 유연성 있게 사용이 가능함. 주 설비에 관한 필요인력은 적거나 적정 수준이나, 다양한 목적을 위해 수시로 설비 변경·관리를 위해서는 많은 인력이 필요함.
부작용	폐기물의 혼합 특성에 따라 선별효율이 결정되며, 교차오염이 발생할 수 있음
비용	설비의 규모에 따라 비용이 상이함. 다만, 수시로 적용방법의 변경하거나 처리용량에 비해 낮은 처리량은 많은 유지비용이 필요함.
잔류물 및 유해성분 처리	물질들의 선별 후 적절한 처리방법을 검토해야 함. 선별된 물질들에 유해 성분의 교차오염이 우려됨.

○ 수력 분급(5-9)

요약	고정된 속도로 움직이는 액체 매체에서 크기와 밀도가 다른 입자들을 분리하는 공정.
폐기물 종류	구성 성분이 서로 다른 밀도와 흐름 저항성을 나타내는 폐기물로서 플라스틱을 금속, 광석 및 슬래그의 성분에서 분리하는 경우에 적용 가능함. 다양한 용도의 다목적 공정보다는 지속적으로 일관된 폐기물의 선별에 적합함
공정 원리	액체는 고정된 수직 실린더를 유동적인 속도로 위로 통과하고, 혼합 폐기물은 실린더의 중심부의 아래 지점에서부터 유입됨. 액체의 유속이 특정 혼합 폐기물에 알맞게 조정되어 있다고 가정한다면, 폐기물의 일부 물질은 가라앉고 나머지는 유속에 따라 이동함. 액체에 첨가되는 성분에 따라 분리효율을 높일 수 있음
장비/인력 /기반시설	기본 장비는 간단하지만, 액체의 속도 조절 및 유지 능력이 요구됨. 정확한 유속 조절능력을 갖춘 펌프가 필요하며, 인력 요구량은 상당히 낮음.
부작용	폐기물 성분에 액체 매질이 용해되지 않는 경우에만 적합함. 선별물질(분획물)은 별도로 건조가 필요하며, 운영비용 상승의 원인이 됨.
비용	건조공정을 제외하면 저가 설비부터 일반적인 가격의 설비가 있음.
잔류물 및 유해성분 처리	처리 공정의 적합성 평가를 위한 분획물의 검사가 필요함. 운반 액체(이동상)에 혼합폐기물에 포함된 유해 성분의 오염여부 검사가 필요함.

○ 부유 및 침강(Flotation/Float and Sink, 5-10))

요약	액체 매질에서 혼합폐기물 구성성분을 밀도차이 또는 부유하는 속성에 의해 분리하는 공정.
폐기물 종류	광석 속 잔류 농축물, 파쇄된 폐기물 및 플라스틱의 성분 선별, 부유 물질이 포함된 특정 유출물 처리.
공정 원리	고형 혼합 폐기물의 성분이 서로 다른 밀도와 표면 성질을 가지며 습도가 다른 경우 하나 이상의 구성 성분을 액체 표면에 부유시켜 일부 물질을 분리하고 나머지는 침강시킴. 분리효율을 높이기 위하여 계면 활성제, 발포제 등 부유를 돕는 보조제를 사용. 필요에 따라서 두 개 이상의 부유 분리기를 운영하는 것이 가능하며 좀 더 복잡한 혼합물의 선별을 할 수 있음.
장비/인력/기반시설	부유조의 구성은 간단하며, 일괄 처리 혹은 연속 운영이 가능함. 분획물의 수집 및 건조시설이 필요함. 인력 요구량은 적음.
부작용	선별효율이 비교적 낮으며, 유해 성분이 부유물질에 포함되어있는 경우 부적합함.
비용	공장의 자동화를 통해 비용을 절감할 수 있음.
잔류물 및 유해성분 처리	폐기물의 유해 물질이 침전 혹은 분획 중 한 부분에 우세할 가능성이 존재함. 또한 분획물에 미량의 유해 물질이 남을 수 있음.

○ 사이클론 및 원심 분리기(5-11)

요약	고형 물질 및 미립자의 혼합물에서 서로 다른 밀도와 크기의 성분을 분리하기 위해 원심력을 응용한 기반 공정. 또한 폐가스 흐름에서의 고형 입자에도 적용 가능함.
폐기물 종류	광석 잔류물, 분쇄된 폐기물, 플라스틱, 금속 및 공기로 운반되는 폐기물. 보통 산업 및 기타 공정에서 배출되는 미립자 물질과 운반되는 미립자 물질 제거에 적용됨.
공정 원리	고형 입자 또는 물질은 곡선 또는 원형 경로로 움직일 경우 원심력을 받게 되어 바깥쪽으로 던져지며 이때 벽에 충돌하여 바닥에 떨어짐. 속도와 곡률을 이용하여 원심력의 범위를 결정함. 속도는 가변적이나 곡률은 각 공정마다 정해져 있음. 금속 주물 소각로에서 발생하는 폐가스의 경우 유사한 공정을 사용하며 대부분의 사이클론은 효율 증대 및 상이한 입자 또는 물질의 선별을 위해 연속적으로 사용이 가능함. 고온에서도 작동이 가능함
장비/인력 /기반시설	사이클론은 특정용도 및 요구 사항에 맞춰 설계된 특수 장비이므로, 일반적으로 최소한의 감독과 유지 보수가 지속적으로 운영되어야 함.
부작용	선별입자의 크기가 10 μ m이상으로 제한적임. 일반 혹은 다목적 응용에는 적합하지 않음.
비용	초기 장비비용이 비싸지 않으며, 운영비용 또한 낮음.
잔류물 및 유해성분 처리	폐기물 속의 유해 성분이 분획물에 잔류할 수 있으며, 선별과정에서 가스 트레인에 남음. 100%선별이 이루어지지 않으므로 미량의 유해성분이 전반적으로 나타날 수 있음. 처리 결정을 위해 검사가 필요함.

○ 하이드로 사이클론(5-12)

요약	액체의 매체에서 원심력을 이용하여 부유물질(고형물질)을 선별하는 공정.
폐기물 종류	공석 입자선별, 혼합 플라스틱, 일부 유출물 및 폐수 흐름에서 발생하는 부유 물질.
공정 원리	액체 매체에 부유하는 고형물에 적용되는 원심력은 액체 매질 자체의 밀도를 높여 외벽으로 움직이게 하고, 벽을 타고 아래로 떨어짐. 이를 통해 입자는 액체 매질과 분리됨. 통상 액체 매질은 물이지만 액체 매질의 밀도를 높이기 위해 염 혹은 유기용매 용액으로 처리함. 단일 사이클론에서는 선별 효율이 적절치 않을 수 있으며, 연속적으로 사용 가능함.
장비/인력/기반시설	하이드로 사이클론의 구조는 간단하나, 작동에 필요한 속도로 액체를 투입하는 펌프가 필요함. 선별된 성분을 수거 및 건조하는 시설이 필요함. 인력 요구량은 상당히 낮음.
부작용	선별은 제한된 범위에서 이루어져야함. 예를 들어 밀도차가 작은 경우 선별이 비효율적임. 폐기물 속에 유해 성분이 녹아있는 경우 부적합함.
비용	설비 자본 및 운영비용 모두 적당한 편임.
잔류물 및 유해성분 처리	유해성분이 폐기물속에 녹아있는 경우 용매에 미량의 유해성분이 잔류할 수 있으므로 검사가 필요함.

○ 자기, 전자기 선별(5-13)

요약	물질의 자력을 이용하여 자성의 물질과 비자성의 물질을 선별하는 공정.
폐기물 종류	제일철, 강자성의 합금 및 광석류(ex. 자동차 파쇄물)등 자성을 포함한 혼합 폐기물. 소각장에서 발생하는 소각재나 금속캔을 함유한 도시 폐기물.
공정 원리	컨베이어를 통과하는 과정에서 자기 특성을 띄는 성분을 들어 올려 선별. 비자성 물질은 자성에 끌리지는 않지만 혼합 폐기물의 특성에 따라 의도치 않게 수거 될 수 있음. 일반적으로 다른 공정에 부수적인 목적으로 사용함.
장비/인력 /기반시설	자력원은 전기자석이며 필요에 따라 끄고 켤 수 있음. 폐기물 흐름은 자성 물질이 자기에 노출 되어야하므로 컨베이어 벨트가 주로 이용됨.
부작용	상대적으로 적은 자성 물질에만 적용함
비용	기본적인 자력원은 특별히 비싸지 않으며, 선별 공정은 비용이 적게 든다.
잔류물 및 유해성분 처리	폐기물이 유해 물질을 함유한 경우, 주기적으로 선별 물질을 검사하여 처리방법을 결정해야 함

○ 정전기 침전(5-14)

요약	배기가스 중의 미립자에 전하를 가하여 미립자를 하전시키고 집진 전극의 표면에 포집하여 미립자를 제거하는 공정.
폐기물 종류	미립자 및 수증기(Droplet)제거로 배기가스 세정에 주로 사용됨.
공정 원리	배기가스가 전하소스를 통과함에 따라, 가스 중에 포함된 미립자 및 수증기들은 정전기를 받으며 가스 경로를 따라 반대 전하로 전극이 대전된 입자 및 물방울을 끌어당겨 배출가스에서 제거됨. 가스 배출속도와 전하가 공정 효율에 영향을 미치지만, 모든 입자가 똑같이 전하를 받지 않음. 이 공정은 폐가스를 발생시키는 주요 공정의 부속 공정이며 다른 가스 세정 공정과 함께 운영되는 경우가 많음. 마이크로미터 이하 크기까지의 미립자의 제거에 효과적이고 효율적임.
장비/인력 /기반시설	특정 용도에 맞게 제작된 특수 설비를 사용함. 입자 흡착 및 집진 전극에 가깝게 위치하기 위해 가스의 이동시킬 수 있는 다수의 작은 단면 튜브가 필요함. 모든 처리과정이 자동으로 수행되며, 인력 요구량은 낮지만 유지 관리 작업은 필요함.
부작용	미립자의 특성 및 형태가 바뀌면 장비가 막히거나 작동하지 않을 수 있음. 배출가스를 발생시키는 주요 공정의 성능에 효율이 민감함.
비용	장비가 높은 가격이지만, 일상적인 운영은 그렇지 않음.
잔류물 및 유해성분 처리	수집된 고형 물질은 대기 중으로 방출된 먼지 및 미립자를 포함함. 배출가스 발생공정에 따라 선별물은 유기 생성물뿐만 아니라 중금속, 독성 성분을 함유할 수 있음

○ 흡착(5-15)

요약	액체 또는 기체 중 하나 이상의 구성 성분이 액체 및 기체가 접촉하게 되는 고체 매질(흡착제)에 흡착되는 공정.
폐기물 종류	일반적으로 폐수에서 미량의 유기오염물질을 제거용으로 사용되며, 중금속에 대해서는 사용빈도가 적음.
공정 원리	다른 처리공정의 보조공정으로 사용함. 흡착제는 일반적으로 이를 통과하는 폐기물 중의 특정 물질을 흡착하는 다공성 물질을 사용하며 활성 탄소와 다양한 중합체 및 수지를 사용함. 흡착대상 물질의 종류는 구체적이지 않음. 폐기물에 따라 흡착제를 혼합하고 여과 등으로 분리할 수 있으나, 보통의 경우 물질의 분리관 또는 반응기 베드를 통과하여 흡착제와 접촉함. 흡착제가 빈번히 교체 될 필요가 없도록 공정이 조정됨.
장비/인력/기반시설	필요한 시설로는 흡착제가 포함된 용기, 펌프 또는 송풍기 등을 사용하여 액체 및 기체가 통과되는 분리관이 있음. 인력은 최소의 인력만 들어감.
부작용	흡착제의 흡착 과정 시 급작스러운 오염 물질의 과다주입은 흡착제의 용량을 빠르게 사용하여 교체가 필요함.
비용	흡착제의 비용은 적절하지만 사용률은 일반적으로 적게 고안됨.
잔류물 및 유해성분 처리	사용한 흡착제는 상당한 양의 오염물질이 포함될 수 있으며 독성이 높음. 일부 흡착제는 흡착된 유기물질을 제거하는 열처리로 재사용 가능하지만, 재생이 불가능한 경우에는 흡착제의 적절한 처리에 주의가 필요함.

○ 결정화(5-16)

요약	용해 염을 함유한 용액을 만들어 결정 형태의 염을 얻는 공정.
폐기물 종류	폐수와 같이 다양한 용질을 함유한 용액 중에 용해된 결정질의 물질을 결정화하여 다른 용질과 선별
공정 원리	정제 및 선별을 위한 주요공정 중 하나이며, 용해도를 초과하는 용액으로부터 결정성 물질이 나오는 원리를 이용함. 결정화 방법은 용질을 증발시켜 용액에서 용질을 제거하여 염을 결정화하는 방법과 냉각에 의해 용질의 용해도를 감소시켜 염을 결정화시키는 두 가지가 있음. 결정화가 일어날 때, 염은 순수 물질로 되며 용질에 불순물이 남음.
장비/인력 /기반시설	증발 결정화는 증발 공정과 같이 가열을 위해 가열 기능이 있는 재킷팅(Jacketing) 혹은 내부 코일이 장착된 용기 및 공기 배출이 원활하지 않는 경우, 용질 증기 수집 장치가 필요함. 냉각 결정화는 냉각 유체를 생성하는 재킷팅 혹은 내부 코일이 장착된 용기가 필요하다. 연속 장비로 대량 생산 기술에 적용할 수 있지만, 주로 일괄 처리에 사용함. 결정화 된 물질을 제거하고 포장하기 위한 인력 요구량은 적절한 수준을 유지해야함.
부작용	일부 염은 용액에 남아 있을 수 있음.(증발 건조 시, 고체 잔류물에 모든 불순물이 존재하게 된다.)
비용	증발을 위한 에너지 사용 및 용질 냉각으로 인하여 상당히 높은 비용이 소요. 회수된 염의 가치를 고려하여 경제성을 평가해야함.
잔류물 및 유해성분 처리	결정화된 물질은 순수한 물질이어야 하며, 사용 가능해야 함. 잔류 용질에는 염과 오염물질이 잔류하며 이를 처리하기 위해 검사가 필요함.

○ 여과(5-17)

요약	슬러지, 폐수 혹은 부유 물질을 함유한 액체가 직물, 종이 등을 통과하여 고형 물질이 액체에서 걸러지는 공정. 콜로이드 용액의 경우 응집제가 추가로 필요함.
폐기물 종류	중화 혹은 침전에 관한 공정에서 나오는 침전물 및 농축된 슬러지, 부유 고형물이 있는 폐수, 화학 생산에서 발생하는 수용성 용매.
공정 원리	공정 원리는 매우 다양함. 다른 보조 없이 중력을 이용한 공정이며 두꺼운 슬러지 보다는 낮은 농도의 고형물을 함유한 액체에 적합함. 대부분의 산업용 기술은 가압하여 액체를 필터를 통과 시키거나 진공을 이용하여 통과시킴. 탈수의 효율은 여과 되어야할 폐기물의 특성과 여과 공정에 달려있음. 보통 슬러지의 탈수 단계에서 침전 및 정착 시스템이 같이 사용됨.
장비/인력/기반시설	중력 시스템은 넓은 면적의 필터 베드를 포함할 수 있으며 높은 유속에서 낮은 부유 고형물 농도에 적합함. 널리 사용되는 기계식 설비 시스템은 플레이트 필터 프레스, 관형 필터, 로터리 진공 필터가 있으며, 필터 매체는 천, 종이, 분말 필터 베드, 소결 유리, 다공판 등이 있음. 여과 규격은 직물 직조, 다공성 등으로 조절 가능하며, 일부 유형의 장비는 필요에 따라 쉽게 변경 가능함. 일반적으로 공급원료 저장 탱크가 여과 수집 및 처리 능력 등을 원활히 수행하기 위해 필요함. 수동 작동 필터는 적정인력을 요구하지만, 자동화 및 연속 작동에선 많은 인력을 요구하지 않음.
부작용	필터의 부적절한 크기는 공정을 비효율적으로 만들며, 심하게 거칠고 단단한 물질은 필터의 성능을 고장 내는 원인임.
비용	여과 설비는 상당히 높은 자본 비용, 특히 기계 설비비용이 높음. 진공 시스템이 선호되거나 필터의 빈번한 재교체가 필요시, 높은 교체비용이 발생할 수 있음.
잔류물 및 유해성분 처리	여과된 고형물은 건조하고 단단해 보일 수 있지만 적어도 50%의 수분을 함유함. 이 고형물은 금속수화물 및 원래의 폐기물에서 나온 침전 혹은 고형 물질을 포함하며 최종 처분은 이를 반영해야함. 최종 여과액은 투명하고 현탁된 고체가 없어야 하며, 잔류 오염물질에 대한 검사가 이루어져야 함.

○ 토양 세척(5-18)

요약	선별 및 외부 처리를 위해 오염 물질을 추출할 수 있도록 토양을 세척하거나 잿물로 만드는 공정.
폐기물 종류	오염토양 중의 오염물은 세척 매체의 선택에 따라 추출 가능하지만, PCB와 같은 잔류성 유기오염물질의 제거에는 추가 응용기술이 필요함.
공정 원리	오염토양의 세척을 위해서는 세척액의 선택이 매우 중요함. 오염 물질에 대한 세척 매체가 그 자체로 환경 및 조작 상 문제가 될 수 있음. 사용된 세척액은 오염물의 선별 및 세척액의 재활용을 고려하여 처리되며, 오염토양은 사용목적에 맞도록 제염됨. 오염토양이 적절한 인접 공장에서 굴착되고 처리되는 경우가 있지만, 회분화 된 매개질을 주입하고 사전에 설치된 시스템을 통해 수집하여 현장에서 작업을 수행하는 것이 가능함.
장비/인력 /기반시설	굴착된 물질의 외부 세척을 위하여 회전 및 진동으로 토양과 세척액을 혼합하는 다양한 설비 배치로 세척 능력을 제공하며, 토양이 밀폐 공간에 놓여 세척액이 통과되는 정적 시스템을 제공함. 휘발성 용매가 토양 세척에 사용되는 경우, 대기 누출 방지설비의 고려가 필요함. 토양세척은 많은 양의 균일한 물질을 대상으로 수행되며 굴삭기 및 토양이송 작업과 관련된 많은 인력이 요구됨.
부작용	일부 토양 오염 물질이 세척액으로 쉽게 이동하지 않을 수 있음. 정적 세척 시스템의 세척액이 토양층에 스며들지 않아 오염 물질과 접촉이 원활하지 않을 수 있으며, 잉여 세척액은 토양에서 빠져 나오지만 상당한 시간을 소모할 수 있음. 세척액의 성질과 세척 된 토양에 따라 이러한 체류된 물질을 제거하기 위해 추가 처리가 필요할 수 있음.
비용	상당히 높은 비용이 요구됨.
잔류물 및 유해성분 처리	세척 된 토양은 오염 제거의 정도를 확인하기 위한 검사가 필요함. 세척액에는 토양에서 제거된 오염 물질이 포함되어 있어 해당 물질에 대한 적합한 방식으로 처리되어야 함.

○ 마이크로파 조사(5-19)

요약	생체 물질을 조사하고 살균하기 위해 마이크로파를 사용하는 공정. 마이크로파 처리 공정은 폐기물의 양을 줄일 수 있음.
폐기물 종류	임상 폐기물 및 감염성, 생리활성 물질.
공정 원리	미생물은 고온에서 제거되며, 마이크로파 조사는 고온을 생성하여 미생물을 제거하게 된다. 마이크로파 조사는 물질을 고온으로 가열하여 미생물의 활동을 파괴하게 되는데, 공정 마지막 단계에서 가스 및 악취 문제가 발생할 수 있으므로 특별 대책이 필요함.
장비/인력 /기반시설	마이크로파 오븐은 기본적인 장비이며, 이론적으로는 연속 운영이 가능하지만, 대부분의 경우 감염성 폐기물 등이 더 이상 활성화 되지 않을 때까지 보관하는 것이 좋은 사례로 간주되기 때문에 설비는 일반적으로 일괄 단위로 운영됨.
부작용	이 공정은 오염된 품목에 대한 살균만 할 수 있으며, 폐기물 자체의 구조적, 본질적 위험을 제거하지 않으며 장치 내의 문제를 야기할 수 있음. 공정 후 오븐에서 가스가 배출 되었을 때, 악취 문제 등이 발생할 수 있음.
비용	높은 비용이 요구되지 않음.
잔류물 및 유해성분 처리	처리 된 물질은 미생물의 활성화가 더 이상 없지만, 폐기물 자체의 구조적, 근본적 원인은 제거 되지 않음. 배출 가스 및 증기는 비활성화 되지만, 때때로 확인이 필요함.

○ 스트리핑(Stripping) 및 탈착(5-20)

요약	액체 혼합물의 휘발성분이 액체를 타고 가스 스트림을 통과하여 제거되는 공정.
폐기물 종류	암모니아 함유 수성 폐기물, 페놀 함유 폐기물, 휘발성 유기오염물질 함유 수성 폐기물.
공정 원리	액체를 타고 활성화된 가스 스트림을 통과함으로써 휘발성분이 가스 유동에 전달되며 처리됨. 응축은 유기물질을 직접적으로 추출시키며, 유기물이 풍부해진 가스는 연료로 사용이 가능함. 가스 스트림에 사용되는 기체는 액체와 반응하지 않으며, 공기와 증기는 가장 많이 사용됨. 특수한 경우에는 더 다양한 가스가 사용될 수 있음. 공정의 제거 효율을 높이기 위해 진공을 사용할 수 있음.
장비/인력/기반시설	가스는 실질적으로 모든 용기에 쉽게 주입 가능하며, 액체를 통과하는 가스 스트림이 잘 분산된다는 점에서 높은 효율성을 지님. 스트리핑 가스는 포집한 후 적절한 응용기술을 이용하여 연료로써 사용 가능함. 공기와 증기 이외의 가스는 얻기 어려울 수 있음. 인력 요구량은 낮음.
부작용	휘발성분의 제거량에 비해서 다량의 가스가 생성될 수 있다. 이 공정은 오직 휘발성 유기물에 대해서만 효과적인 공정임.
비용	공기 및 증기를 이용한 스트리핑은 비용이 낮지만, 다른 가스 사용 시 이를 처리하기 위한 비용이 높을 수 있으며 진공 시에도 가격이 크게 증가할 수 있음.
잔류물 및 유해성분 처리	스트리핑된 액체는 유기물의 농도가 낮아져야 하며, 이는 휘발성 유기물만 제거되기 때문에 비휘발성 물질 등은 잔류할 수 있다. 추가 처리 여부를 결정하는 검사가 필요하며, 포집된 유기 물질을 적절히 처리해야 함.

○ 멤브레인(Membrane) 기반 공정(5-21)

요약	실질적으로 분자 수준에서 여과되는 성분에 의해 선별될 수 있는 멤브레인 기반 공정.
폐기물 종류	미립자 안정화 시스템을 포함한 오일 및 물을 함유한 유제(Emulsions). 전기 도금, 할로겐화탄화수소 및 PCB 등 저농도의 용해된 잔류 유기물과 같은 용해된 염을 갖는 수성 시스템.
공정 원리	멤브레인 시스템은 종종 튜브, 플레이트 혹은 모세관의 형태로 제작되어 혼합물의 일부 성분만 통과시킬 수 있음. 멤브레인의 입구 쪽에 압력을 가하여 선별 공정을 촉진시킬 수 있음. 다른 촉진 방법으로는 전위를 사용하는 방법이 있음. 상황 및 특정 공정에 따라 오염물의 멤브레인에 대한 통과 유무가 달라지며, 멤브레인을 손상시킬 수 있는 물질이 있을 수 있으므로 이러한 물질에 대한 전처리가 필요할 수 있음.
장비/인력/기반시설	반투과성 공정 시설은 고도로 전문화되어 있으며 이를 제조하기 위해서 전문 제조업체가 설계, 제조함. 공정 시설은 보통 수용 및 저장 탱크에 대한 보조 시설이 필요하며, 보조 시설로써 열 혹은 pH 조절에 의한 유제 초기 파쇄, 부유 고형물 제거, 혼합 및 조절 기능 및 전처리 등의 기능을 요구함. 선별된 수상 및 고체상의 물질에 대한 처리 시설이 필요함. 근본적으로는 연속 공정이지만 공정 제어에 관한 요구사항이 상당하며 인력 요구량은 낮거나 보통 수준을 요구함.
부작용	모든 멤브레인 공정은 예기치 않은 오염물에 의해 손상될 수 있기 때문에 오염 물질의 존재 등이 존재하는 공급 원료 구성에 민감함.
비용	멤브레인 기반 공정의 초기 자본 비용은 높으며 운영비용은 적절한 수준이다. 단위 단가는 수리 및 보수를 하면서 오랜 기간 동안 대량의 낮은 오염 스트림을 처리할수록 낮아짐.
잔류물 및 유해성분 처리	선별 효율은 100%가 될 수 없으며, 비유해 물질이 멤브레인을 통과하는 경우 오염 물질이 여과대상 물질에 농축된다. 또한 유해 물질이 멤브레인을 통과한 경우 여과대상 물질에 유해 물질의 잔류 가능성이 있다. 이러한 물질들을 적절히 처리하기 위해선 사전 실험이 필요함.

○ 세정(5-22)

요약	폐가스 스트림 혹은 액체 폐기물을 세척액, 슬러리 혹은 고체 분말과 접촉시켜 세척을 하는 공정.
폐기물 종류	소각, 중화 등에서의 공정에서 나오는 폐가스 스트림, 폐유와 폐산 등과 같은 폐기물 스트림.
공정 원리	다양한 성상의 배출가스 성분은 수성 세척액과 가스 스트림이 접촉하는 세정공정에 의해 제거됨. 세척액은 알칼리성, 산성 혹은 중성일 수 있으며, 석회 슬러리를 포함할 수도 있음. 가스 스트림에 의해 용해성 가스는 용해되고, 미립자 및 수증기(Droplet)가 포집되며, 이때 중화 및 보조 처리 설비에서의 세척액에 의한 세척이 일어남. 공정방법은 세척액을 가스 스트림 내로 분무하거나, 충전탑(Packed tower)이나 버블 트레이에서 가스 스트림을 세척액에 통과시키는 것이 있음. 산성 폐기물 가스 스트림에 대해서는 석회와 같은 알칼리성 분말을 주입함으로써 처리가 가능함. 이와 더불어 세정은 폐액을 다른 처리공정에 보내기 전에 불순물을 제거하는 보조역할을 하는 효과가 있다. 예를 들면, 농축 황산으로 폐오일을 세정하여 유기 오염 물질을 산화시키고, 유기 오염 물질을 제거한 다음, 세정된 폐오일을 증류 전 침전 및 여과로 제거가 가능함.
장비/인력/기반시설	이 공정은 보통 특수 설계된 밀폐 용기에서 이루어진다. 세정작용은 여러 유형의 시설로 서로 다른 방법으로 실행될 수 있다. 이 공정에 대한 시설은 특정 용도에 맞게 설계되어야 한다. 세척 또는 세정액은 중화, 침전, 여과 등의 처리가 필요하며 이에 대한 규정이 마련되어야 한다. 세정기는 최소 인력으로 운영 가능하지만 대량의 전력 및 물 공급이 필요함. 필요한 경우 연속공정이 가능함.
부작용	보통의 세정기는 미립자와 같은 작은 크기의 물질에 대해서만 효과가 있음.
비용	효율이 좋은 세정기는 높은 비용이 들며, 운영 시에 상당히 높은 비용이 듦.
잔류물 및 유해성분 처리	공정에서의 잔류물은 폐기물의 구성성분에 따라 다르게 나옴. 처리된 가스 및 액체에 잔류물이 남을 수 있으므로 검사가 필요하며, 세정액은 용해된 물질 및 부유 물질이 포함될 수 있으므로 추가적인 검사가 필요함. 산성 타르의 경우 특수 처리가 필요함.

[별표 6]

화학적 처리의 기술 목록

순서	구분	요약
6-1	화학적 산화, 환원	산화 및 환원을 이용하여 폐기물의 구성 성분을 유익한 화학적 변형으로 유도하는 공정.
6-2	화학적 중화	pH를 중화하여 불용성 물질의 침전 등을 일으키는 공정.
6-3	화학적 침전	유해하거나 불필요한 성분을 용액에서 침전시켜 분리시키는 화학반응 공정
6-4	화학적 염소 제거	유기 화학 종으로부터 화학적으로 염소를 제거하는 공정
6-5	가수 분해	물로 다른 물질을 분해시키는 화학적 공정.
6-6	전기 및 전기화학적 분해	화학 물질을 분해 및 변환하고, 경우에 따라 제거하기 위한 공정.
6-7	응집 및 응고	미세한 입자를 큰 플록에서 응집시키는 공정으로 침전 또는 여과에 의하여 분리하는 공정
6-8	용매 추출	용해 또는 현탁 유기 물질을 함유하는 수용액을 비수용성 용매와 혼합하여 유기 물질을 용해시키는 공정. 두 개의 상으로 분리시킬 수 있음
6-9	Pertraction	유기 용매와 수성 용액이 직접 접촉하지 않도록 상 사이에 멤브레인을 설치하여 용매 추출을 하는 공정.
6-10	침출	고형 물질에서 용해성 성분을 제거하는 공정
6-11	이온 교환	적합한 수지와 폐기물이 접촉할 때, 용액에 용해된 이온 성분이 수지상의 다른 이온과 교환되는 가역 공정.

○ 화학적 산화, 환원(6-1)

요약	산화 및 환원을 이용하여 폐기물의 구성 성분을 유익한 화학적 변형으로 유도하는 공정.
폐기물 종류	크롬산의 부분 처리 및 시안화물 분해, 폐수의 예비 처리에 사용된다. 용액 내의 다량의 유기물질 제거할 수 있으며 금속착물을 분해할 수 있음. 또한 용액 내에서 특정 금속의 제거가 가능하고(수은, 납, 은 등), 아황산염, 암모니아 등을 전환 시킬 수 있음.
공정 원리	산화제와 환원제는 적절한 온도 및 농도 조건에서 폐기물과 접촉시키면 산화 및 환원 반응이 유도되며, 유해 성분의 화학적 형태를 분해하거나 이롭게 변형이 가능함. 산화제로는 염소, 차아염소산 나트륨, 칼슘, 오존, 과산화수소, 과망간산칼륨 및 산성 화합물을 사용된다. 환원제로는 보통 황산 철 및 이산화황이 사용된다.
장비/인력 /기반시설	반응 탱크와 저장 탱크가 합쳐 있음. 선별, 여과와 같은 보조 공정이 필요함. 화학물질의 특성을 잘 알고 있는 인력을 요구됨. 그 외에 전력 및 용수 공급, 시약 가용성, 잔류물 및 폐기물 처리에 관한 시설이 필요함.
부작용	오염물 처리 시 공정 제어가 상태가 좋지 않으면 시약 소비가 매우 많음. 또한 대규모 염소 저장 시 특별 예방 조치가 필요함. 모든 산화제 및 환원제는 보관 및 사용에 주의가 필요함. 위에서 언급된 대부분의 시약들은 공정 시 염의 부하를 증가 시키며, 시안화물 처리 등에 염소의 사용 시 염소화 유기 화합물이 형성 될 수 있음.
비용	시약 자체의 비용이 높으나 공정 시설에는 특별히 정교하거나 높은 비용이 들지 않음. 연속 및 자동 공정의 경우 자본 비용이 더 높지만 운영비용 측면에서 비용을 절감이 가능함. 전문지식이 있는 감독 및 통제 직원이 필요하며, 자동화 공정 시 인력수요는 감소할 수 있음.
잔류물 및 유해성분 처리	시안화물 및 많은 유기물질 성분을 효과적으로 제거 가능하지만, 시안화 폐기물의 음이온 혹은 금속 부분이 제거가 안 될 수 있기 때문에 추가 처리가 필요함. 미처리 시 독성 및 중금속의 화합물이 고형물을 형성하여 이에 대한 처리가 필요함. 공정에서 발생하는 폐수는 적절한 처리가 요구됨.

○ 화학적 중화(6-2)

요약	pH를 중화하여 불용성 물질의 침전 등을 일으키는 공정.
폐기물 종류	불용성 물질, 특히 수산화물의 형성이 가능한 금속의 용해된 염을 포함하는 산성 혹은 알칼리성 용액.
공정 원리	산성 및 알칼리 용액을 중성으로 중화시키면 부식성이 완화되고, 일부 용해된 금속물이 불용성 수산화물로 침전되어 여과 등의 방법으로 용액으로부터 선별이 가능해짐. 산을 중화하는 시약은 일반적으로 석회와 수산화나트륨이며, 알칼리성을 중화하는 시약으로는 황산 또는 염산을 주로 사용함. 강산 및 강알칼리의 중화에서는 다량의 열이 방출됨. pH에 따라 서로 다른 금속들이 수산화물로 형성되어, 금속의 분류가 가능하지만 완벽히 이루어지지 못함.
장비/인력/기반시설	반응 탱크와 저장 탱크가 합쳐져 있으며 폐기물에 부식되지 않는 재질로 제작되어야 함. 고형물의 침전 및 선별을 위한 보조 공정이 필요함. 인력 요구량은 보통이지만 금속 및 화학적 성질을 잘 알아야 하며, 화학 물질 취급에 따른 분석 테스트 기능이 필수적이며 중화 시약 공급이 필요함.
부작용	많은 금속물들이 이 공정으로 수산화물을 형성하는 것은 아니며, 과량의 알칼리가 사용 시 재용해 가능성이 존재함(아연, 주석 등). 구리 및 니켈과 같이 수산화물로 침전이 용이한 금속도 일부 전기 도금 용액에 사용되는 첨가제 및 암모니아 착화 시약의 존재 시 수산화물을 형성하지 않음. 산과 후속 접촉이 일어나는 상황에서 처리하게 되면, 수산화물이 쉽게 재용해 됨.
비용	시약 비용은 매우 낮은 비용부터 상당히 높은 가격까지 다양하지만, 강산 혹은 강알칼리에는 다량의 중화제가 요구됨. 보조선별 및 여과 기능이 있는 단순한 중화 시설은 추가 비용이 들더라도, 특별히 높은 가격이나 세밀함을 요하지 않음. 연속 및 자동화 공정은 초기 비용이 높을지라도, 인력 및 감독, 공정제어 측면에서 비용이 낮음.
잔류물 및 유해성분 처리	산과 알칼리의 부식성은 중화 시 제거되며, 침전 및 선별, 여과된 물질(Species)은 상대적으로 소량의 잔류물에 농축됨. pH 조절로 침전되지 않아 용해되어 있는 중은 액상 내에 잔류하므로 이에 따른 추가 공정이 필요할 수 있음.

○ 화학적 침전(6-3)

요약	유해하거나 불필요한 성분을 용액에서 침전시켜 분리시키는 화학 반응 공정.
폐기물 종류	중성, 산성 및 알칼리성 물질을 포함하여 주로 금속염을 함유한 폐기물.
공정 원리	화학적 중화 및 금속 수산화물 형성에 대한 공정을 포함하여 한 단계 상위 버전임. 시약을 첨가하여 용액에서 원치 않는 화학종을 침전시켜 선별 및 제거를 가능하게 함. 금속 황화물은 종종 불용성이 되며 황화물 유리 시약은 쉽게 이용 가능함. 폐수에서의 불소 및 황산염은 석회를 첨가하여 칼슘염을 형성함으로써 그 농도를 떨어트릴 수 있음. 그 외에는 폐기물 성분의 화학적 성질을 조사하여 불용성 여부를 판단한 다음, 이에 적용 가능한 공정을 결정하는 방법이 있음. 이 공정은 중화와 함께 이용되며 여과 및 선별 시설이 필요할 수 있음.
장비/인력 /기반시설	기본적으로 혼합 및 저장 탱크와 저장 탱크가 모든 폐기물에 호환 가능함. 침전된 고형물의 여과 및 선별을 위해 추가적인 시설이 필요할 수 있음. 인력은 적절한 수준을 요구하지만 무기화학 관련 전문지식이 필요함. 또한 시약 관련 지식과 분석능력이 필수적임.
부작용	적절한 불용성 물질에 대한 유해물질의 양이 제한됨. 일부 화학종에 대한 정교한 반응 및 공정 요구 사항이 충족되더라도 투입비용 대비 처리결과의 경제성을 고려해야 함.
비용	사용시약에 따라 비용 차이가 있음. 일반적으로 석회(Lime)는 저렴하지만 황화물 생성에는 비용이 많이 들며, 공정설비에 대한 비용이 높지 않음. 부지에 관한 인프라 요건은 불가피하게 추가 비용이 발생함. 경우에 따라 자동화된 연속 공정의 자본 비용은 높지만, 후속 운영에서 비용을 절약할 수 있음.
잔류물 및 유해성분 처리	침전 및 여과, 선별된 종은 잔류물에 농축되며 후속 처리는 이를 반영하여 적용되어야함. 불용성 침전물로 제거될 수 없는 용해된 종은 폐기물에 잔류하게 되며 이에 따라 추가 처리 혹은 적절한 최종 처리가 필요할 수 있음.

○ 화학적 염소 제거(6-4)

요약	유기화학 종으로부터 화학적으로 염소를 제거하는 공정.
폐기물 종류	PCB, 다이옥신류 및 살충제함유 폐기물. 변압기 절연유에 함유된 PCB의 염소 제거를 통해 독성을 저감시킬 수 있음.
공정 원리	강력한 환원제가 유기물질의 염소 원자와 결합하여 염소를 제거하는 공정. 일반적으로 글리콜과 같은 무수 매체에 나트륨 금속을 분산시키는 공정임. 염소는 나트륨과 반응하여 염화나트륨을 형성하는 반면 탈염소된 유기물질은 보통 그대로 남지만, 중합될 수 있음. 일반적으로 처리되는 품목에 연속 공정으로 작동함.
장비/인력 /기반시설	시설은 폐쇄형 반응용기, 회수된 고체 잔류물 처리장치, 처리된 폐기물 및 반응기에서 변압기로 돌아가는 유체 순환장치를 필요로 함. 시약은 올바르게 취급되지 않을시 위험하므로 인력 요구량은 낮지만 인력이 높은 수준으로 숙련되어야 함.
부작용	시약이 고가이며 저장에 용이하지 않음. 신중한 품질 관리가 없다면 다른 구성 성분에 의해 낭비될 수 있으며, 오염물을 완전히 제거하는데 어려움이 있음. 또한 시약의 사용 및 비용과 적용 가능한 잔여 농도간의 절충이 필요함.
비용	변압기의 절연유 재생 응용에서 비용이 많이 들지만 소각 및 신품 구매보다는 저렴함. 농축된 PCB 폐기물의 순수 처리 공정으로써, 매우 높은 시약 비용으로 인하여 손이 가는 공정은 아님.
잔류물 및 유해성분 처리	염소와 나트륨이 반응하여 염화나트륨을 형성하며, 탈염소된 유기분자는 반중합 잔류물을 형성한다. 이 물질들은 보통의 처리 과정에서 처리됨.

○ 가수 분해(6-5)

요약	물로 다른 물질을 분해시키는 화학적 공정.
폐기물 종류	물속에서의 불안정한 물질. 일부 살충제 및 유기인 화합물과 할로젠화물질, 염화티오닐, 사염화규소 등의 물과 격한 반응을 하는 물질
공정 원리	물과의 접촉으로 불안정해지는 물질(산과 알칼리)이 물과 반응하여 분해되면서 간단한 형태의 잔류물을 형성함. 잔류물은 유해한 성질을 가질 가능성이 있으며 이에 대한 처리가 필요. 반응은 매우 격렬하며, 통제된 조건하에 수행되어야 한다. 일부 반응 중에는 많은 열을 방출하는 반응도 있음.
장비/인력 /기반시설	통상적인 방법으로는 가수 분해될 폐기물을 물에 조금씩 첨가하거나 천천히 연속해서 첨가함. 적절한 크기의 반응 용기에서 효율적으로 혼합하는 것이 필수적이며, 특히나 반응이 격렬한 경우에는 매연 추출 및 처리가 필요함. 이에 따라 추가적 비용이 소요됨. 가수 분해 시 심하게 반응하는 폐기물은 빈번하게 발생하지 않으므로 특수 설계된 자동화 설비의 필요성은 낮거나 없는 수준. 간단한 가수 분해 반응은 자동화 될 수 있으며, 다른 공정과 함께 사용될 수 있음. 인력 요구량은 보통 규모 혹은 적은편이지만, 화학적 특성과 위험성에 대한 지식이 있어야 함.
부작용	격렬한 반응이 일어날 수 있으며, 유해 물질이 완전히 분해되지 않을 수 있음.
비용	잔류물의 후속 처리가 중요시 되지만 대부분 저비용에서 적절한 비용이 듦. 격렬한 반응을 일으키는 물질에 대해서는 장비, 시간 등이 더 많이 요구됨.
잔류물 및 유해성분 처리	물과 반응하여 가수 분해가 되는 할로젠화물은 산성 폐기물을 생성하며, 이에 대해 중화, 여과, 선별이 필요함. 살충제의 가수 분해에서는 일부 유해 특성이 남아 있는 폐수를 발생함.

○ 전기 및 전기화학적 분해(6-6)

요약	화학 물질을 분해 및 변환하고, 경우에 따라 제거하기 위한 공정.
폐기물 종류	수용액 중의 일부 금속염 및 금속 착물, 시안화물과 같은 화학종 및 기타 용해된 화합물.
공정 원리	직류가 수용액을 통과할 때 전자의 전달에서 파생된 공정으로 산화·환원 반응이 일어나는 양극 및 음극에서 화학적 변화가 발생할 수 있음. 구리, 니켈, 아연, 금, 은, 주석과 같은 금속이 존재할 경우 용액에서 제거되어 음극에 용착. 상이한 금속은 상이한 전위로 용착되지만, 혼합 폐기물에는 전기적 조절에 의한 효율적인 선별이 잘 이루어지지 않음. 시안화물과 같은 중은 양극에서 분해될 가능성이 있음. 전극의 특성과 설계가 중요하며, 반응이 평형 인자에 의해 지배되는 경향이 있으므로 오염물의 농도가 감소함에 따라 오염물의 제거 효율성이 떨어짐. 물질 회수와 관련된 분야에 더 적합함.
장비/인력/기반시설	전해 시스템은 일련의 반응 탱크가 필요하지만 규모는 소형임. 폐기물 관련한 저장 탱크는 처리를 위한 저장에 사용될 수 있음. 직류 변압기와 조정기를 포함한 특수 전기 장비가 필요하며 높은 비용이 듦. 전해 시스템은 전문 지식과 기술을 필요로 하며, 인력 요구량은 크지가 않음. 전해 공정이 유해 물질을 완전히 제거 및 처리하지 못하므로 잔류물에 대한 추가 처리 시설이 요구됨. 안정적인 전력원이 필요함.
부작용	전해 공정은 오염물질로 인한 전극의 마모가 심하며 이로 인하여 전기 효율이 심히 떨어질 수 있다. 또한 오염 물질의 농도를 최종 처분에 적용치 못할 정도로 낮추지 못할 수도 있음.
비용	다른 폐기물을 처리하는 공정과 비교하였을 때 합리적이지만, 고비용의 특수 공정임.
잔류물 및 유해성분 처리	전극에 용착된 금속이 생길 수 있으며, 잔류용액에는 여전히 상당한 농도의 유해 물질이 포함되어 있으므로 추가 처리 단계가 필요할 것으로 예상됨.

○ 응집 및 응고(6-7)

요약	미세한 입자를 큰 플록으로 응집시키는 공정으로 침전 또는 여과에 의하여 분리하는 공정.
폐기물 종류	부유물질을 포함한 모든 폐수. 특히 매우 미세하며 콜로이드 상태와 가까운 상태의 물질을 함유한 폐수. 일반적으로 중화 및 침전에서 발생할 수 있는 물질.
공정 원리	응집 및 응고제로 보통 고분자 전해질을 사용하며 이는 표면 결합에 의해 입자가 응집되게 하는 역할을 하며, 더 큰 입자가 형성 될 수 있으며 밀도가 높아져 더 빨리 침전 됨. 또한 이는 여과와 같은 후속 탈수 단계 등에서 이로운 영향을 끼침.
장비/인력 /기반시설	기존의 부유 용액에 고분자 전해질을 혼합해야 하지만 별다른 시설을 필요치는 않음.
부작용	고분자 전해질의 효과는 보편적이지 않으며, 고분자 전해질의 특성은 분자의 크기와 모양에 따라 크게 관여함. 많은 시행착오가 필요함.
비용	고분자 전해질은 상당히 가격이 높지만, 전체적인 비용은 낮은편임.
잔류물 및 유해성분 처리	고체상에 대한 선별을 개선해야 하며, 상등액에 유해 부유 성분이 존재하지 않도록 개선해야 함.

○ 용매 추출(6-8)

요약	용해 또는 현탁 유기 물질을 함유하는 수용액을 비수용성 용매와 혼합하여 유기 물질을 용해시키는 공정. 두 개의 상으로 분리시킬 수 있음.
폐기물 종류	보통 바젤 폐기물 처리에는 적용되지 않지만, 복잡한 형태로 있는 폐수 및 금속 이온에서 유기성 오염 물질을 제거가 가능함.
공정 원리	수용액에 현탁물 또는 용해된 유기물을 유기 용매와 접촉시켜 유기용매가 수용액과 혼합되지 않을 경우 이 두 물질을 간단히 분리 가능함. 100%추출 되지 않으므로 일부 유기 물질이 잔류함. 이 공정은 일반적으로 수용액 스트림을 세척하거나, 제조 공정에서 유기 물질을 추출하는데 사용됨. 일괄 혹은 연속 공정으로 운영 가능함.
장비/인력 /기반시설	수용성 물질 및 비수용성 용매가 혼합 혹은 진탕되어 서로 접촉할 수 있으며, 이 둘의 상 분리가 가능한 밀폐 용기가 필요함.
부작용	비수용성 용매는 물에 용해될 수 있기 때문에 미량의 오염을 야기할 수 있음 격한 혼합 및 진탕은 상분리에 문제를 발생시킬 수 있음.
비용	일괄 공정 장비는 상대적으로 간단하고 저렴하지만, 연속 공정과정에서 추가적인 비용이 듦.
잔류물 및 유해성분 처리	비수용성 용매는 수용액에 존재하는 대부분의 유기 물질을 흡수하지만, 미량의 유기물들이 수용액에 남아 있을 가능성이 있음.

○ Pertraction(6-9)

요약	유기 용매와 수성 용액이 직접 접촉하지 않도록 상 사이에 막을 설치하여 용매 추출을 하는 공정.
폐기물 종류	일반적으로 바젤 유해 폐기물의 처리에 적용되지는 않지만, 복합 금속 이온 및 페놀, 염소화 탄화수소와 같은 유기 성분의 제거에 사용 가능함.
공정 원리	수용액 중의 유기성분은 물질이 통과 가능한 멤브레인의 공극에 이끌리면서, 멤브레인을 통과하여 용매로 이동함. 직접적인 접촉이 없어 유화 위험이 없고, 수용액을 오염시킬 가능성을 줄임. 또한 사용 가능한 용매의 종류를 늘릴 수 있음. 연속 운영이 가능하며, 특정 상황에서 사용함.
장비/인력/기반시설	멤브레인 시스템 등의 매우 전문화된 장비가 필요하며 개별 적용으로 설계되어 있으며, 간헐적 혹은 다목적 사용에는 적합하지 않음. 인력 요구량은 낮음.
부작용	수용액 중의 고형물은 멤브레인을 오염시키며 이를 방지하기 위해 전처리가 필요함.
비용	멤브레인 공정에 대한 적절한 가격이 듦.
잔류물 및 유해성분 처리	비수용성 용매는 대부분의 수용액의 유기 물질을 끌어당기지만, 수용액에 유기 물질이 남아있을 수 있음.

○ 침출(6-10)

요약	고형 물질에서 용해성 성분을 제거하는 공정.
폐기물 종류	오염토양, 자갈, 골재 및 암석, 유해중금속이 포함된 촉매 및 슬러지. 이론적으로 추출될 필요가 있는 용해성 성분을 함유한 고형 폐기물.
공정 원리	고형물의 구성 요소가 다양한 용매에서 서로 다른 용해도를 가질 수 있다는 것에 착안했으며, 제거 대상 성분은 쉽게 용해가 가능하고 다른 물질은 용해시키지 않는 용매가 선택됨. 용해된 물질을 함유한 액체는 수집되고, 나머지 고형물들만 남음. 용매의 적합성, 접촉 시간 및 침출이 일어날 수 있는 표면적 그리고 평형농도에 도달하는 시간에 따라 공정의 효율성이 정해짐. 물을 기본으로 두지만, 산, 알칼리 및 유기 용매도 사용함. 이 경우 유해증기 및 액체가 환경에 방출하는 등의 여러 특별 주의 사항에 대한 예방조치를 준수해야 함.
장비/인력 /기반시설	개방형 시스템으로 이뤄질 수 있으며, 침출 액체가 물일 경우에는 침출물이 크게 위험하지 않음. 그 외에는 인공 베드(bed), 대형 인공 용기 혹은 소규모 탱크 등에서 공정이 이루어질 수 있음. 혼합 및 교반이 도움이 될 수 있으며, 물질에 움직임이 가해야함. 이때는 인력 요구량이 높아질 수 있음.
부작용	물질과 효과적인 접촉을 보장하기 어려우며, 물질 내부의 대상 물질까지 침출하기 어려움.
비용	극히 단순한 공정인 경우 상당히 저렴한 공정이 될 수 있지만, 복잡한 공정이 될수록 비용이 현저하게 증가함.
잔류물 및 유해성분 처리	침출수는 대부분 추출된 물질이 있기 때문에 이에 대한 처리가 필요함. 일부 추출되지 못한 유해물질이 남을 수 있음.

○ 이온 교환(6-11)

요약	적합한 수지와 폐기물이 접촉할 때, 용액에 용해된 이온 성분이 수지상의 다른 이온과 치환되는 공정.
폐기물 종류	물질회수가 가능지만, 특정 금속의 농도가 적고, 일정 성분 예측이 가능한 폐수 혹은 폐기물 처리에만 적용됨.
공정 원리	폐기물 중의 이온 성분은 수지상의 이온과 교환 가능하며, 이는 교환 용량이 소진될 때까지 이루어짐. 용량이 소진된 수지는 교환된 물질을 다시 방출시키고 부피를 감소시킴으로써 재생함. 예를 들어, 묽은 폐수에 있는 구리는 나트륨과 같은 무해한 금속으로 교환이 가능함. 이 효과는 폐수를 적절하게 배출하도록 만들고 수지에 구리를 치환시킴 이온 교환 수지는 음이온 또는 양이온으로 사용 가능함. 수지가 혼합된 스트림에서 단일 금속과 같은 특정 물질을 제거하는 것도 가능하지만, 경우에 따라 다름.
장비/인력/기반시설	수지는 효과적인 이온 교환이 가능한 유속을 갖는 폐기물의 이동경로에 설치되며, 재생 용액을 세정한 세정액의 수집·처리시설이 필요. 시스템은 자동화가 가능해 인력 요구량이 크지 않음.
부작용	수지가 오염 물질에 오염되거나 고농도의 오염 물질에 의해 급격히 소모됨. 농도가 낮아짐에 따라 제거 효율도 낮아짐.
비용	초기 설치비용은 비용이 높지만, 운영비는 높지 않음.
잔류물 및 유해성분 처리	처리된 폐수는 유해 성분의 농도가 매우 낮을 것으로 예상되지만, 최종 배출 및 처리에 관련하여 검사가 요구됨. 농축액은 회수 가치가 있을 수 있으나 그렇지 않은 경우엔 추가적인 처리가 필요함.

[별표 7]

생물학적 처리의 기술 목록

순서	구분	요약
7-1	생물학적 정화	해로운 성분의 분해에 적합한 미생물을 투입하여 오염된 토지를 다루는 방법
7-2	토지 이용·처리·경작	생물학적 분해 가능한 유기물질을 토양의 자연적 능력을 이용하는 공정
7-3	혐기성 공정	몇 가지 유사한 공정은 혐기성 공정을 필요로 함. 그러나 물리적 방식에서 차이가 있으며 혐기성 접촉법, 상향류식 혐기성 슬러지 블랭킷법, 상향류식 혐기성 필터, 고정된 하향류식 반응기가 있음
7-4	혐기성 소화	폐기물이 무산소 상태에서 미생물과 접촉하는 공정으로 메탄 등이 분해산물로 생산됨
7-5	퇴비화	고체 및 반고체 폐기물이 생물학적 분해를 필요로 하는 공정
7-6	폭기식 라균과 안정화지	얇은 석호나 연못 중의 폐기물에 산소를 폭기하여 생물학적 분해를 시킨다.
7-7	회전원판법	수상의 유기물 종이 필터에 형성되어 있는 박테리아성 슬라임과 만나 분해되는 공정
7-8	살수여상법	수상의 유기물 종이 필터에 형성되어 있는 박테리아성 슬라임과 만나 분해되는 공정
7-9	활성슬러지처리	유기물이 생물활성슬러지와 접촉하여 분해되는 수계 프로세스
7-10	소멸화	폐기물에 수분조절제, 발효 미생물군 등을 첨가하여 발효 및 소멸과정을 거쳐 폐기물을 감량시키는 방식

○ 생물학적 정화(7-1)

요약	해로운 성분의 분해에 적합한 미생물을 투입하여 오염된 토지를 다루는 방법
폐기물 종류	적절한 미생물이 존재하는 유기물질로 오염된 토양에 적합하며, 무기물·금속 오염은 일반적으로 이 방법이 도움이 되지 않음. 잔류성유기오염물질과 할로젠족유기화합물의 오염은 다루기 어려울 수 있지만 약간의 진전이 있을 수 있음
공정 원리	오염 면적 및 깊이와 원하는 복원의 정도에 따라 토양의 표면에 생리활성 물질을 적용하거나 표면 아래에 주입하는 것으로 처리가 가능할 수 있음. 처리되지 않으면 토양의 굴착이나 외부적 처리가 필요함. 실제 오염된 토양을 이용하여 실험실 수준에서 최적의 미생물을 개발하는 것이 필요.
장비/인력 /기반시설	상황에 따른 다양한 기계적 장비가 필요. 물질의 이동이 중요한 부분을 차지한다면 많은 인력이 필요함
부작용	오염의 범위를 설정하기 어려움. 생물학적 공정이 효과를 보이는데 요구되는 시간은 프로젝트가 길어지고 장비가 묶여있음을 뜻함.
비용	상황적 차이에 따라서 높거나 낮음.
잔류물 및 유해성분 처리	처리된 토양이 원래의 위치에 잔류하게 해야 함. 다른 제염 수단을 이용하지 않으면 생물학적 분해가 되지 않는 성분이 남아 있음.

○ 토지 이용·처리·경작(7-2)

요약	생물학적 분해 가능한 유기물질을 토양의 자연적 능력을 이용하는 공정
폐기물 종류	유기물 함량이 높은 슬러지에 적합하며, 잔류성유기오염물질 및 중금속, 독성이 있는 금속과 저휘발성 용매에는 적합하지 않음.
공정 원리	토양은 자연 발생 박테리아를 포함하며, 토양에 분산되어 있거나 혼합된 유기물질은 생물학적으로 분해됨. 토양에 적절한 폐기물을 적용하는 것은 폐기물의 조성뿐 및 부하량을 고려해야 함
장비/인력 /기반시설	확산 또는 표면 아래 주입을 위한 기계를 사용함. 초기 적용 이후, 인력과 유용성 요구는 최소화
부작용	분해되지 않은 폐기물 성분이 토양에 잔류함. 농지에는 실질적인 효과 없음. 폐기물이 존재하는 동안 야생생물에 해를 줄 수 있음.
비용	다른 목적으로 토지를 이용하는 것이 중요하지 않다면 낮음
잔류물 및 유해성분 처리	해당 없음 - 잔류물이 토지에 잔류

○ 혐기성 공정(7-3)

요약	몇 가지 유사한 공정은 혐기성 공정을 필요로 함. 그러나 물리적 방식에서 차이가 있으며 혐기성 접촉법, 상향류식 혐기성 슬러지 블랭킷법, 상향류식 혐기성 필터, 고정된 하향류식 반응기가 있음
폐기물 종류	중간에서 높은 유기물 부하를 가지는 액상 폐기물
공정 원리	혐기성 조건에서의 바이오매스와 공급원료 사이의 접촉을 수반. 접촉 면적의 최적화와 바이오매스의 공급, 작동 온도와 액체의 흐름에 차이가 있음. 모두 메탄가스와 침전된 슬러지 및 폐수를 생성
장비/인력/기반시설	모든 장치는 작동 범위와 특정 공정에 맞게 설계된 전문적 장치. 장치는 최소한의 인력으로도 작동
부작용	다른 생물학적 공정과 마찬가지로, 폐기물 조성에 민감함
비용	공정설비가 적절한 양의 폐기물을 처리 시 저렴한 운영 유지비용이 소모됨
잔류물 및 유해성분 처리	메탄가스는 연료로써 사용할 수 있어야 함. 처리된 폐수는 방류 기준에 적합해야 하며 반드시 확인이 필요함. 잉여 슬러지는 검사가 필요하며 일반적인 처리방법으로 처리가 가능함

○ 혐기성 소화(7-4)

요약	폐기물이 무산소 상태에서 미생물과 접촉하는 공정으로 메탄 등이 분해산물로 생산됨
폐기물 종류	단순한 유기물질이라도 강도가 높을 수 있음. 금속 함유 폐기물은 피해야 함
공정 원리	공정은 폐기물과 미생물이 무산소상태의 혼합·밀폐된 반응기에서 작동. 반응기는 조건 조절을 통해 최적의 반응속도를 얻을 수 있으며, 폐기물 조성의 차이에 민감함
장비/인력/기반시설	생성된 가연성 가스의 안전한 취급을 위한 반응기와 장비로 구성되어 있지만 상당한 예산이 필요함. 적은 인력으로 운영이 가능하며, 메탄 생산 수익을 기대할 수 있음.
부작용	폐기물 조성에 민감하며 적응이 필요함.
비용	평균 이하
잔류물 및 유해성분 처리	메탄가스는 연료로써 사용할 수 있어야 함. 처리된 폐수는 방류 기준에 적합해야 하며 반드시 확인이 필요함. 잉여 슬러지는 검사가 필요하며 일반적인 처리방법으로 처리가 가능함

○ 퇴비화(7-5)

요약	고체 및 반고체 폐기물이 생물학적 분해를 필요로 하는 공정
폐기물 종류	식물성과 섬유질 폐기물에 이용. 유해폐기물에는 적합하지 않음
공정 원리	우드칩, 하수슬러지 등의 폐기물을 생물활성 물질과 혼합하여 지상에 적재. 공기 공급, pH, 온도 및 습도의 제어가 필요함. 완전 분해는 매우 오랜 기간이 걸리며 1년 이상 소요됨
장비/인력/기반시설	이 공정은 야외에서 수행될 수 있지만, 구조물 등이 아니라면 상부를 덮어주어 퇴비화 조건을 통제하는 것이 바람직함. 퇴비더미를 움직이고 뒤엎는데 필요한 인력 및 기계설비가 필요함.
부작용	반응 종결까지 시간이 걸림. 분해되지 않은 성분이 퇴비에 남아있을 수 있으며 퇴비로 사용 시 악영향이 있을 수 있음
비용	낮음
잔류물 및 유해성분 처리	유일한 생산물은 폐기물로부터 비생분해성 물질을 포함하지 않는 퇴비화 된 물질

○ 폭기식 라군과 안정화지(7-6)

요약	얇은 석호나 연못 중의 폐기물에 산소를 폭기하여 생물학적 분해를 시킨다.
폐기물 종류	낮은 유기물 부하를 가진 폐수나 수분함유 폐기물.
공정 원리	공정은 석호나 못에서 수행됨 - 폭기와 혼합을 요구함. 공정은 구조화된 공정보다는 느리지만, 지속적이며 일관적인 처리를 기반으로 작동됨.
장비/인력 /기반시설	석호와 못은 기본적으로 불투수성이나 방수작업이 필요할 수 있음. 혼합과 폭기가 요구됨. 오랜 기간이 걸리며 이 기간 동안 약간의 주의가 필요함. 인력과 동력과 시설 적음.
부작용	반응에 오랜 시간이 요구되며, 미생물에 부정적인 영향과 불완전처리에 대한 우려가 있음.
비용	낮음
잔류물 및 유해성분 처리	대부분의 공정이 발생된 폐수를 수로에 방류할 수 있게 하는 것에 목표를 두지만 지속적인 관리가 필요함. 하수도로 방류하기 전에 유해폐기물의 전처리에 이용될 수도 있음.

○ 회전원판법(7-7)

요약	수상의 유기물 종이 필터에 형성되어 있는 박테리아성 슬라임과 만나 분해되는 공정
폐기물 종류	생물활성 슬라임에 적합한 유기물을 함유한 폐수와 수용성 폐기물. 부하가 높거나 생물분해성이 낮은 폐기물을 처리 할 수 있음.
공정 원리	박테리아성 활성 슬라임은 구멍이 적절한 수직 회전 디스크에서 성장함. 디스크는 폐수에 부분적으로 잠겨있고 처리 될 폐수와 공기/산소를 번갈아가며 회전하며, 과잉의 슬라임은 처리장과 바닥으로 가라앉으며 주기적으로 제거해주어야 함.
장비/인력/기반시설	과잉 슬라임 분리 능력을 갖춘 처리장과 회전 원판으로 구성된 공정 시설. 낮은 인력과 상대적으로 낮은 전력. 처리된 폐수 방류 시설
부작용	많은 생물학적 공정과 비슷하게, 박테리아는 독성 물질 같은 예상치 못한 것으로부터의 손상에 취약하다. 슬라임 내 미생물로 처리되지 않는 폐기물 흐름은 영향을 받지 않고 통과함.
비용	낮음
잔류물 및 유해성분 처리	대부분의 공정이 발생된 폐수를 수로에 방류할 수 있게 하는 것에 목표를 두지만 지속적인 관리가 필요함. 하수도로 방류하기 전에 유해폐기물의 전처리에 이용될 수도 있음.

○ 살수여상법(7-8)

요약	수상의 유기물 종이 필터에 형성되어 있는 박테리아성 슬라임과 만나 분해되는 공정
폐기물 종류	폐수와 유기물질을 함유하고 있는 수용성 폐기물은 슬라임 내 미생물에 의해 다루어짐.
공정 원리	박테리아성 슬라임은 분쇄된 암석, 클링커 또는 플라스틱 접촉부에서 성장하여 필터층을 형성함. 폐수는 박테리아성 슬라임과 접촉할 수 있게 필터를 통해 흐르고 뿌려짐. 공기 상향기류가 필터를 통과하여 유기물을 분해시키는 원리임
장비/인력/기반시설	필터층은 수용성 폐기물에 적용하기 위해 회전식 스프레이/분배 장치가 있는 원형으로 구성됨. 공사는 간단하지만 필터를 통과하는 상향 기류가 요구되며, 처리된 폐수는 정화 후 방류.
부작용	많은 생물학적 공정과 같이 박테리아층은 독성물질 등 예상치 원인으로부터의 손상에 취약함. 슬라임 내 미생물로 처리되지 않는 폐기물 흐름은 영향을 받지 않고 통과함.
비용	낮음
잔류물 및 유해성분 처리	대부분의 공정이 발생된 폐수를 수로에 방류할 수 있게 하는 것에 목표를 두지만 지속적인 관리가 필요함. 하수도로 방류하기 전에 유해폐기물의 전처리에 이용될 수도 있음.

○ 활성슬러지처리(7-9)

요약	유기물이 생물활성슬러지와 접촉하여 분해되는 수계 프로세스
폐기물 종류	수계에 분산된 폐수 또는 유기성 고형 폐기물. 유기물 부하가 높은 경우 적합하지 않음. 미생물이 활성슬러지에서 영향을 끼치는 유기물에만 적합하다.
공정 원리	폐수가 교반되고 폭기된 바이오매스가 풍부한 활성슬러지를 가진 탱크를 통과하는 공정. 폐수가 탱크에 체류하는 동안 바이오매스는 폐수 내에서 생분해성 기질대사가 이루어짐. 처리 후 활성슬러지는 깨끗한 유출수와 슬러지를 생성하는 침전조에 침전되어 탱크로 재순환됨. 과량의 바이오매스는 공정의 평형을 유지하기 위해 정기적으로 제거됨.
장비/인력 /기반시설	요구되는 폐수의 질에 따라 탱크에서 활성슬러지는 다양하게 배치 될 수 있음.
부작용	예상하지 못한 성분은 처리하지 못함. 독성 금속이 슬러지에 농축
비용	낮음
잔류물 및 유해성분 처리	대부분의 공정이 발생된 폐수를 수로에 방류할 수 있게 하는 것에 목표를 두지만 지속적인 관리가 필요함. 하수도로 방류하기 전에 유해폐기물의 전처리에 이용될 수도 있음.

○ 소멸화(7-10)

요약	폐기물에 수분조절제, 발효 미생물군 등을 첨가하여 발효 및 소멸과정을 거쳐폐기물을 감량시키는 방식
폐기물 종류	음식물류폐기물
공정 원리	기존의 발효방식의 원리에서 발효분해를 개량해 분해효율을 높인 방식으로 장치 내에 발효 미생물군 등을 첨가한 뒤 수분 및 온도와 공기 공급량을 조절하여 미생물에 의한 유기물 분해를 진행시킴. 배출주기를 고려하여 폐기물을 투입시킴에 따라 부피의 증가가 거의 없이 폐기물을 분해함.
장비/인력/기반시설	운전 조건을 유지하고 미생물과 폐기물을 잘 섞이게 할 수 있는 장치가 필요
부작용	수분함량 조절에 어려움이 있을 수 있음
비용	낮음
잔류물 및 유해성분 처리	난분해성 물질의 경우 분해되지 않고 배출될 수 있음

[별표 8]

열적 처리의 기술 목록

순서	구분	요약
8-1	증발	액상폐기물의 농축을 위해 적용되는 공정으로, 액체가 시스템에 의해 증발된다. 증발은 열에너지 응용분야에 이용될 수 있음.
8-2	건조	고체, 슬러지 및 슬러리로부터 액체 및 수분을 제거하여 건조한 물질을 얻는 공정.
8-3	증류	열에너지와 기화를 적용하여 액체 혼합물 혹은 액체의 용존, 부유고형물을 선별한 후 재응축 시키는 공정.
8-4	고압 살균	열과 압력을 가하여 살균하는 공정.
8-5	용융	잉곳 등의 금속물을 용융하여 방사성 핵종 등의 오염물을 제염하는 공정.
8-6	탄화	유기성 폐기물을 가열하여 열분해를 거쳐 탄소가 풍부한 물질로 만드는 공정
8-7	소결	분말 입자를 열적 활성화 과정을 거쳐 하나의 덩어리로 만드는 공정

○ 증발(8-1)

요약	액상폐기물의 농축을 위해 적용되는 공정으로, 액체가 시스템에 의해 증발된다. 증발은 열에너지 응용분야에 이용될 수 있음.
폐기물 종류	유해폐기물에 제한적으로 적용되며, 모든 수용액 혹은 유기용매에서 활용 가능함. 응용 분야로 재생적이며 염용액, 철광석 슬러리의 농축과 슬러지의 부분 건조가 포함됨. 고농도의 염분을 함유한 폐수를 내륙 지역의 수로로 배출할 수 없는 경우 증발을 통해 건조할 수 있음. 최종 처리 혹은 재생 활동의 부수적인 경우에 증기를 포집하는 시스템은 수용 가능하더라도, 일반적으로 유기 용매를 대기 중으로 증발시키는 것은 환경적으로 올바른 관리로 간주되지 않음.
공정 원리	모든 액체는 증기압을 가지고 있으며 상태변화에 내성이 있는 경향을 보임. 이는 온도가 액체의 끓는점에 도달함에 따라 강화됨. 시스템이 포함되지 않는 경우, 액체가 기화되어 빠져나가서 잔류물에 남아있는 액체가 줄어들기 때문에 부유물질 혹은 용해된 성분이 있을시 농축됨. 수성 시스템은 대기로의 증발을 허용될 수 있지만, 용매가 포함되는 경우에는 용매를 포집하는 단계가 있는 것이 바람직. 증발은 또한 액체와 기체사이의 현상이며 박막 증발기는 이를 이용한 기술임.
장비/인력 /기반시설	기후와 지형이 적합한 석호에서는 특수한 증발이 가능하며, 그 외에는 단순 가열된 개방 상부 용기에서의 증기 포집 및 응축, 정교한 박막 증발기에 이르기까지 다양하고 특수한 장비를 사용 가능함. 인력 요구량은 낮음.
부작용	증발로 인한 대기오염이 없다는 것이 확인되어야함.
비용	석호 기반 증발은 매우 저렴하며, 필수 정수를 하는 특수 장비는 매우 높은 가격임.
잔류물 및 유해성분 처리	경우에 따라 농축된 물질과 증발된 물질 모두 위험하거나 유해 물질 및 성분을 포함할 수 있다. 그렇기에 최종 처리를 위한 검사가 필요함.

○ 건조(8-2)

요약	고체, 슬러지 및 슬러리로부터 액체 및 수분을 제거하여 건조한 물질을 얻는 공정.
폐기물 종류	슬러지 혹은 슬러리, 습기가 있는 고형 물질에 적용될 수 있음.
공정 원리	액체의 증발하는 성질을 이용한 공정이며, 증발 속도는 온도에 비례한다. 물질 건조 시에는 액체의 끓는점보다 높은 온도가 필요함. 유기 용매에 있는 증기는 대기 중으로 방출되어서는 안 되며, 적절한 방법으로 수집 및 처리를 해야 한다. 진공 시스템을 이용하면 건조속도가 빨라짐.
장비/인력 /기반시설	건조 시설은 챔버 내부 온도를 상승시키는 설비와 건조될 물질이 배치 될 수 있는 밀폐 챔버를 포함함. 또한 진공 시스템이 운영될시, 진공 펌프를 통해 증기의 추출이 가능하며, 모든 시스템은 수증기 외의 오염 물질 증기 등을 포집 및 응결해야함.
부작용	증기를 효과적으로 제거하는데 필요한 온도가 건조되는 물질의 분해를 일으킬 수 있음.
비용	상당이 높은 비용이 듦.
잔류물 및 유해성분 처리	건조된 물질은 사용 가능한 제품으로 될 수 있지만, 함수율 검사가 필요함. 수집된 응축 증기는 적합한 처리가 필요함.

○ 증류(8-3)

<p>요약</p>	<p>열에너지와 기화를 적용하여 액체 혼합물 혹은 액체의 용존, 부유 고형물을 선별한 후 재응축 시키는 공정.</p>
<p>폐기물 종류</p>	<p>혼합물의 용매 종류에 의해 선별하는 물질 회수에 대한 중요한 공정 중 하나이다. 이 공정은 용매 폐기물 흐름에 전처리를 함으로써, 유용한 물질을 선별하고 과기되는 폐기물의 양을 줄이는 데에 크게 기여함. 이러한 맥락에서 값어치 있는 용매를 포함하여 주로 혼합 용매 폐기물 흐름에 적용됨.</p>
<p>공정 원리</p>	<p>이 공정은 증발의 특수한 형태로써 열에너지를 액체 혼합물에 가하면 온도가 상승하여 구성 요소가 기화됨. 이러한 증기는 개별 단위, 단계로 선별 진행되어 냉각 및 응축으로 순수한 물질이 됨. 혼합물의 온도가 증가함에 따라 가장 비등점이 낮은 물질부터 순차적으로 증발된다. 분별 증류는 성분 분리의 기반을 제공하지만, 일부 용매에는 단일로 증발치 않고 혼합물로서 증발할 수 있기 때문에 항상 선별이 이루어지지 않는음. 또한 이 공정은 용해 및 부유하는 물질이 잔여물로 남음.</p>
<p>장비/인력 /기반시설</p>	<p>분별 증류를 위한 증류 설비는 전문화되어 있으며 복잡하며, 설비는 자동화 될 수 있고 연속적으로 사용 가능함. 품질 관리 등에서의 적정 인력이 필요함.</p>
<p>부작용</p>	<p>폐기물 배출공정이 복잡한 경우, 특히 구성 요소가 거의 선별되지 않는 경우에는 증류가 비효율적임. 공비 혼합물은 회수 효율에 악영향을 미칠 수 있으며, 공정을 비효율적으로 만들어 최종 파기 시 대량의 폐기물이 생긴다.</p>
<p>비용</p>	<p>증류법 자체는 상당히 고비용이 소요되는 공정이지만 회수된 용매 및 최종 처분량의 감소로 자금 조달이 이루어짐.</p>
<p>잔류물 및 유해성분 처리</p>	<p>증류된 물질은 상품으로써의 가치가 있어야 하며, 증류 잔류물은 폐기물 내에 존재하는 오염물질의 농축물이며 이에 대하여 최종 처리 방법이 적절히 선택되어야함.</p>

○ 고압살균(8-4)

요약	열과 압력을 가하여 살균하는 공정.
폐기물 종류	임상 폐기물 및 기타 전염 물질.
공정 원리	미생물은 고온에서 제거가 가능하므로 적절한 온도에 폐기물을 노출시켜 미생물 등을 제거함. 고압 살균은 일반적으로 높은 압력의 증기를 사용하여 100℃가 넘는 온도로 운영됨.
장비/인력 /기반시설	고압 살균 장비는 오염된 물질 및 고압의 증기를 주입 가능한 특수 장비이며, 오염된 증기 및 액체의 제거를 보조하고, 용기를 개방하지 않고도 여러 온도 및 압력 사이클이 적용 가능한 진공 능력이 있음 공정이 일괄 처리를 기반으로 하며 용기의 충전 및 비우기에 인력이 요구됨.
부작용	이 공정은 오염에 대한 살균만을 목적으로 한다. 품목은 원 상태로 남아 있으며, 폐기물 본래의 구조적, 본질적 위험을 제거하진 않음.
비용	고압 살균 설비 및 운영에서 적절하거나 높은 비용이 듦.
잔류물 및 유해성분 처리	처리된 물질은 미생물의 활성이 없어져야 하며 응축액 및 액체가 처리 용기에 수집되어야 함. 처리된 물질에 대한 구조적 위험 등은 변하지 않아 우려가 제기될 수 있음.

○ 용융(8-5)

요약	잉곳 등의 금속물을 용융하여 방사성 핵종 등의 오염물을 제염하는 공정.
폐기물 종류	형상이 복잡하여 타 기술로 오염물질의 제거 및 측정이 어려운 철 및 비철금속 폐기물.
공정 원리	다량의 오염된 금속 스크랩 등이 발생한다. 이러한 스크랩을 회수하면 가치 있는 금속 대부분을 회수할 수 있으나, 복잡한 형상과 정확한 오염 측정이 어렵기 때문에 시간이 많이 걸리고 비용도 많이 소요됨. 그러나 이러한 폐기물들에 대하여 용융을 가할시, 오염물을 균일하게 만들어 정확히 측정할 수 있게 함. 또한 오염물질이 고정되어 오염의 확산 가능성을 낮춤. 용융은 복잡한 형태의 구성 요소에서의 접근 불가능한 표면 오염 문제를 없앨 수 있으며, 금속의 특성에 대한 모니터링 체계를 단순화함.
장비/인력 /기반시설	용융로는 높은 에너지를 이용해 해당 폐기물을 슬래그화하는 특수 장비임. 또한 물질의 대부분은 가스화되어 배가스로 배출되므로 이에 대한 가스처리 시설이 보조되어야 함. 많은 인력이 요구되지 않으며, 전문적인 지식이 필요함.
부작용	구성 성분을 완전히 파괴하는 기술로써 슬래그에 농축되거나 휘발성인 오염물질에만 효과적임.
비용	폐기물을 용융해야 하여 에너지 소비량이 크며 가스 생성시 2차 오염물질의 제거 비용이 소요됨.
잔류물 및 유해성분 처리	이 공정을 통해 배출되는 슬래그는 건설자재 등으로 활용할 수 있음.

○ 탄화(8-6)

요약	유기성 폐기물을 가열하여 열분해를 거쳐 탄소가 풍부한 물질로 만드는 공정
폐기물 종류	유기성 폐기물
공정 원리	탄화는 여러 가지 유기물을 열분해시켜 다른 물질로 만드는 화학적 변화를 말하며, 유기물을 가스 배출기가 있는 용기 내에서 공기의 공급을 차단하고 가열하면 연소되지 않고, 각종 구성원소가 서로 결합하여 여러 가지 화학물을 만들며, 이들은 다시 결합 또는 분해에 의해 가연성 가스로 변화되므로 포집하여 탄화공정의 열원으로 활용되고 최후에는 탄화물만 남게 된다.
장비/인력/기반시설	탄화를 할 수 있는 탄화로가 필요함.
부작용	건조에 비해 대량의 에너지가 사용되며, 탄화 과정을 거쳐 대상 물질에 중금속 등의 농축이 발생될 수 있음
비용	건조 등에 비해 에너지소모가 많아 비용이 많이 소요되지만 이용 가능한 잔류물(탄화물)의 판매를 통해 경제적인 수익이 발생될 수 있음
잔류물 및 유해성분 처리	잔류물은 에너지원으로 활용 가능하며 탄화 과정에서 생성된 액체 및 기체의 추가적인 처리가 필요함.

○ 소결(8-7)

요약	분말 입자를 열적 활성화 과정을 거쳐 하나의 덩어리로 만드는 공정
폐기물 종류	유해 중금속을 함유한 분말형태의 폐기물
공정 원리	분말 형태의 폐기물을 녹는점 이하의 온도로 가열하게 되면 분말 형태의 폐기물이 녹으면서 서로 밀착하여 고결함. 폐기물만을 원료로 하여 소성하는 방식과 폐기물과 다른 원료를 혼합하여 소성하는 방식 두 가지가 있음.
장비/인력/기반시설	소성을 할 수 있는 소성로가 필요함.
부작용	소성로에 대한 폐기물처리에 있어서 법적근거가 불명확하여 관리 기준이 미흡함.
비용	소성 설비에 사용하는 연료의 비용과 소성로를 통해 만들어진 폐기물 후처리에 비용이 많이 소요됨.
잔류물 및 유해성분 처리	고형화된 폐기물 내 유해물질의 유출에 대한 용출시험과 같은 검사가 필요함.

[별표 9]

안정화 및 고형화 기술 목록

순서	구분	요약
9-1	고형화	폐기물을 비활성 물질로 변환하여 환경으로의 방출, 분산되는 것을 방지하는 시멘트 기반 공정.
9-2	안정화	폐기물로부터 오염물질의 이동속도를 감소시키고, 폐기물의 독성을 감소시키기 위해 첨가제를 폐기물과 혼합시키는 공정
9-3	고화(Bio-Solid)	가정에서 나오는 하수를 처리하여 비료, 소각, 매립 등으로 사용될 수 있게 변환하는 공정.
9-4	포졸란	시멘트와 친화성이 좋은 포졸란을 고화 보조제로 사용하여 안정화시키는 공정.
9-5	캡슐화	폐기물을 비활성 물질이나 내성 물질로 덮거나 포장하여 환경으로의 유출을 막는 공정.

○ 고형화(9-1)

요약	폐기물을 비활성 물질로 변환하여 환경으로의 방출, 분산되는 것을 방지하는 시멘트 기반 공정.
폐기물 종류	수산화물 등 금속 처리 슬러지, 잔류 금속 농도가 낮은 폐수, 기타 무기 슬러지. 대부분의 유기 화합물과 일부 무기 화합물, 특히 염화나트륨과 같은 물질이 근소량 이상으로 존재할 시에는 부적합함.
공정 원리	포틀랜드 혹은 포졸란으로 된 시멘트로 고형화 되는 무기 폐기물은 환경 분산 위험이 줄어드는 안정화된 물질로 변환됨. 폐기물이 중성 슬러지 형태 혹은 전처리가 요구됨에 상관없이 일정기간동안 충전제, 벌커(Bulkers) 그리고 시멘트 형태의 시약과 폐기물이 혼합하여 경화됨. 아스팔트 및 수지와 같은 유기계 바인더(Binder)와 고화제가 발생할 수 있지만, 빈도는 매우 낮다. 이 개념은 낮은 침출성 및 침투성을 갖는 물질을 생성하고, 물리적 분열을 방지하며 표면적을 최소로 유지하는 것에 기반을 둬. 일부 상업적 공정에서는 고체 매트릭스의 유해 폐기물을 넣는 것에 대해 물리적 제약뿐만 아니라 독성 물질의 화학적 결합 또한 증명되어야 한다고 주장함.
장비/인력 /기반시설	대용량 혼합 용기에서 수행되며, 초기 처리 및 시멘트 반응이 수행될 수 있으며, 반응 생성물은 응고가 이루어지는 위치로 옮겨져야 함. 폐기물 투입량에 대한 저장 및 보관과 이를 최적으로 혼합하는 유연성이 필요. 인력 요구량은 낮거나 보통 수준이지만, 우수한 실험실 능력과 함께 시멘트 화학에 대한 전문 지식이 폐기물 검사 및 품질 관리를 위해 요구됨. 이 공정을 수행하기 위해 매립할 땅과 전력 및 물이 요구됨.
부작용	시멘트 화학은 복잡하며, 좋은 품질의 생성물을 얻으려면 많은 관리가 필요하다. 또한 유기 오염 물질이 응고 반응에 쉽게 영향을 줌.
비용	기본 공정은 저렴하며, 적은 양의 시약으로 폐기물을 대량 처리함. 원자재의 품질 및 구매에 관하여 원자재 제조업체가 멀리 떨어져 있을 경우 비용이 높아질 수 있음.
잔류물 및 유해성분 처리	이 공정에서는 기본적으로 반응 생성물이 추가 처리 없이 매립 및 저장시설에 배출될 수 있음.

○ 안정화(Stabilization, 9-2)

요약	폐기물로부터 오염물질의 이동속도를 감소시키고, 폐기물의 독성을 감소시키기 위해 첨가제를 폐기물과 혼합시키는 공정
폐기물 종류	수산화물 등 금속 처리 슬러지, 기타 무기 슬러지. 대부분의 유기 화합물과 일부 무기 화합물, 특히 염화나트륨과 기름 같은 물질이 근소량 이상으로 존재할 시에는 부적합함.
공정 원리	고형화와 유사하게, 안정화는 폐기물을 결합제와 혼합하는 것을 포함하며, 결합제는 오염물과 화학반응을 일으켜 환경으로 방출되기 어렵게 함. 예를 들어 금속으로 오염된 폐기물이 물과 석회와 혼합되어 있을 때, 석회석에서 생성된 흰색 생성물이 금속을 물에 녹지 않는 형태로 바꿔줌.
장비/인력/기반시설	대용량 혼합 용기에서 수행됨. 폐기물 투입량에 대한 저장 및 보관과 이를 최적으로 혼합하는 유연성이 필요함. 인력 요구량은 낮거나 보통 수준임. 이 공정을 수행하기 위해 매립할 땅과 전력 등이 요구됨.
부작용	결합제의 사용은 최종적으로 생성된 폐기물의 총량을 증가시킬 수 있음.
비용	기본 공정은 저렴하며, 적은 양의 시약으로 폐기물을 대량으로 처리함. 원자재의 품질 및 구매에 관하여 원자재의 가격이 높을 경우와 제조업체가 멀리 떨어져 있을 경우 비용이 높아질 수 있음.
잔류물 및 유해성분 처리	이 공정에서는 기본적으로 반응 생성물이 추가 처리 없이 매립 및 저장시설에 배출될 수 있음

○ 고화(Bio-Solid, 9-3)

요약	가정에서 나오는 하수를 처리하여 비료, 소각, 매립 등으로 사용될 수 있게 변환하는 공정.
폐기물 종류	가정용 하수 처리 후 발생하는 슬러지 등.
공정 원리	하수 처리 후 발생하는 슬러지를 생물학적 고형화로 안정화하여 감염성을 유발하는 유기물이나 물질의 벡터 흡입력(Material's vector attraction potential)을 감소시키는 공정. 한 가지 예로 알칼리성 물질을 첨가하여 pH를 높게 유지하여 유기체의 성장을 억제함. 벨트 필터 프레스(Belt Filter Press)로 수분을 제거할 수 있고, 중력 농축으로 폐수를 농축시킬 수 있으며, 열을 가하여 건조가 가능. 산업 시설 등에서 유해 오염물을 전처리해야하는 규정이 있으며, 폐수 처리 시설은 폐수를 모니터링을 하여 재활용 가능성과 처리 시설과의 호환성을 가짐.
장비/인력 /기반시설	대용량 혼합 용기에서 수행됨. 폐기물 투입량에 대한 저장 및 보관과 이를 최적으로 혼합하는 유연성이 필요함. 인력 요구량은 낮거나 보통 수준임. 이 공정에서 pH 조절이 필요할 수 있고 중금속 용출농도의 측정이 요구됨.
부작용	악취가 발생할 수 있으며, 복토재, 채움재 등 사용 시 고화물에 포함된 유기물의 분해로 지반이 침하될 수 있음.
비용	투입하는 알칼리성 물질이 석회 등의 저렴한 물질일 경우 비용측면에서 가장 효율적인 공정이다. 또한 생성물로 비료, 복토재 등을 생성하여 비용 부담을 줄일 수 있음.
잔류물 및 유해성분 처리	슬러지를 비료, 복토재 등의 생성물로 변환함으로써 다양하게 이용 및 처리할 수 있음.

○ 포졸란(9-4)

요약	시멘트와 친화성이 좋은 포졸란을 고화 보조제로 사용하여 안정화시키는 공정.
폐기물 종류	산화제 및 산류, 중금속(비소, 카드뮴, 그롬, 납, 수은)이 적합함.
공정 원리	포졸란은 단독적으론 수경성을 갖지 않으나, 물에 용해되어 있는 수산화칼슘과 상온에서 서서히 반응하여 물에 녹지 않는 화합물을 만들 수 있는 미분상태의 물질임. 이러한 포졸란을 시멘트 반응에 첨가함으로써 포졸란 반응으로 인하여 생성물의 내구성, 내해수성 및 내화학성이 개선됨.
장비/인력/기반시설	대용량 혼합 용기에서 수행되며, 초기 처리 및 시멘트 반응이 수행될 수 있으며, 반응 생성물은 응고가 이루어지는 위치로 옮겨져야 함. 폐기물 투입량에 대한 저장 및 보관과 이를 최적으로 혼합하는 유연성이 필요. 인력 요구량은 낮거나 보통 수준이지만, 우수한 실험실 능력과 함께 시멘트 화학에 대한 전문 지식이 폐기물 검사 및 품질 관리를 위해 요구됨. 이 공정을 수행하기 위해 매립할 땅과 전력 및 물이 요구됨.
부작용	극성 및 비극성 유기물이 경화를 저해할 수 있음. 황산염, 할로겐화물, 질산염, 시안화물과 같은 염류는 내구성을 감소시킬 수 있으며, 황산염은 경화를 지연시키고, 스포링(spalling)을 초래할 수 있음.
비용	기본 공정은 저렴하며, 적은 양의 시약으로 폐기물을 대량 처리함. 원자재의 품질 및 구매에 관하여 원자재 제조업체가 멀리 떨어져 있을 경우 비용이 높아질 수 있음.
잔류물 및 유해성분 처리	이 공정에서는 기본적으로 반응 생성물이 추가 처리 없이 매립 및 저장시설에 배출될 수 있음.

○ 캡슐화(9-5)

요약	폐기물을 비활성 물질이나 내성 물질로 덮거나 포장하여 환경으로의 유출을 막는 공정.
폐기물 종류	다른 비활성 물질 등으로 덮여질 수 있는 폐기물. 실험실 혹은 오염된 장비로부터 나오는 폐기물은 전형적으로 작은 용기에 담겨 나옴.
공정 원리	처리가 필요한 폐기물을 비활성, 불 침투성 층 및 물질로 포장하여 매립 처리에 좀 더 적합해짐. 이것은 봉쇄의 원칙으로, 오염 물질이 덮여져서 밖으로 배출되지 않아 수용 가능한 처분 방법으로 여겨짐. 일반적인 방법은 콘크리트로 채워진 200리터 드럼에 폐기물을 넣는 방법이 있으며, 정교한 공정은 폐기물을 다층의 플라스틱 혹은 수지로 코팅함.
장비/인력/기반시설	간단한 수동 과정으로 200리터 드럼의 콘크리트에 넣는 공정이다. 정교한 코팅 공정은 특수 장비가 별도로 필요함.
부작용	공정이 오로지 캡슐화된 생성물의 안정성 및 보전성에 의존할 수 밖에 없음.
비용	콘크리트를 사용한 공정은 상대적으로 저렴한 공정이지만 이에 대한 사전 분류 및 적합성 검사는 시간과 기술이 필요하며, 정교한 코팅유형의 공정은 많은 비용이 소요됨.
잔류물 및 유해성분 처리	이 공정에서는 기본적으로 캡슐화된 생성물이 추가 처리 없이 매립 및 저장시설에 배출될 수 있음.