

Annex 4 / 부록 4

Limit values and fastness, part 1 / 제한수치와 견뢰도, 파트 1

(The testing procedures are described in a separate document / 시험절차는 별도의 서류에 명시됩니다)

Product Class / 제품 등급	I Baby / 유아	II in direct contact with skin / 피부와 직접적인 접촉	III with no direct contact with skin / 피부와 직접적인 접촉이 없음	IV Decoration material / 장식 재료
pH value / pH 값¹				
	4.0 - 7.5	4.0 - 7.5	4.0 - 9.0	4.0 - 9.0
Formaldehyde, free and partially releasable / 포름알데히드, 없거나, 일부 방출 [mg/kg]				
Law 112 / 법 112	n.d. ²	< 75	< 150	< 300
Extractable (heavy) metals / 용출 (중)금속 [mg/kg]				
Sb (Antimony / 안티몬)	< 30.0	< 30.0	< 30.0	
As (Arsenic / 비소)	< 0.2	< 1.0	< 1.0	< 1.0
Pb (Lead / 납)	< 0.2	< 1.0 ³	< 1.0 ³	< 1.0 ³
Cd (Cadmium / 카드뮴)	< 0.1	< 0.1	< 0.1	< 0.1
Cr (Chromium / 크롬)	< 1.0	< 2.0	< 2.0	< 2.0
Cr(VI) / 크롬 6가	< 0.5			
Co (Cobalt / 코발트)	< 1.0	< 4.0	< 4.0	< 4.0
Cu (Copper / 구리)	< 25.0 ⁴	< 50.0 ⁴	< 50.0 ⁴	< 50.0 ⁴
Ni (Nickel / 니켈) ⁵	< 1.0 ⁶	< 4.0 ⁷	< 4.0 ⁷	< 4.0 ⁷
Hg (Mercury / 수은)	< 0.02	< 0.02	< 0.02	< 0.02
Ba (Barium / 바륨)	< 1000	< 1000	< 1000	< 1000
Se (Selenium / 셀레늄)	< 100	< 100	< 100	< 100
Heavy metals in digested sample / 처리된 시료의 중금속 [mg/kg]⁸				
Pb (Lead / 납)	< 90.0	< 90.0 ³	< 90.0 ³	< 90.0 ³
Cd (Cadmium / 카드뮴)	< 40.0	< 40.0 ³	< 40.0 ³	< 40.0 ³
Pesticides / 살충제 [mg/kg]^{9,10}				
Sum / 합계 ¹⁰	< 0.5	< 1.0	< 1.0	< 1.0
Glyphosate and salts / 글리포세이트 및 염 [mg/kg]	u.o. / 관찰중 ¹¹	u.o. / 관찰중 ¹¹	u.o. / 관찰중 ¹¹	u.o. / 관찰중 ¹¹
Chlorinated phenols / 염화페놀 [mg/kg]¹⁰				
Pentachlorophenol (PCP)	< 0.05	< 0.5	< 0.5	< 0.5
Tetrachlorophenols (TeCP), Sum / 합계	< 0.05	< 0.5	< 0.5	< 0.5
Trichlorophenols (TrCP), Sum / 합계	< 0.2	< 2.0	< 2.0	< 2.0
Dichlorophenols (DCP), Sum / 합계	< 0.5	< 3.0	< 3.0	< 3.0
Monochlorophenols (MCP), Sum / 합계	< 0.5	< 3.0	< 3.0	< 3.0

¹ Exceptions for products which must be treated wet during the further processing: 4.0 - 10.5; for foams: 4.0 - 9.0; for film materials (e.g. polyolefin films) with incorporated Calciumcarbonate/ carbonate, which do not have directly contact to skin: 4.0 - 10.0 / 추가 가공에서 습식처리 되는 제품: 4.0-10.5, 폼: 4.0-9.0, 피부에 직접 닿지 않는 탄산 수소 칼슘/카보네이트 필름 재료(예, 폴리올레핀 필름): 4.0-10.0은 예외

² n.d. corresponds according to „Japanese Law 112“ test method with an absorbance unit less than 0.05 resp. < 16 mg/kg / "일본 112 법"에 따라 흡광도가 0.05 resp.<16 mg/kg 미만이면 n.d 가 부여됨

³ No requirement for accessories made from glass / 유리로 만든 액세서리제품은 요구되지 않음

⁴ No requirement for accessories and yarns made from inorganic materials, respecting the requirements regarding biological active products / 생리 활성 제품 요구 사항을 고려하여 무기물질로 만들어진 장식류나 원사에는 요구되지 않음

⁵ Including the requirement by EC-Regulation 1907/2006 / EU 법령 1907/2006의 요구사항 포함

⁶ For metallic accessories and metallized surfaces: < 0.5 mg/kg / 금속 장식류와 금속 표면 처리된 제품: < 0.5 mg/kg

⁷ For metallic accessories and metallized surfaces: < 1.0 mg/kg / 금속 장식류와 금속 표면 처리된 제품: < 1.0 mg/kg

⁸ Applicable to all non textile accessories and components as well as for spun dyed fibres and articles containing pigments / 비직물 액세서리 및 구성품 뿐만 아니라 스핀염색(원액착색)된 섬유와 안료가 함유된 제품에 적용가능

⁹ For natural fibres only / 천연섬유만

¹⁰ The individual substances are listed in Annex 5 / 개별 물질은 부록 5에 정리되어 있음

¹¹ u.o. = under observation; substance is tested randomly and result provided for information purposes; presently not regulated indeed / u.o.=관찰중; 물질이 무작위로 테스트되며 정보 목적으로 결과가 제공됨; 현재 실제로 규제되지는 않음

Annex 4 / 부록 4

Limit values and fastness, part 2 / 제한수치와 견뢰도, 파트 2

(The testing procedures are described in a separate document / 시험절차는 별도의 서류에 명시됩니다)

Product Class / 제품 등급	I Baby / 유아	II in direct contact with skin / 피부와 직접적인 접촉	III with no direct contact with skin / 피부와 직접적인 접촉이 없음	IV Decoration material / 장식 재료
Phthalates / 프탈레이트 [w-%]¹²				
Sum / 합계 ¹⁰	< 0.1	< 0.1	< 0.1	
Sum without DINP / DINP 를 제외한 합계 ¹⁰				< 0.1
Organic tin compounds / 유기 주석 화합물 [mg/kg]¹⁰				
TBT, TPhT	< 0.5	< 1.0	< 1.0	< 1.0
DBT, DMT, DOT, DPhT, DPT, MBT, MOT, MMT, MPhT, TeBT, TeEt, TCyHT, TMT, TOT, TPT	< 1.0	< 2.0	< 2.0	< 2.0
Other chemical residues / 기타 잔류 화학물질				
OPP [mg/kg] ¹⁰	< 10	< 25	< 25	< 25
Carcinogenic Arylamines / 발암성 아릴아민계 [mg/kg] ^{10,13,14}	< 20	< 20	< 20	< 20
Aniline / 아닐린 [mg/kg] ^{10,15}	< 20	< 50	< 50	< 50
TCEP [mg/kg] ¹⁰	< 10	< 10	< 10	< 10
Bisphenol A / 비스페놀 A [w-%] ¹⁰	< 0.1	< 0.1	< 0.1	< 0.1
DMFu [mg/kg] ¹⁰	< 0.1	< 0.1	< 0.1	< 0.1
Benzene / 벤젠 [mg/kg] ¹⁰	< 5.0	< 5.0	< 5.0	< 5.0
Phenol / 페놀 [mg/kg] ¹⁰	< 20	< 50	< 50	< 50
Quinoline / 퀴놀린 [mg/kg] ¹⁰	< 50	< 50	< 50	< 50
Diazene-1,2-dicarboxamide [w-%] ¹⁰	< 0.1	< 0.1	< 0.1	< 0.1
Colorants / 착색제 [mg/kg]				
Cleavable carcinogenic arylamines / 분리가능 발암성 아릴아민계 ^{10,14}	< 20	< 20	< 20	< 20
Cleavable Aniline / 분리가능 아닐린 ^{10,15}	< 20	< 50	< 50	< 50
Carcinogens / 발암물질 ¹⁰	< 50			
Allergens / 알레젠 ¹⁰	< 50			
Others / 기타 ¹⁰	< 50			
Navy Blue / 네이비 블루 ¹⁰	not used / 사용금지			
Chlorinated benzenes and toluenes / 염화벤젠 및 톨루엔 [mg/kg]¹⁰				
Sum / 합계	< 1.0	< 1.0	< 1.0	< 1.0
Polycyclic aromatic hydrocarbons (PAHs) / 다환방향족탄화수소(PAHs) [mg/kg]¹⁶				
Benzo[a]pyrene	< 0.5	< 1.0	< 1.0	< 1.0
Benzo[e]pyrene	< 0.5	< 1.0	< 1.0	< 1.0
Benzo[a]anthracene	< 0.5	< 1.0	< 1.0	< 1.0
Chrysene	< 0.5	< 1.0	< 1.0	< 1.0
Benzo[b]fluoranthene	< 0.5	< 1.0	< 1.0	< 1.0
Benzo[j]fluoranthene	< 0.5	< 1.0	< 1.0	< 1.0
Benzo[k]fluoranthene	< 0.5	< 1.0	< 1.0	< 1.0
Dibenzo[a,h]anthracene	< 0.5	< 1.0	< 1.0	< 1.0
Sum 24 PAHs / 합계 24 PAHs ¹⁰	< 5.0	< 10.0	< 10.0	< 10.0

¹² For coated articles, plastisol prints, flexible foams, and accessories made from plastics / 코팅된 제품, 플라스틱지올 프린트, 연질 폼, 플라스틱으로 만들어진 액세서리에 적용

¹⁰ The individual substances are listed in Annex 5 / 개별 물질은 부록 5에 정리되어 있음

¹³ For all materials containing polyurethane or other materials which may contain free carcinogenic arylamines / 폴리우레탄을 함유한 모든 물질 또는 무독성 아릴아민계를 포함하는 물질

¹⁴ The sum of cleavable carcinogenic arylamine and of possibly also as chemical residue present free carcinogenic (same) arylamine has to be also < 20 mg/kg / 분리 가능한 발암성 아릴아민과 아마도 화학 잔류물이 없는 발암성 (동일) 아릴아민의 합계 또한 20mg/kg 미만이어야 함

¹⁵ The sum of cleavable aniline and of possibly also as chemical residue present free aniline has to be also < 20 mg/kg (product class I) resp. < 50 mg/kg (product classes II till IV) / 분리 가능한 아닐린과 아닐린 성분이 없는 화학 잔류물 합계 또한 20 mg/kg 미만(제품 등급 1), 50 mg/kg (제품 등급 II-IV까지)이어야 함

¹⁶ For all synthetic fibres, yarns, or threads and for plastic materials / 모든 인조 섬유, 원사 또는 재봉사와 플라스틱 재료에 적용

Annex 4 / 부록 4

Limit values and fastness, part 3 / 제한수치와 견뢰도, 파트 3

(The testing procedures are described in a separate document / 시험절차는 별도의 서류에 명시됩니다)

Product Class / 제품 등급	I Baby / 유아	II in direct contact with skin / 피부와 직접적인 접촉	III with no direct contact with skin / 피부와 직접적인 접촉이 없음	IV Decoration material / 장식 재료
Biological active products / 생리 활성 제품	none / 없음 ¹⁷			
Flame retardant products / 난연 제품	none / 없음 (< 10 mg/kg; each / 각각; for sum SCCP + MCCP / SCCP와 MCCP의 합계 < 50 mg/kg) ^{17,18} Sum of all / 전체 합계 < 50 mg/kg			
Solvent residues / 잔류 용매 [w-%]^{10,19}	none / 없음 (< 10 mg/kg; each / 각각; for sum SCCP + MCCP / SCCP와 MCCP의 합계 < 50 mg/kg) ^{17,18} Sum of all / 전체 합계 < 50 mg/kg			
NMP ²⁰	< 0.05 < 0.10 ²¹			
DMAc ²⁰	< 0.05 < 0.10 ²¹			
DMF ²⁰	< 0.05 < 0.10 ²¹			
Formamide / 폼아미드	< 0.02	< 0.02	< 0.02	< 0.02
Surfactant, wetting agent residues / 잔류 계면 활성제, 습윤제 [mg/kg]¹⁰	none / 없음 (< 10 mg/kg; each / 각각; for sum SCCP + MCCP / SCCP와 MCCP의 합계 < 50 mg/kg) ^{17,18} Sum of all / 전체 합계 < 50 mg/kg			
NP, OP, HpP, PeP; / Sum / 합계	< 10.0	< 10.0	< 10.0	< 10.0
NP, OP, HpP, PeP, NP(E0), OP(E0); / Sum / 합계	< 100.0	< 100.0	< 100.0	< 100.0
PFCs, Per- and polyfluorinated compounds / 과불화화합물^{10,22}	none / 없음 (< 10 mg/kg; each / 각각; for sum SCCP + MCCP / SCCP와 MCCP의 합계 < 50 mg/kg) ^{17,18} Sum of all / 전체 합계 < 50 mg/kg			
PFOS, PFOSA, PFOSF, N-Me-FOSA, N-Et-FOSA, N-Me-FOSE, N-Et-FOSE; / Sum / 합계 [µg/m ²]	< 1.0	< 1.0	< 1.0	< 1.0
PFOA [µg/m ²]	< 1.0	< 1.0	< 1.0	< 1.0
PFHpA [mg/kg]	< 0.05	< 0.1	< 0.1	< 0.5
PFNA [mg/kg]	< 0.05	< 0.1	< 0.1	< 0.5
PFDA [mg/kg]	< 0.05	< 0.1	< 0.1	< 0.5
PFUdA [mg/kg]	< 0.05	< 0.1	< 0.1	< 0.5
PFDoA [mg/kg]	< 0.05	< 0.1	< 0.1	< 0.5
PFTrDA [mg/kg]	< 0.05	< 0.1	< 0.1	< 0.5
PFTeDA [mg/kg]	< 0.05	< 0.1	< 0.1	< 0.5
Further Perfluorinated carboxylic acids, each; according to Annex 5 / 각각; 부록 5에 해당됨 [mg/kg]	< 0.05			
Perfluorinated sulfonic acids, / 불소계 술폰산, each; according to Annex 5 / 각각; 부록 5에 해당됨 [mg/kg]	< 0.05			
Partially fluorinated carboxylic / sulfonic acids, each; according to Annex 5 / 각각; 부록 5에 해당됨 [mg/kg]	< 0.05			
Partially fluorinated linear alcohols, / 부분 과불화 사슬형 알코올, each; according to Annex 5 / 각각; 부록 5에 해당됨 [mg/kg]	< 0.50			
Esters of fluorinated alcohols with acrylic acid, / 불소화 알코올의 에스테르와 아크릴산 each; according to Annex 5 / 각각; 부록 5에 해당됨 [mg/kg]	< 0.50			

¹⁷ With exception of treatments accepted by OEKO-TEX® (see actual list on <http://www.oeko-tex.com>) / OEKO TEX® 허용하는 처리 방법 이외에도 (예의 목록은 <http://www.oeko-tex.com> 참조)

¹⁸ Accepted flame retardant products do not contain any of the banned flame retardant substances listed in Annex 5 as active agent / 허용되는 난연제품에는 부록 5에 활성제로 기재된 금지된 난연 물질이 함유되어 있지 않음

¹⁰ The individual substances are listed in Annex 5 / 개별 물질은 부록 5에 정리되어 있음

¹⁹ For fibre, yarns, fabrics and coated articles (e.g. artificial leather) as well as foams (EVA, PVC), where solvents are used during production / 생산 공정 중 용제가 사용된 섬유, 원사, 원단 그리고 코팅된 제품(예: 인조가죽) 또는 폼(EVA, PVC)에 적용

²⁰ Exception for products which must undergo further industrial production stages (heat process in wet or dry stage preferred, but also other steps are possible): maximal 3.0 % / 이후의 산업 생산 단계를 반드시 거쳐야 하는 제품은 제외 (습식 또는 건조 단계에서의 열처리 또는 다른 공정도 가능: 최대허용수치 3.0 %)

²¹ For materials made of acrylic (PAN), elastane (EL) / polyurethane and aramides as well as coated (PU-, PVC-, PVC-plastisol-, PVDC-, PVC-copolymer) textiles / Für Materialien aus Polyacrylnitril (PAN), Elastan (EL) / 아크릴(PAN), 엘라스테인(EL) / 폴리우레탄 및 아라미드 뿐만 아니라 코팅된 (PU-, PVC-, PVC-plastisol-, PVDC-, PVC-copolymer) 직물에 적용

²² For all materials with a water, soil or oil repellent finish or coating / 물, 오염 또는 오일 방지 가공 또는 코팅이 된 모든 물질에 해당

Annex 4 / 부록 4

Limit values and fastness, part 4 / 제한수치와 견뢰도, 파트 4

(The testing procedures are described in a separate document / 시험절차는 별도의 서류에 명시됩니다)

Product Class / 제품 등급	I Baby / 유아	II in direct contact with skin / 피부와 직접적인 접촉	III with no direct contact with skin / 피부와 직접적인 접촉이 없음	IV Decoration material / 장식 재료
UV stabilizers / UV 안정제 [w-%]¹⁰				
UV 320	< 0.1	< 0.1	< 0.1	< 0.1
UV 327	< 0.1	< 0.1	< 0.1	< 0.1
UV 328	< 0.1	< 0.1	< 0.1	< 0.1
UV 350	< 0.1	< 0.1	< 0.1	< 0.1
Chlorinated paraffins / 염화파라핀¹⁰				
Sum of SCCP and MCCP [mg/kg]	< 50	< 50	< 50	< 50
Siloxanes / 실록산 [w-%]¹⁰				
Octamethylcyclotetrasiloxane (D4)	< 0.1	< 0.1	< 0.1	< 0.1
Decamethylcyclopentasiloxane (D5)	< 0.1	< 0.1	< 0.1	< 0.1
Dodecamethylcyclohexasiloxane (D6)	< 0.1	< 0.1	< 0.1	< 0.1
N-Nitrosamines; N-nitrosatable substances / N-나이트로사민;N-나이트로사이 트린 물질 [mg/kg]¹⁰	u.o. / 관찰중 ¹¹	u.o. / 관찰중 ¹¹	u.o. / 관찰중 ¹¹	u.o. / 관찰중 ¹¹
Colour fastness (staining) / 견뢰도(얼룩)				
To water / 물	3 - 4	3	3	3
To acidic perspiration / 산성 땀 용액	3 - 4	3 - 4	3 - 4	3 - 4
To alkaline perspiration / 알칼리성 땀 용액	3 - 4	3 - 4	3 - 4	3 - 4
To rubbing, dry / 마찰 견뢰도 ^{23,24}	4	4	4	4
To saliva and perspiration / 침과 땀 견뢰도	fast / 견고			
Emission of volatiles / 휘발성 방출 [mg/m3]²⁵				
Formaldehyde / 포름알데히드 [50-00-0]	< 0.1	< 0.1	< 0.1	< 0.1
Toluene / 톨루엔 [108-88-3]	< 0.1	< 0.1	< 0.1	< 0.1
Styrene / 스티렌 [100-42-5]	< 0.005	< 0.005	< 0.005	< 0.005
4-Vinylcyclohexene [100-40-3]	< 0.002	< 0.002	< 0.002	< 0.002
4-Phenylcyclohexene [4994-16-5]	< 0.03	< 0.03	< 0.03	< 0.03
Butadiene / 부타디엔 [106-99-0]	< 0.002	< 0.002	< 0.002	< 0.002
Vinylchloride / 염화비닐 [75-01-4]	< 0.002	< 0.002	< 0.002	< 0.002
Aromatic hydrocarbons / 방향족 탄화수소	< 0.3	< 0.3	< 0.3	< 0.3
Organic volatiles / 방향족 유기물	< 0.5	< 0.5	< 0.5	< 0.5
Organic cotton fibres and materials / 유기농 면 섬유 및 원재료²⁶				
Genetically modified organisms (GMO) / 유전자 변형 유기체(GMO)	not detectable / 검출되지 않음			
Determination of odours / 취기 시험				
General / 일반	no abnormal odour / 비정상 악취 ²⁷			
SNV 195 651 (Modified / 개정) ²⁵	3	3	3	3
Banned fibres / 금지 섬유				
Asbestos / 석면	not used / 사용금지			

¹⁰ The individual substances are listed in Annex 5 / 개별 물질은 부록 5에 정리되어 있음

¹¹ u.o. = under observation; substance is tested randomly and result provided for information purposes; presently not regulated indeed / u.o.=관찰중; 물질이 무작위로 테스트되며 정보 목적으로 결과가 제공됨, 현재 실제로 규제되지는 않음

²³ No requirements for 'wash-out' – articles / '워시아웃' 제품엔 해당하지 않음

²⁴ For pigment, vat or sulphurous colorants a minimum grade of colour fastness to rubbing of 3 (dry) is acceptable / 안료, 견염, 황화 염료는 (건) 마찰 견뢰도 3등급까지 허용

²⁵ For textile carpets, mattresses as well as foams and large coated articles not being used for clothing / 의복에 사용되지 않는 직물 카펫, 매트리스나 폼 또는 코팅면적이 넓은 제품에 해당

²⁶ Refer also to item 5.5. of this standard / 본 표준의 5.5 항목 참조

²⁷ No odour from mould, high boiling fraction of petrol, fish, aromatic hydrocarbons or perfume / 곰팡이, 비등점이 높은 석유 화학제품, 생선, 방향족탄화수소 또는 향수 등의 악취는 허용되지 않음

Annex 5 / 부록 5

Compilation of the individual substances for Annex 4, part 1 / 부록 4에 따른 개별물질 목록, 파트 1

Pesticides / 살충제

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Name / 이름</u>	<u>CAS-Nr.</u>
2,4,5-T	93-76-5	Fenvalerate	51630-58-1
2,4-D	94-75-7	Heptachlor	76-44-8
Acetamiprid	135410-20-7, 160430-64-8	Heptachloroepoxide	1024-57-3, 28044-83-9
Aldicarb	116-06-3	Hexachlorobenzene	118-74-1
Aldrine	309-00-2	Hexachlorocyclohexane, α - / Hexachlorocyclohexane, α -	319-84-6
Azinophosethyl	2642-71-9	Hexachlorocyclohexane, β - / Hexachlorocyclohexane, β -	319-85-7
Azinophosmethyl	86-50-0	Hexachlorocyclohexane, δ - / Hexachlorocyclohexane, δ -	319-86-8
Bromophos-ethyl	4824-78-6	Imidacloprid	105827-78-9, 138261-41-3
Captafol	2425-06-1	Isodrine	465-73-6
Carbaryl	63-25-2	Kelevane	4234-79-1
Chlorbenzilate	510-15-6	Kepone	143-50-0
Chlordane	57-74-9	Lindane	58-89-9
Chlordimeform	6164-98-3	Malathion	121-75-5
Chlorfenvinphos	470-90-6	MCPA	94-74-6
Clothianidin	210880-92-5	MCPB	94-81-5
Coumaphos	56-72-4	Mecoprop	93-65-2
Cyfluthrin	68359-37-5	Metamidophos	10265-92-6
Cyhalothrin	91465-08-6	Methoxychlor	72-43-5
Cypermethrin	52315-07-8	Mirex	2385-85-5
DEF	78-48-8	Monocrotophos	6923-22-4
Deltamethrin	52918-63-5	Nitenpyram	150824-47-8, 120738-89-8
DDD	53-19-0, 72-54-8	Parathion	56-38-2
DDE	3424-82-6, 72-55-9	Parathion-methyl	298-00-0
DDT	50-29-3, 789-02-6	Perthane	72-56-0
Diazinon	333-41-5	Phosdrin / Mevinphos	7786-34-7
Dichloroprop	120-36-5	Phosphamidone	13171-21-6
Dicrotophos	141-66-2	Propethamphos	31218-83-4
Dieldrine	60-57-1	Profenophos	41198-08-7
Dimethoate	60-51-5	Strobane	8001-50-1
Dinoseb, its salts and acetate	88-85-7 et. al.	Quinalphos	13593-03-8
Dinotefuran	165252-70-0	Telodrine	297-78-9
Endosulfan, α -	959-98-8	Thiacloprid	111988-49-9
Endosulfan, β -	33213-65-9	Thiamethoxam	153719-23-4
Endrine	72-20-8	Toxaphene	8001-35-2
Esfenvalerate	66230-04-4	Trifluralin	1582-09-8
Glyphosate and salts / 글리포세이트 및 염류 (e.g. / 예시 Isopropylammonium - salt, potassium salt, ammonium salt)	1071-83-6 38641-94-0 70901-12-1 40465-66-5 et.al.		
Chlorinated phenols / 염화페놀			
<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Name / 이름</u>	<u>CAS-Nr.</u>
Pentachlorophenol	87-86-5	2,3-Dichlorophenol	576-24-9
2,3,4,5-Tetrachlorophenol	4901-51-3	2,4-Dichlorophenol	120-83-2
2,3,4,6-Tetrachlorophenol	58-90-2	2,5-Dichlorophenol	583-78-8
2,3,5,6-Tetrachlorophenol	935-95-5	2,6-Dichlorophenol	87-65-0
2,3,4-Trichlorophenol	15950-66-0	3,4-Dichlorophenol	95-77-2
2,3,5-Trichlorophenol	933-78-8	3,5-Dichlorophenol	591-35-5
2,3,6-Trichlorophenol	933-75-5	2-Chlorophenol	95-57-8
2,4,5-Trichlorophenol	95-95-4	3-Chlorophenol	108-43-0
2,4,6-Trichlorophenol	88-06-2	4-Chlorophenol	106-48-9
3,4,5-Trichlorophenol	609-19-8		

Annex 5 / 부록 5

Compilation of the individual substances for Annex 4, part 2 / 부록 4에 따른 개별물질 목록, 파트 2

Phthalates / 프탈레이트

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Acronym</u>
Benzylbutylphthalate	85-68-7	BBP
Dibutylphthalate	84-74-2	DBP
Diethylphthalate	84-66-2	DEP
Dimethylphthalate	131-11-3	DMP
Di-(2-ethylhexyl)phthalate	117-81-7	DEHP
Di-(2-methoxyethyl)phthalate / Di-(2-methoxyethyl)-phthalate	117-82-8	DMEP
Di-C6-8-branched alkylphthalates, C7 rich	71888-89-6	DIHP
Di-C7-11-branched and linear alkylphthalates	68515-42-4	DHNPUP
Dicyclohexylphthalate	84-61-7	DCHP
Dihexylphthalates, branched and linear	68515-50-4	DHxP
Di-iso-butylphthalate	84-69-5	DIBP
Di-iso-hexylphthalate	71850-09-4	DIHxP
Di-iso-octylphthalate	27554-26-3	DIOP
Di-iso-nonylphthalate	28553-12-0, 68515-48-0	DINP
Di-iso-decylphthalate / Di-isodecylphthalate	26761-40-0, 68515-49-1	DIDP
Di-n-propylphthalate	131-16-8	DPrP
Di-n-hexylphthalate	84-75-3	DHP
Di-n-octylphthalate	117-84-0	DNOP
Di-n-nonylphthalate	84-76-4	DNP
Di-pentylphthalate (n-, iso-, or mixed)	131-18-0, 605-50-5, 776297-69-9, 84777-06-0	DPP
1,2-Benzenedicarboxylic acid, di-C6-10 alkyl esters	68515-51-5	
1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters	68648-93-1	

Organic tin compounds / 유기 주석 화합물

<u>Name / 이름</u>	<u>Acronym</u>	<u>Name / 이름</u>	<u>Acronym</u>
Dibutyltin	DBT	Tetraethyltin	TeBT
Dimethyltin	DMT	Tetraethyltin	TeET
Dioctyltin	DOT	Tributyltin	TBT
Diphenyltin	DPhT	Tricyclohexyltin	TCyHT
Dipropyltin	DPT	Trimethyltin	TMT
Monomethyltin	MMT	Trioctyltin	TOT
Monobutyltin	MBT	Triphenyltin	TPhT
Monooctyltin	MOT	Tripropyltin	TPT
Monophenyltin	MPhT		

Arylamines having carcinogenic properties, cleavable arylamines / 발암성 물질 함유 아릴아민계, 분리 가능한 아릴아민계

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Name / 이름</u>	<u>CAS-Nr.</u>
MAK III, category 1		MAK III, category 1	
4-Aminobiphenyl	92-67-1	4-Chloro-o-toluidine	95-69-2
Benzidine	92-87-5	2-Naphthylamine	91-59-8
MAK III, category 2		MAK III, category 2	
o-Aminoazotoluene	97-56-3	4,4'-Methylene-bis-(2-chloroaniline) / 4,4'-Methylene-bis-(2-chloroaniline)	101-14-4
2-Amino-4-nitrotoluene	99-55-8	4,4'-Oxydianiline	101-80-4
4-Chloroaniline	106-47-8	4,4'-Thiodianiline	139-65-1
2,4-Diaminoaniline	615-05-4	o-Toluidine	95-53-4
4,4'-Diaminodiphenylmethane / 4,4'-Diaminobiphenylmethane	101-77-9	2,4-Toluylenediamine / 2,4-Toluylendiamine	95-80-7
3,3'-Dichlorobenzidine / 3,3'-Dichlorobenzidine	91-94-1	2,4,5-Trimethylaniline	137-17-7
3,3'-Dimethoxybenzidine	119-90-4	o-Anisidine (2-Methoxyaniline)	90-04-0
3,3'-Dimethylbenzidine	119-93-7	4-Aminoazobenzene	60-09-3
4,4'-Methylenedi-o-toluidine / 3,3'-Dimethyl-4,4'-diaminobiphenylmethane	838-88-0	2,4-Xylidine	95-68-1
p-Cresidine (6-Methoxy-m-toluidine) / p-Cresidine	120-71-8	2,6-Xylidine	87-62-7

Other Arylamines, cleavable arylamines; amine salts / 기타 아릴아민계, 분리 가능한 아릴아민계: 아민염류

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Name / 이름</u>	<u>CAS-Nr.</u>
Aniline	62-53-3	2-Naphthylammoniumacetate	553-00-4
4-Chloro-o-toluidinium chloride	3165-93-3	2,4-Diaminoaniline sulphate	39156-41-7
2,4,5-Trimethylaniline hydrochloride	21436-97-5		

Annex 5 / 부록 5

Compilation of the individual substances for Annex 4, part 3 / 부록 4에 따른 개별물질 목록, 파트 3

Dyestuffs and pigments classified as carcinogenic / 발암성 염료 및 안료

<u>C.I. Generic Name</u>	<u>C.I. Structure number</u>	<u>CAS-Nr.</u>
C.I. Acid Red 26	C.I. 16 150	3761-53-3
C.I. Acid Red 114		6459-94-5
C.I. Basic Blue 26 (with ≥ 0.1 % Michler's ketone or base)		2580-56-5
C.I. Basic Red 9	C.I. 42 500	569-61-9
C.I. Basic Violet 3 (with ≥ 0.1 % Michler's ketone or base)		548-62-9
C.I. Basic Violet 14	C.I. 42 510	632-99-5
C.I. Direct Black 38	C.I. 30 235	1937-37-7
C.I. Direct Blue 6	C.I. 22 610	2602-46-2
C.I. Direct Blue 15		2429-74-5
C.I. Direct Brown 95		16071-86-6
C.I. Direct Red 28	C.I. 22 120	573-58-0
C.I. Disperse Blue 1	C.I. 64 500	2475-45-8
C.I. Disperse Orange 11	C.I. 60 700	82-28-0
C.I. Disperse Yellow 3	C.I. 11 855	2832-40-8
C.I. Solvent Yellow 1 (4-Aminoazobenzene / Aniline Yellow)	C.I. 11100	60-09-3
C.I. Solvent Yellow 3 (o-Aminoazotoluene / o-Aminoazotoluol)		97-56-3
C.I. Pigment Red 104 (Lead chromate molybdate sulphate red)	C.I. 77 605	12656-85-8
C.I. Pigment Yellow 34 (Lead sulfochromate yellow)	C.I. 77 603	1344-37-2

Dyestuffs classified as allergenic / 알레르기 유발 염료

<u>C.I. Generic Name</u>	<u>C.I. Structure number</u>	<u>CAS-Nr.</u>
C.I. Disperse Blue 1	C.I. 64 500	2475-45-8
C.I. Disperse Blue 3	C.I. 61 505	2475-46-9
C.I. Disperse Blue 7	C.I. 62 500	3179-90-6
C.I. Disperse Blue 26	C.I. 63 305	
C.I. Disperse Blue 35		12222-75-2
C.I. Disperse Blue 102		12222-97-8
C.I. Disperse Blue 106		12223-01-7
C.I. Disperse Blue 124		61951-51-7
C.I. Disperse Brown 1		23355-64-8
C.I. Disperse Orange 1	C.I. 11 080	2581-69-3
C.I. Disperse Orange 3	C.I. 11 005	730-40-5
C.I. Disperse Orange 37 (= 59 / = 76)	C.I. 11 132	
C.I. Disperse Orange 59	C.I. 11 132	
C.I. Disperse Orange 76	C.I. 11 132	
C.I. Disperse Red 1	C.I. 11 110	2872-52-8
C.I. Disperse Red 11	C.I. 62 015	2872-48-2
C.I. Disperse Red 17	C.I. 11 210	3179-89-3
C.I. Disperse Yellow 1	C.I. 10 345	119-15-3
C.I. Disperse Yellow 3	C.I. 11 855	2832-40-8
C.I. Disperse Yellow 9	C.I. 10 375	6373-73-5
C.I. Disperse Yellow 39		
C.I. Disperse Yellow 49		

Other banned dyestuffs / 기타 금지된 염료

<u>C.I. Generic Name</u>	<u>C.I. Structure number</u>	<u>CAS-Nr.</u>
C.I. Basic Green 4 (chloride)		569-64-2
C.I. Basic Green 4 (free)		10309-95-2
C.I. Basic Green 4 (oxalate)		2437-29-8, 18015-76-4
C.I. Disperse Orange 149		85136-74-9
C.I. Disperse Yellow 23	C.I. 26 070	6250-23-3
Navy Blue (Index-Nr. 611-070-00-2; EG-Nr. 405-665-4)		

Annex 5 / 부록 5

Compilation of the individual substances for Annex 4, part 4 / 부록 4에 따른 개별물질 목록, 파트 4

Chlorinated benzenes and toluenes / 염화벤젠류와 톨루엔류

Chlorobenzene	Chlorotoluenes
Dichlorobenzenes	Dichlorotoluenes
Trichlorobenzenes	Trichlorotoluenes
Tetrachlorobenzenes	Tetrachlorotoluenes
Pentachlorobenzene	Pentachlorotoluene
Hexachlorobenzene	

Polycyclic aromatic hydrocarbons (PAHs) / 다환방향족탄화수소(PAHs)

Name / 이름	CAS-Nr.	Name / 이름	CAS-Nr.
Acenaphthene	83-32-9	Dibenzo[a,h]anthracene	53-70-3
Acenaphthylene	208-96-8	Dibenzo[a,e]pyrene	192-65-4
Anthracene	120-12-7	Dibenzo[a,h]pyrene	189-64-0
Benzo[a]anthracene	56-55-3	Dibenzo[a,i]pyrene	189-55-9
Benzo[a]pyrene	50-32-8	Dibenzo[a,l]pyrene	191-30-0
Benzo[b]fluoranthene	205-99-2	Fluoranthene	206-44-0
Benzo[e]pyrene	192-97-2	Fluorene	86-73-7
Benzo[ghi]perylene	191-24-2	Indeno[1,2,3-cd]pyrene	193-39-5
Benzo[j]fluoranthene	205-82-3	1-Methylpyrene	2381-21-7
Benzo[k]fluoranthene	207-08-9	Naphthalene	91-20-3
Chrysene	218-01-9	Phenanthrene	85-01-8
Cyclopenta[c,d]pyrene	27208-37-3	Pyrene	129-00-0

Forbidden flame retardant substances / 금지된 난연 물질

Name / 이름	CAS-Nr.	Acronym
Polybromobiphenyls (Polybrominated biphenyls)	59536-65-1	PBBs
Monobromobiphenyls	various	MonoBB
Dibromobiphenyls	various	DiBB
Tribromobiphenyls	various	TriBB
Tetrabromobiphenyls	various	TetraBB
Pentabromobiphenyls	various	PentaBB
Hexabromobiphenyls	various	HexaBB
Heptabromobiphenyls	various	HeptaBB
Octabromobiphenyls	various	OctaBB
Nonabromobiphenyls	various	NonaBB
Decabromobiphenyl	13654-09-6	DecaBB
Polybrominated diphenyl ethers	various	PBDEs
Monobromodiphenylethers	various	MonoBDEs
Dibromodiphenylethers	various	DiBDEs
Tribromodiphenylethers	various	TriBDEs
Tetrabromodiphenylethers	various, 40088-47-9	TetraBDEs
Pentabromodiphenylethers	various, 32534-81-9	PentaBDEs
Hexabromodiphenylethers	various, 36483-60-0	HexaBDEs
Heptabromodiphenylethers	various, 68928-80-3	HeptaBDEs
Octabromodiphenylethers	various, 32536-52-0	OctaBDEs
Nonabromodiphenylethers	various, 63936-56-1	NonaBDEs
Decabromodiphenylether	1163-19-5	DecaBDE
Tri(2,3-dibromopropyl)phosphate / Tri(2,3-dibromopropyl)-phosphate	126-72-7	TRIS
Tris(2-chloroethyl)phosphate	115-96-8	TCEP
Hexabromocyclododecane and all main diastereomers identified (alpha-, beta-, gamma-)	various, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8, 25637-99-4	HBCDD
Tetrabromobisphenol A	79-94-7	TBBPA
Bis(2,3-dibromopropyl)phosphate	5412-25-9	BIS
2,2-Bis(bromomethyl)-1,3-propanediol	3296-90-0	BBMP
Tris(1,3-dichloro-iso-propyl)phosphate	13674-87-8	TD CPP
Tris(aziridinyl)phosphin oxide	545-55-1	TEPA
Boric acid	10043-35-3, 11113-50-1	
Diboron trioxide	1303-86-2	
Disodium tetraborate, anhydrous	1303-96-4, 1330-43-4, 12179-04-3	
Disodium octaborate	12008-41-2	
Tetraboron disodium heptaoxide, hydrate	12267-73-1	
Short chain chlorinated paraffins (C10 - C13)	85535-84-8	SCCP
Medium chain chlorinated paraffins (C14 - C17)	85535-85-9	MCCP
Trixylylphosphate	25155-23-1	TXP

Annex 5 / 부록 5

Compilation of the individual substances for Annex 4, part 5 / 부록 4에 따른 개별물질 목록, 파트 5

Solvent residues / 잔류 용매

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Acronym</u>
1-Methyl-2-pyrrolidone	872-50-4	NMP
N,N-Dimethylacetamide	127-19-5	DMAC
N,N-Dimethylformamide	68-12-2	DMF
Formamide	75-12-7	

Surfactant, wetting agent residues / 잔류 계면 활성제, 습윤제

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Acronym</u>
Nonylphenol	various	NP
Octylphenol	various	OP
Heptylphenol	various	HpP
Pentylphenol	various	PeP
Nonylphenoethoxylates	various	NP(EO)
Octylphenoethoxylates	various	OP(EO)

Other chemical residues / 기타 잔류 화학물질

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Acronym</u>
Aniline	62-53-3	
Benzene	71-43-2	
Bisphenol A (4,4'-Isopropylidenediphenol)	80-05-7	BPA
Diazene-1,2-dicarboxamide	123-77-3	ADCA
Dimethylfumarate	624-49-7	DMFu
Phenol	108-95-2	
o-Phenylphenol	90-43-7	OPP
Quinoline (Chinoline / Benzo[b]pyridine)	91-22-5	
Tris(2-chloroethyl)phosphate	115-96-8	TCEP

UV stabilizers / UV 안정제

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Acronym</u>
2-Benzotriazol-2-yl-4,6-di-tert-butylphenol	3846-71-7	UV 320
2,4-Di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol	3864-99-1	UV 327
2-(2H-Benzotriazol-2-yl)-4,6-di-tert-pentylphenol	25973-55-1	UV 328
2-(2H-Benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol	36437-37-3	UV 350

Chlorinated paraffins / 염화파라핀

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Acronym</u>
Short chain chlorinated paraffins (C10 - C13)	85535-84-8	SCCP
Medium chain chlorinated paraffins (C14 - C17)	85535-85-9	MCCP

Siloxanes / 실록산

<u>Name / 이름</u>	<u>CAS-Nr.</u>	<u>Acronym</u>
Octamethylcyclotetrasiloxane	556-67-2	D4
Decamethylcyclopentasiloxane	541-02-6	D5
Dodecamethylcyclohexasiloxane	540-97-6	D6

Annex 5 / 부록 5

Compilation of the individual substances for Annex 4, part 6 / 부록 4에 따른 개별물질 목록, 파트 6

N-Nitrosamines; N-nitrosatable substances / N-나이트로사민;N-나이트로사이트된 물질

Name / 이름	CAS-Nr.	Acronym
N-Nitrosodibenzylamine	5336-53-8	NDBzA
N-Nitrosodibutylamine	924-16-3	NDBA
N-Nitrosodiethanolamine	1116-54-7	NDELA
N-Nitrosodiethylamine	55-18-5	NDEA
N-Nitrosodiisobutylamine	997-95-5	NDiBA
N-Nitrosodiisononylamine	1207995-62-7	NDiNA
N-Nitrosodiisopropylamine	601-77-4	NDiPA
N-Nitrosodimethylamine	62-75-9	NDMA
N-Nitrosodipropylamine	621-64-7	NDPA
N-Nitrosomorpholine	59-89-2	NMOR
N-Nitroso-N-ethyl-N-phenylamine	612-64-6	NEPhA
N-Nitroso-N-methyl-N-phenylamine	614-00-6	NMPhA
N-Nitroso-piperidine	100-75-4	NPiP
N-Nitroso-pyrrolidine	930-55-2	NPYR

PFCs, Per- and polyfluorinated compounds / PFCs, 과불화탄소

Name / 이름	CAS-Nr.	Acronym
Perfluorooctane sulfonic acid and sulfonates	1763-23-1, et. al.	PFOS
Perfluorooctane sulfonamide	754-91-6	PFOSA
Perfluorooctane sulfonfluoride	307-35-7	PFOSF / POSF
N-Methyl perfluorooctane sulfonamide	31506-32-8	N-Me-FOSA
N-Ethyl perfluorooctane sulfonamide	4151-50-2	N-Et-FOSA
N-Methyl perfluorooctane sulfonamide ethanol	24448-09-7	N-Me-FOSE
N-Ethyl perfluorooctane sulfonamide ethanol	1691-99-2	N-Et-FOSE
Perfluoroheptanoic acid and salts	375-85-9, et. al.	PFHpA
Perfluorooctanoic acid and salts	335-67-1, et. al.	PFOA
Perfluorononanoic acid and salts	375-95-1, et. al.	PFNA
Perfluorodecanoic acid and salts	335-76-2, et. al.	PFDA
Henicosafuoroundecanoic acid and salts	2058-94-8, et. al.	PFUdA
Tricosafuorododecanoic acid and salts	307-55-1, et. al.	PFDoA
Pentacosafuorotridecanoic acid and salts	72629-94-8, et. al.	PFTrDA
Heptacosafuorotetradecanoic acid and salts	376-06-7, et. al.	PFTeDA

Others / 기타

Further Perfluorinated carboxylic acids / 추가 과불화 카르복시산

Perfluorobutanoic acid and salts	375-22-4, et. al.	PFBA
Perfluoropentanoic acid and salts	2706-90-3, et. al.	PFPeA
Perfluorohexanoic acid and salts	307-24-4, et. al.	PFHxA
Perfluoro(3,7-dimethyloctanoic acid) and salts	172155-07-6, et. al.	PF-3,7-DMOA

Perfluorinated sulfonic acids / 불소계 술폰산

Perfluorobutane sulfonic acid and salts	375-73-5, 59933-66-3, et. al.	PFBS
Perfluorohexane sulfonic acid and salts	355-46-4, et. al.	PFHxS
Perfluoroheptane sulfonic acid and salts	375-92-8, et. al.	PFHpS
Henicosafuorodecane sulfonic acid and salts	335-77-3, et. al.	PFDS

Partially fluorinated carboxylic / sulfonic acids / 부분 과불화 카르복시 / 술폰산

7H-Perfluoro heptanoic acid and salts	1546-95-8, et. al.	7HPFHpA
2H,2H,3H,3H-Perfluoroundecanoic acid and salts	34598-33-9, et. al.	4HPFUnA
1H,1H,2H,2H-Perfluorooctane sulfonic acid and salts	27619-97-2, et. al.	1H,1H,2H,2H-PFOS

Partially fluorinated linear alcohols / 부분 과불화 사슬형 알코올

1H,1H,2H,2H-Perfluoro-1-hexanol	2043-47-2	4:2 FTOH
1H,1H,2H,2H-Perfluoro-1-octanol	647-42-7	6:2 FTOH
1H,1H,2H,2H-Perfluoro-1-decanol	678-39-7	8:2 FTOH
1H,1H,2H,2H-Perfluoro-1-dodecanol	865-86-1	10:2 FTOH

Esters of fluorinated alcohols with acrylic acid / 불소화 알코올 및 아크릴산의 에스테르

1H,1H,2H,2H-Perfluorooctyl acrylate	17527-29-6	6:2 FTA
1H,1H,2H,2H-Perfluorodecyl acrylate	27905-45-9	8:2 FTA
1H,1H,2H,2H-Perfluorododecyl acrylate	17741-60-5	10:2 FTA