

XAC 有毒有害物質含量標準

有毒物質項目 Substance item	所在物質 Substance in place	含量允許程度 Allow	需提供檢測證明文件	
01. 鉛與其鉛化合物(Pb) Lead and compounds	All material	<1000ppm(0.1%)	✓	
	Battery	<40ppm(0.004%)		
	Surface of plating and painting on component	Any detectable level must be reported		
	Alloy	steel		<3,500ppm(0.35%)
		Aluminum alloy		<4,000ppm(0.4%)
	Copper alloy	<40,000ppm(4%)		
02. 鎘與其鎘化合物(Cd) Cadmium and compounds	All material	<100ppm(0.01%)	✓	
	Battery	<20ppm(0.002%)		
	Surface of plating and painting on component	Any detectable level must be reported		
03. 汞與其汞化合物(Hg) Mercury and compounds	All material	<1,000ppm(0.1%)	✓	
	Battery	<5ppm(0.0005%)		
		Any detectable level must be reported, except unavoidable impurities at levels below 10ppm		
04. 六價鉻與其化合物(Cr+6) Chromium(Hexavalent)and compounds	All material	<1,000ppm(0.1%)	✓	
	Surface of plating and painting on component	Any detectable level must be reported		
05. 多溴聯苯(PBBs) Polybrominated biphenyls	Organic material	<1,000ppm(0.1%)	✓	
06. 多溴二苯醚(PBDEs) Polybrominated biphenyl ethers	Organic material	<1,000ppm(0.1%)	✓	
07. 邻苯二甲酸二(2-乙基己基)酯 Bis (2-ethylhexyl)phthalate (DEHP)	Organic material	<1,000ppm(0.1%)	✓	
08. 邻苯二甲酸丁基苄基酯 Benzyl butyl phthalate (BBP)	Organic material	<1,000ppm(0.1%)	✓	
09. 邻苯二甲酸二丁酯 Dibutyl phthalate (DBP)	Organic material	<1,000ppm(0.1%)	✓	
10. 邻苯二甲酸二异丁酮(DIBP) Diisobutyl phthalate	Organic material	<1,000ppm(0.1%)	✓	
11. 汞、鉛、鎘、六價鉻之總和含量 Total contain amount of above substance	Packing material	<100ppm(0.01%)	✓	
1. 需提供檢測證明文件之注意事項: a. 有毒有害物質含量必須為第三公證單位之檢測報告。(經 ISO/IEC 17025認證的檢測實驗室) b. 各有毒有害物質之檢測方法必須採"均質物質"的定量分析且需符合 IEC 62321, Ed.1 111-54-CDV 或其更新版之要求。 2. 上列標準係參考【2011/65/EU 電子電氣設備中禁止使用某些有害物質的指令】及其新增條款、【2008/12/EC號「電池、蓄電池、廢電池及廢蓄電池」指令】、【2004/12/EC 歐盟包裝及包裝廢棄物指令】、【EC No.1907/2006 歐盟新化學品法規REACH】、【Tishiba Engineering Specification 3ADENVM0001】、【NEC Standards Pertaining to Procurement Restrictions for the Inclusion of Chemical Substances in Products (for Suppliers) KANKANTU-04-006】。 3. ITEM 2 參考標準若有變更或新增,【XAC 有毒有害物質含量標準】將隨之變更。 4. REACH部份供應商需對此做宣告即可。				

REACH SVHC 223 Substance List

No.	物质名	物质名	CAS NO.	限制值	纳入日期
1	6,6'-二叔丁基-2,2'-亚甲基二对甲酚	6,6'-di-tert-butyl-2,2'-methylene-di-p-cresol	119-47-1	1000	2022/1/19
2	三(2-甲氧基乙氧基)乙烯基硅烷	tris(2-methoxyethoxy)vinylsilane	1067-53-4	1000	2022/1/19
3	(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one 包涵任意异构体和/或其组合	(±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC)	-	1000	2022/1/19
4	S-(三环(5.2.1.0 _{2,6})deca-3-en-8(或9)-基0-(异丙基或异丁基或2-乙基己基)0-(异丙基或异丁基或2-乙基己基)二硫代磷酸酯	S-(tricyclo(5.2.1.0 _{2,6})deca-3-en-8(或9)-yl 0-(isopropyl or isobutyl or 2-ethylhexyl) 0-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate	255881-94-8	1000	2022/1/19
5	1,4-二恶烷	1,4-dioxane	123-91-1	1000	2021/10/14
6	2,2-双(溴甲基)丙烷 1,3-二醇 (BMP); 2,2-二甲基丙烷-1-醇, 三溴衍生物 / 3-溴-2,2-双(溴甲基)-1-丙醇 (TBNPA); 2,3-二溴-1-丙醇 (2,3-DBPA)	2,2-bis(bromomethyl) propane 1,3-diol (BMP); 2,2-dimethylpropane-1-ol, tribromoderivative / 3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA); 2,3-dibromo-1-propanol (2,3-DBPA)	3296-90-0 1522-92-5 36483-57-5 96-13-9	1000	2021/10/14
7	2-(4-叔丁基苄基)丙醛及其单独的立体异构体	2-(4-tert-butylbenzyl) propionaldehyde and its separate stereoisomers	-	1000	2021/10/14
8	4,4'-(1-甲基亚丙基)双酚	4,4'-(1-methyl-propyl) bisphenol	77-40-7	1000	2021/10/14
9	戊二醛	glutaraldehyde	111-30-8	1000	2021/10/14
10	中链氯化石蜡(MCCP) [由于大于或等于80%的碳链长度在C14至C17范围内的直链氯化烷烃组成的UVCB物质]	Medium-chain chlorinated paraffins (MCCP) [UVCB substance consisting of 80% or more of straight-chain chlorinated alkanes with carbon chain lengths in the C14 to C17 range]	-	1000	2021/10/14
11	原硼酸, 钠盐	Proboric acid, sodium salt	13840-56-7	1000	2021/10/14
12	来自低聚反应的具有C12富集的支链或直链烷基链的苯酚烷基化产物(主要在对位), 涵盖任何单独的异构体和/或其组合(PDDP)	Alkylation products of phenol with branched or straight alkyl chains enriched in C12 from oligomers (mainly in para), covering any monoisomer and/or combination thereof (PDDP)	-	1000	2021/10/14
13	四乙二醚二甲醚	Bis(2-(2-methoxyethoxy)ethyl)ether	143-24-8	1000	2021/1/19
14	二月桂酸二辛基锡, 锡烷, 二辛基-, 双椰油酯氧基衍生物, 及其它锡烷, 二辛基-, 双脂肪酯氧基衍生物(其中C12为脂肪酯氧基部分的主要碳原子数)	Dioctyltin dilaurate, stannane, dioctyl-, bis(cocoacyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. wherein C12 is the predominant carbon number of the fatty acyloxy moiety	3648-18-8 91648-39-4	1000	2021/1/19
15	双(乙酰丙酮基)二丁基锡	Dibutylbis(pentane-2,4-dionato-0,0')tin	22673-19-4	1000	2020/6/25
16	对羟基苯甲酸丁酯	butyl 4-hydroxybenzoate	94-26-8	1000	2020/6/25
17	2-甲基咪唑	2-methylimidazole	693-98-1	1000	2020/6/25
18	1-乙烯基咪唑	1-vinylimidazole	1072-63-5	1000	2020/6/25
19	全氟丁磺酸及其相关盐类	Perfluorobutane sulfonic acid (PFBS) and its salts	-	1000	2020/1/16
20	二异己基邻苯二甲酸酯	Diisohexyl phthalate	71850-09-4	1000	2020/1/16
21	2-甲基-1-(4-甲基硫基苯基)-2-吗啡基-1-丙酮	2-methyl-1-(4-methylthiophenyl)-2-morpholinopropan-1-one	71868-10-5	1000	2020/1/16
22	2-苄基-2-二甲氨基-1-(4-吗啡基)丁酮	2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone	119313-12-1	1000	2020/1/16
23	2,2,3,3-四氟-2-(七氟丙氧基)丙酸及其盐和酰基卤化物(包括单体和组合)	2,2,3,3-tetrafluoro-2-(heptafluoropropoxy)propionic acid, its salts and its acyl halides covering any of their individual isomers and combinations thereof	-	1000	2019/7/16
24	2-甲氧基乙基乙酸酯		110-49-6	1000	2019/7/16
25	4-叔丁基苯酚	4-tert-butylphenol	98-54-4	1000	2019/7/16
26	三(4-壬基苯基, 支链和直链)亚磷酸酯(TNPP)(含≥0.1%的支链和直链4-壬基苯酚)	Tris(4-nonylphenyl, branched and linear) phosphite (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP)	-	1000	2019/7/16
27	1,7,7-三甲基-3-(苯亚甲基)双环[2.2.1]庚-2-酮	1,7,7-trimethyl-3-(phenylmethylene)bicyclo[2.2.1]heptan-2-one	15087-24-8	1000	2019/1/15
28	2,2-二(4-羟基苯基)-4-甲基戊烷	2,2-bis(4'-hydroxyphenyl)-4-methylpentane	6807-17-6	1000	2019/1/15
29	苯并[k]荧蒽	Benzo[k]fluoranthene	207-08-9	1000	2019/1/15
30	荧蒽	Fluoranthene	206-44-0; 93951-69-0	1000	2019/1/15
31	菲	Phenanthrene	85-01-8	1000	2019/1/15
32	芘	Pyrene	129-00-0; 1718-52-1	1000	2019/1/15
33	1,2,4-苯三酸酐(偏苯三酸酐)(TMA)	Benzene-1,2,4-tricarboxylic acid 1,2 anhydride trimellitic anhydride; TMA	552-30-7	1000	2018/6/27
34	苯并(g,h,i)茈(二萘嵌苯)(BPE)	Benzo[ghi]perylene	191-24-2	1000	2018/6/27
35	十甲基环五硅氧烷(D5)	Decamethylcyclopentasiloxane D5	541-02-6	1000	2018/6/27
36	邻苯二甲酸二环己酯(DCHP)	Dicyclohexyl phthalate DCHP	84-61-7	1000	2018/6/27
37	氧化硼钠	Disodium octaborate	12008-41-2	1000	2018/6/27
38	十二甲基环六硅氧烷(D6)	Dodecamethylcyclohexasiloxane D6	540-97-6	1000	2018/6/27
39	乙二胺	Ethylenediamine EDA	107-15-3	1000	2018/6/27
40	铅	Lead	7439-92-1	1000	2018/6/27
41	八甲基环四硅氧烷(D4)	Octamethylcyclotetrasiloxane D4	556-67-2	1000	2018/6/27
42	氢化三联苯	Terphenyl hydrogenated	61788-32-7	1000	2018/6/27
43	苯并[a]蒽	Benz[a]anthracene	56-55-3, 1718-53-2	1000	2018/1/15
44	碳酸镉	Cadmium carbonate	513-78-0	1000	2018/1/15
45	氢氧化镉	Cadmium hydroxide	21041-95-2	1000	2018/1/15

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46	硝酸镉	Cadmium nitrate	10022-68-1, 10325-94-7	1000	2018/1/15
47	屈	Chrysene	218-01-9, 1719-03-5	1000	2018/1/15
48	德克隆(包含任何顺式与反式同分异构物或其他组成)	Dodecachloropentacyclo[12.2.1.1.6,9.02,13.05,10]octadeca-7,15-diene (“Dechlorane Plus”™) covering any of its individual anti- and syn-isomers or any combination thereof	13560-89-9, 135821-74-8, 135821-03-3	1000	2018/1/15
49	1,3,4-噻二唑-2,5-二硫酮、甲醛与支链和直链4-庚基苯酚的反应产物(含有支链和直链4-庚基苯酚重量比大于或等于0.1%)	Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) with ≥0.1% w/w 4-heptylphenol, branched and linear (4-HPb1)	-	1000	2018/1/15
50	全氟己基磺酸及其盐(PFHxS)	Perfluorohexane-1-sulphonic acid and its salts PFHxS	-	1000	2017/7/7
51	双酚A	4,4'-isopropylidenediphenol	80-05-7	1000	2017/1/12
52	4-庚基苯酚, 支链及直链 包括含有7个碳烷基链的所有独立的同分异构体和所有含有线性或分支7个碳烷基链的UVCB物质	4-Heptylphenol, branched and linear substances with a linear and/or branched alkyl chain with a carbon number of 7 covalently bound predominantly in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof	-	1000	2017/1/12
53	十九氟癸酸(PFDA)及其钠盐和铵盐	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts Nonadecafluorodecanoic acid EC no.: 206-400-3 CAS no.: 335-76-2 Ammonium nonadecafluorodecanoate EC no.: 221-470-5 CAS no.: 3108-42-7 Decanoic acid, nonadecafluoro-, sodium salt EC no.: - CAS no.: 3830-45-3	3108-42-7 335-76-2 3830-45-3	1000	2017/1/12
54	对叔戊基苯酚(PTAP)	p-(1,1-dimethylpropyl)phenol	80-46-6	1000	2017/1/12
55	苯并芘	Benzo[def]chrysene	50-32-8	1000	2016//06/20
56	1,3-丙基磺酸内酯	1,3-propanesultone	1120-71-4	1000	2015/12/17
57	2,4-二叔丁基-6-(5-氯-2H-苯并三唑-2-基)苯酚 紫外线吸收剂 UV-327	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	3864-99-1	1000	2015/12/17
58	2-(2H-苯并三唑-2-基)-4-特丁基-6-仲丁基苯酚 紫外线吸收剂UV-350	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	36437-37-3	1000	2015/12/17
59	硝基苯	Nitrobenzene	98-95-3	1000	2015/12/17
60	全氟壬酸及其钠盐和铵盐	Perfluorononan-1-oic-acid and its sodium and ammonium salts	375-95-1 21049-39-8 4149-60-4	1000	2015/12/17
61	邻苯二甲酸二(C6-C6)烷基酯:(癸基,己基,辛基)酯与1,2-邻苯二甲酸的复合物且邻苯二甲酸二己酯含量≥0.3%	1,2-benzenedicarboxylic acid, di-C6-10-alkyl esters; 1,2-benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5 68648-93-1	1000	2015/6/15
62	5-仲丁基-2-(2,4-二甲基环己-3-烯-1-基)-5-甲基-1,3-二恶烷[1], 5-仲丁基-2-(4,6-二甲基环己-3-烯-1-基)-5-甲基-1,3-二恶烷[2] [覆盖任何[1]和[2]或者其任意组合的单独的异构体(卡拉花醛及其同分异构物)]	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof]	-	1000	2015/6/15
63	邻苯二甲酸二(2-乙基己基)酯);	Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	1000	2008/10/28
64	紫外线吸收剂 THUV-328	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	1000	2014/12/17
65	紫外线吸收剂 UV-320	2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320)	3846-71-7	1000	2014/12/17
66	硫代甘醇酸异辛酯二正辛基锡	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	1000	2014/12/17
67	氟化镉	Cadmium fluoride	7790-79-6	1000	2014/12/17
68	硫酸镉	Cadmium sulphate	10124-36-4, 31119-53-6	1000	2014/12/17
69	二正辛基-双(巯乙酸2-乙基己酯)锡; 二正辛基-双(巯乙酸2-乙基己酯)锡硫代甘醇酸异辛酯二正辛基锡	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	15571-58-1	1000	2014/12/17
70	邻苯二甲酸二己酯	1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	68515-50-4	1000	2014/6/16
71	过硼酸钠 过硼酸, 钠盐	Sodium perborate; perboric acid, sodium salt	-	1000	2014/6/16
72	过硼酸钠	Sodium peroxometaborate	7632/4/4	1000	2014/6/16
73	氯化镉	Cadmium chloride	10108-64-2	1000	2014/6/16
74	硫化镉	Cadmium sulphide	1306-23-6	1000	2013/12/16
75	邻苯二甲酸二正己酯	Diethyl phthalate	84-75-3	1000	2013/12/16
76	C. I. 直接红28	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphthalene-1-sulphonate) (C. I. Direct Red 28)	573-58-0	1000	2013/12/16
77	C. I. 直接黑38	Disodium 4-amino-3-[[4'-[(2,4-diaminophenyl)azo][1,1'-biphenyl]-4-yl]azo]-5-hydroxy-6-(phenylazo)naphthalene-2,7-disulphonate (C. I. Direct Black 38)	1937-37-7	1000	2013/12/16
78	2-巯基咪唑啉	Imidazolidine-2-thione (2-imidazoline-2-thiol)	96-45-7	1000	2013/12/16

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79	乙酸铅	Lead di(acetate)	301-04-2	1000	2013/12/16
80	磷酸三二甲苯酯	Trixylyl phosphate	25155-23-1	1000	2013/12/16
81	氧化镉	Cadmium oxide	1306-19-0	1000	2013/6/20
82	全氟辛酸铵	Ammonium pentadecafluorooctanoate (APFO)	3825-26-1	1000	2013/6/20
83	邻苯二甲酸二戊酯	Dipentyl phthalate (DPP)	131-18-0	1000	2013/6/20
84	全氟辛酸	Pentadecafluorooctanoic acid (PFOA)	335-67-1	1000	2013/6/20
85	镉	Cadmium	7440-43-9	1000	2013/6/20
86	邻苯二甲酸二正戊酯	4-Nonylphenol, branched and linear, ethoxylated <i>[substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]</i>	-	1000	2013/6/20
87	全氟十三酸	Pentacosfluorotridecanoic acid	72629-94-8	1000	2012/12/19
88	全氟十二烷酸	Tricosfluorododecanoic acid	307-55-1	1000	2012/12/19
89	全氟十一烷酸	Henicosfluoroundecanoic acid	2058-94-8	1000	2012/12/19
90	全氟代十四酸	Heptacosfluorotetradecanoic acid	376-06-7	1000	2012/12/19
91	辛基酚聚醚-9	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated - <i>covering well-defined substances and UVCB substances, polymers and homologues</i>	-	1000	2012/12/19
92	六氢邻苯二甲酸酐	Cyclohexane-1,2-dicarboxylic anhydride (Hexahydrophthalic anhydride - HHPA)	85-42-7	1000	2012/12/19
93	甲氧基乙酸	Methoxy acetic acid	625-45-6	1000	2012/12/19
94	支链和直链1, 2-苯二羧二戊酯	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0	1000	2012/12/19
95	邻苯二甲酸二异戊酯	Diisopentylphthalate (DIPP)	605-50-5	1000	2012/12/19
96	乙二醇二乙醚	1,2-Diethoxyethane	629-14-1	1000	2012/12/19
97	二丁基锡	Dibutyltin dichloride (DBT)	683-18-1	1000	2012/12/19
98	碱式乙酸铅	Acetic acid, lead salt, basic	51404-69-4	1000	2012/12/19
99	碱式碳酸铅	Basic lead carbonate (trilead bis(carbonate)dihydroxide)	1319-46-6	1000	2012/12/19
100	碱式硫酸铅	Lead oxide sulfate (basic lead sulfate)	12036-76-9	1000	2012/12/19
101	二盐基邻苯二甲酸铅	[Phthalato(2-)]dioxotrilead (dibasic lead phthalate)	69011-06-9	1000	2012/12/19
102	C16-18-脂肪酸铅盐	Fatty acids, C16-18, lead salts	91031-62-8	1000	2012/12/19
103	硝酸铅	Lead dinitrate	10099-74-8	1000	2012/12/19
104	氧化铅	Lead oxide (lead monoxide)	1317-36-8	1000	2012/12/19
105	四氧化三铅	Lead tetroxide (orange lead)	1314-41-6	1000	2012/12/19
106	钛酸铅	Lead titanium trioxide	12060-00-3	1000	2012/12/19
107	钛酸铅锆	Lead Titanium Zirconium Oxide	12626-81-2	1000	2012/12/19
108	颜料黄	Pyrochlore, antimony lead yellow	8012-00-8	1000	2012/12/19
109	亚硫酸铅(II)	Sulfurous acid, lead salt, dibasic	62229-08-7	1000	2012/12/19
110	四乙基铅	Tetraethyllead	78-00-2	1000	2012/12/19
111	环氧丙烷	Propylene oxide; 1,2-epoxypropane; methyloxirane	75-56-9	1000	2012/12/19
112	硫酸二甲酯	Dimethyl sulphate	77-78-1	1000	2012/12/19
113	1-3-乙基-2-甲基-2-(3-甲基丁基)恶唑烷	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	143860-04-2	1000	2012/12/19
114	对氨基偶氮苯	4-Aminoazobenzene; 4-Phenylazoaniline	1960-9-3	1000	2012/12/19
115	1,2,4-二氨基甲苯	4-methyl-m-phenylenediamine (2,4-toluene-diamine)	95-80-7	1000	2012/12/19
116	4-氨基联苯	Biphenyl-4-ylamine	92-67-1	1000	2012/12/19
117	N-甲基乙酰胺	N-methylacetamide	79-16-3	1000	2012/12/19
118	乙氧基化的支链和直链的4-壬基酚(直链和/或支链的具有9个碳原子的烷基链共价键合在4位的乙氧基酚, 囊括了UVCB和定义明确的物质, 聚合物及同系物, 其中包括任何单独的异构体和/或它们的组合)	4-Nonylphenol, branched and linear, ethoxylated [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, ethoxylated covering UVCB- and well-defined substances, polymers and homologues, which include any of the individual isomers and/or combinations thereof]	-	1000	2012/12/19
119	十溴联苯醚	Bis(pentabromophenyl) ether (DecaBDE)	1163-19-5	1000	2012/12/19
120	偶氮二甲酰胺	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	123-77-3	1000	2012/12/19
121	甲基六氢苯酐、4-甲基六氢苯酐、甲基六氢化邻苯二甲酸酐、3-甲基六氢苯二甲酐酐	Hexahydromethylphthalic anhydride, Hexahydro-4-methylphthalic anhydride, Hexahydro-1-methylphthalic anhydride, Hexahydro-3-methylphthalic anhydride	25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9	1000	2012/12/19
122	邻苯二甲酸正戊基异戊基酯	N-pentyl-isopentylphthalate	776297-69-9	1000	2012/12/19
123	N,N-二甲基甲酰胺	N,N-dimethylformamide; dimethyl formamide	1968-12-2	1000	2012/12/19
124	双(十八烷基)二氧代三铅	Dioxobis(stearato)trilead	12578-12-0	1000	2012/12/19
125	氟硼酸铅	Lead bis(tetrafluoroborate)	13814-96-5	1000	2012/12/19
126	氨基氰铅盐	Lead cyanamide	20837-86-9	1000	2012/12/19
127	氧化铅与硫酸铅的复合物	Pentalead tetraoxide sulphate	12065-90-6	1000	2012/12/19
128	铅掺杂的硅钡酸盐	Silicic acid, barium salt, lead-doped	68784-75-8	1000	2012/12/19
129	硅酸铅	Silicic acid, lead salt	11120-22-2	1000	2012/12/19
130	三碱式硫酸铅	Tetralead trioxide sulphate	12202-17-4	1000	2012/12/19
131	呋喃	Furan	110-00-9	1000	2012/12/19
132	硫酸二乙酯	Diethyl sulphate	64-67-5	1000	2012/12/19
133	地乐酚	Dinoseb	88-85-7	1000	2012/12/19
134	12,4,4'-二氨基-3,3'-二甲基二苯甲烷	4,4'-methylenedi-o-toluidine	838-88-0	1000	2012/12/19
135	4,4'-二氨基二苯醚	4,4'-oxydianiline and its salts	101-80-4	1000	2012/12/19
136	2-甲氧基-5-甲基苯胺	6-methoxy-m-toluidine (p-cresidine)	120-71-8	1000	2012/12/19
137	邻氨基偶氮甲苯	o-aminoazotoluene	97-56-3	1000	2012/12/19
138	邻甲基苯胺	o-Toluidine; 2-Aminotoluene	95-53-4	1000	2012/12/19
139	溴代正丙烷	1-bromopropane; n-propyl bromide	106-94-5	1000	2012/12/19
140	磷酸氧化铅	Trilead dioxide phosphonate	12141-20-7	1000	2012/12/19
141	1,2-二(2-甲氧基乙氧基)乙烷	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	112-49-2	1000	2012/6/18

No.	物质名	物质名	CAS NO.	限制值	纳入日期
142	4, 4'- (对二甲氨基) 二苯基甲烷 (米氏碱)	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	101-61-1	1000	2012/6/18
143	4,4'-二 (N, N'-二甲氨基) 二苯甲酮 (米氏酮)	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	90-94-8	1000	2012/6/18
144	a, a'-二 ((二甲氨基) 苯基)-4-氨基甲醇	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	561-41-1	1000	2012/6/18
145	C. I. 溶剂蓝4	α, α-Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C. I. Solvent Blue 4) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	6786-83-0	1000	2012/6/18
146	C. I. 碱性紫3	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C. I. Basic Violet 3) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	548-62-9	1000	2012/6/18
147	C. I. 碱性蓝26	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C. I. Basic Blue 26) [with ≥ 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)]	2580-56-5	1000	2012/6/18
148	乙二醇二甲醚	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	110-71-4	1000	2012/6/18
149	三氧化二硼	Diboron trioxide	1303-86-2	1000	2012/6/18
150	甲基磺酸铅	Lead(II) bis(methanesulfonate)	17570-76-2	1000	2012/6/18
151	甲酰胺	Formamide	1975-12-7	1000	2012/6/18
152	异氰尿酸三缩水甘油酯	1,3,5-Tris(oxiran-2-ylmethyl)-1,3,5-triazinane-2,4,6-trione (TGIC)	2451-62-9	1000	2012/6/18
153	异氰脲酸B-三缩水甘油酯	1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (B-TGIC)	59653-74-6	1000	2012/6/18
154	1,1'-氧二 (2-氯乙烷)	Bis(2-methoxyethyl) ether	111-96-6	1000	2011/12/19
155	1, 2-二氯乙烷	1,2-dichloroethane	107-06-2	1000	2011/12/19
156	2 - 甲氧基苯胺; 邻甲氧基苯胺	2-Methoxyaniline; o-Anisidine	90-04-0	1000	2011/12/19
157	3,3'-二氯-4,4'-二氨基二苯基甲烷 (MOCA)	2,2'-dichloro-4,4'-methylenedianiline	101-14-4	1000	2011/12/19
158	4-(1,1,3,3-四甲基丁基) 苯酚	4-(1,1,3,3-tetramethylbutyl)phenol	140-66-9	1000	2011/12/19
159	N,N-二甲基乙酰胺	N,N-dimethylacetamide	127-19-5	1000	2011/12/19
160	三硝基间苯二酚	Lead styphnate	15245-44-0	1000	2011/12/19
161	三镍铬合金 (铬酸盐)	Dichromium tris(chromate)	24613-89-6	1000	2011/12/19
162	甲醛、苯胺和低聚体的反应生成物	Formaldehyde, oligomeric reaction products with aniline	25214-70-4	1000	2011/12/19
163	苦味酸铅	Lead dipicrate	6477-64-1	1000	2011/12/19
164	砷酸	Arsenic acid	7778-39-4	1000	2011/12/19
165	砷酸钙	Calcium arsenate	7778-44-1	1000	2011/12/19
166	砷酸铅	Trilead diarsenate	3687-31-8	1000	2011/12/19
167	酚酞	Phenolphthalein	1977-9-8	1000	2011/12/19
168	叠氮化铅	Lead diazide, Lead azide	13424-46-9	1000	2011/12/19
169	氢氧化铬酸铈	Pentazinc chromate octahydroxide	49663-84-5	1000	2011/12/19
170	羟基酸 铈酸 重铬酸钾	Potassium hydroxyoctaoxidizincatedichromate	11103-86-9	1000	2011/12/19
171	邻苯二甲酸二甲氧乙酯	Bis(2-methoxyethyl) phthalate	117-82-8	1000	2011/12/19
172	氧化锆硅酸铝耐火陶瓷纤维	Zirconia Aluminosilicate Refractory Ceramic Fibres	-	1000	2011/12/19
173	硅酸铝耐火陶瓷纤维	Aluminosilicate Refractory Ceramic Fibres	-	1000	2011/12/19
174	1,2,3-三氯丙烷; 三甲苯磷酸酯	1,2,3-Trichloropropane	96-18-4	1000	2011/6/20
175	N-甲基吡咯烷酮	1-Methyl-2-pyrrolidone	872-50-4	1000	2011/6/20
176	乙酸乙二醇乙醚; 2-乙氧基乙基乙酸酯; 乙酸乙基溶纤剂	2-Ethoxyethyl acetate	111-15-9	1000	2011/6/20
177	肼; 无水联胺	Hydrazine	7803-57-8 302-01-2	1000	2011/6/20
178	邻苯二甲酸二 (C7-11支链与直链) 烷基酯	1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters	68515-42-4	1000	2011/6/20
179	邻苯二甲酸二C6-8支链烷基酯 (富C7)	1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich	71888-89-6	1000	2011/6/20
180	铬酸铯	Strontium chromate	7789-06-2	1000	2011/6/20
181	氯化钴 (I I)	Cobalt dichloride	7646-79-9	1000	2011/06/20 - 2008/10/28
182	2-乙氧基乙醇	2-Ethoxyethanol	110-80-5	1000	2010/12/15
183	2-甲氧基乙醇	2-Methoxyethanol	109-86-4	1000	2010/12/15
184	三氧化二铬及其低聚物产生的酸	Acids generated from chromium trioxide and their oligomers. Names of the acids and their oligomers: Chromic acid, Dichromic acid, Oligomers of chromic acid and dichromic acid.	7738-94-5 13530-68-2	1000	2010/12/15
185	三氧化铬 (VI)	Chromium trioxide	1333-82-0	1000	2010/12/15
186	硝酸钴 (II)	Cobalt(II) dinitrate	10141-05-6	1000	2010/12/15
187	硫酸钴 (II)	Cobalt(II) sulphate	10124-43-3	1000	2010/12/15
188	碳酸钴 (II)	Cobalt(II) carbonate	513-79-1	1000	2010/12/15
189	醋酸钴 (II)	Cobalt(II) diacetate	71-48-7	1000	2010/12/15
190	七氧化二钠四硼, 水合物	Tetraboron disodium heptaoxide, hydrate	12267-73-1	1000	2010/6/18
191	重铬酸钾; 红矾钾; 二铬酸钾	Potassium dichromate	7778-50-9	1000	2010/6/18
192	重铬酸铵; 红矾铵; 阿莫尼红矾	Ammonium dichromate	7789-09-5	1000	2010/6/18
193	硼酸	Boric acid	10043-35-3 11113-50-1	1000	2010/6/18
194	无水四硼酸钠	Disodium tetraborate, anhydrous	1303-96-4 1330-43-4 12179-04-3	1000	2010/6/18
195	铬酸钠	Sodium chromate	7775-11-3	1000	2010/6/18

No.	物质名	物质名	CAS NO.	限制值	纳入日期
196	铬酸钾	Potassium chromate	7789-00-6	1000	2010/6/18
197	三氯乙烯	Trichloroethylene	1979/1/6	1000	2010/6/18
198	三氯乙烯; 乙炔化三氯	Acrylamide	1979/6/1	1000	2010/3/30
199	2,4-二硝基甲苯	2,4-Dinitrotoluene	121-14-2	1000	2010/1/13
200	硫酸钼酸铬酸铅	Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8	1000	2010/1/13
201	煤焦油沥青	Pitch, coal tar, high temp.	65996-93-2	1000	2010/1/13
202	磷酸三(2-氯乙基)酯	Tris(2-chloroethyl)phosphate	115-96-8	1000	2010/1/13
203	蒽油	Anthracene oil	90640-80-5	1000	2010/1/13
204	蒽油, 低蒽; 蒽油馏分	Anthracene oil, anthracene-low	90640-82-7	1000	2010/1/13
205	蒽油, 蒽糊, 蒸馏轻油; 蒽油馏分	Anthracene oil, anthracene paste, distn. lights	91995-17-4	1000	2010/1/13
206	蒽油, 蒽糊, 蒽馏分; 蒽油馏分	Anthracene oil, anthracene paste, anthracene fraction	91995-15-2	1000	2010/1/13
207	蒽油, 蒽糊; 蒽油馏分	Anthracene oil, anthracene paste	90640-81-6	1000	2010/1/13
208	邻苯二甲酸二异丁酯(DIBP)	Diisobutyl phthalate	84-69-5	1000	2010/1/13
209	铬酸铅	Lead sulphochromate yellow (C.I. Pigment Yellow 34)	1344-37-2	1000	2010/1/13
210	铬酸铅(II)	Lead chromate	7758-97-6	1000	2010/1/13
211	4,4'-二氨基二苯甲烷;	4,4'-Diaminodiphenylmethane (MDA)	101-77-9	1000	2008/10/28
212	二甲苯麝香	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	81-15-2	1000	2008/10/28
213	三乙砷酸酯	Triethyl arsenate	15606-95-8	1000	2008/10/28
214	三丁基氧化锡;	Bis(tributyltin)oxide (TBTO)	56-35-9	1000	2008/10/28
215	三氧化二砷	Diarsenic trioxide	1327-53-3	1000	2008/10/28
216	五氧化二砷	Diarsenic pentaoxide	1303-28-2	1000	2008/10/28
217	六溴环十二烷(混合异构体)	Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified: Alpha-hexabromocyclododecane Beta-hexabromocyclododecane Gamma-hexabromocyclododecane	25637-99-4 3194-55-6 134237-50-6 134237-51-7 134237-52-8	1000	2008/10/28
218	重铬酸钠无水物, 重铬酸钠二水合物	Sodium dichromate	10588-01-9 7789-12-0	1000	2008/10/28
219	短链氯化石蜡(C=10~13);	Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins)	85535-84-8	1000	2008/10/28
220	酸式砷酸	Lead hydrogen arsenate	7784-40-9	1000	2008/10/28
221	蒽; 多环芳烃; 绿油脑	Anthracene	120-12-7	1000	2008/10/28
222	邻苯二甲酸丁基苯基酯;	Benzyl butyl phthalate (BBP)	85-68-7	1000	2008/10/28
223	邻苯二甲酸二丁酯;	Dibutyl phthalate (DBP)	84-74-2	1000	2008/10/28

Other requirements

Table 1. Prohibited from Use in Hardware Deliverables, Parts, Products, Chemicals, Mixtures, Substances, and Preparations		
Chemical Substance Category	Details of Restriction	Sample Regulatory References
Acids generated from chromium trioxide and their oligomers. Group containing: Chromic acid (CAS 7738-94- 5); dichromic acid (CAS 13530- 68-2); oligomers of chromic acid and dichromic acid (CAS not yet assigned)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Acrylamide (CAS 79-06-1)	Shall not be used as a Substance or constituent of Mixtures in a concentration equal to or greater than 0.1% by weight for grouting applications.	1
Ammonium dichromate (CAS 7789-09-5)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Arsenic and compounds (Annex U)	Prohibited in wood products and paints. Applications other than for wood or paint are reportable on the PCD; see Table 4 for reporting details for other applications.	1,2
Asbestos (Annex A)	Prohibited.	1,2,3,12, TGCS Requirement
Azo colorants (Annex B)	Azodyes which may release one or more aromatic amines (listed in Annex B (1)) are prohibited in detectable concentrations, e.g., above 30 mg/kg (ppm) in textile and leather articles which may come into direct and prolonged contact with human skin. (Please note Benzidine has further restrictions, see entry in this Table for Benzidine.) Azodyes (listed in Annex B (2)) are prohibited in concentrations above 0.1% by weight in colorants for textile and leather articles (e.g., fabrics for headphones and wrist straps).	1,2

Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene (CAS 68921-45-9)	Prohibited except as an additive in rubber. Tires are excluded from the rubber exemption.	15
Benzidine (CAS 92-87-5), and compounds (Annex QQ)	Prohibited. (Note benzidine is also listed in Annex B. The more restrictive level applies, which is this entry.)	1, 2, 12, 15, 43
Benzyl butyl phthalate (or Butyl benzyl phthalate) (BBP) (CAS 85-68-7) Please note this substance is prohibited elsewhere on this table at a more restrictive level.	Prohibited at or above 0.1% weight by weight of the Deliverable. Prohibited at or above 0.1% by weight (or 1000ppm) in homogeneous materials.	1,44
Biocidal product as defined in EU Regulation 528/2012 concerning the making available on the market and use of biocidal products	Prohibited on or in Deliverables, for example, prohibited for use as a treatment on Deliverables where the biocidal product is expected to remain on the TGCS Deliverable. This restriction shall not apply to treated articles where the sole treatment undertaken was the fumigation or disinfection of premises or containers used for storage or transport and where no residues are expected to remain from such treatment on the TGCS Deliverable.	41
Bis (2-ethylhexyl) phthalate (DEHP) (CAS 117-81-7) Please note this substance is prohibited elsewhere on this table at a more restrictive level.	Prohibited at or above 0.1% weight by weight of the Deliverable. Prohibited at or above 0.1% by weight (or 1000ppm) in homogeneous materials.	1; 44
2-(2-butoxyethoxy)ethanol (DEGBE) (CAS 112-34-5)	Prohibited in spray paints, paints intended to be sprayed or in spray cleaners in concentrations equal to or greater than 3% by weight.	1

Cadmium/Cadmium Compounds (Annex C) *	<p>Cadmium is prohibited in concentrations above 100 ppm or 0.01% by weight when used in a paint, varnish, color pigment, dye, stabilizer, plastic, resins, epoxy resins, or in alloy applications. Shall not be used in brazing fillers in concentrations equal to or greater than 0.01% by weight. All cadmium use in plating or in a surface coating containing cadmium is prohibited.</p> <p>Articles shall not be painted if the concentration of cadmium (expressed as cadmium metal) is equal to or greater than 0.1% by weight of the paint on the painted article.</p> <p>For restrictions in battery applications, see Table 8.</p> <p>Cadmium is prohibited in wood based materials in excess of 2 milligrams per kilogram of dry matter.</p> <p>Prohibited in Substances and Preparations</p>	1, 2, 12, 28
Chromium trioxide (CAS 1333- 82-0)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Decabromo diphenyl ether (CAS 1163-19-5) *	<p>Prohibited in Deliverables, Parts, and Products.</p> <p>Prohibited in Substances and Preparations at levels at and above 0.1% by weight.</p> <p>TGCS prohibits the Intentional Addition of Decabromo diphenyl ether in any Homogeneous Material.</p>	<p>19, 23, 31 22, 33 TGCS Requirement</p>
4,4'-Diaminodiphenylmethane (MDA) (CAS 101-77-9)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Diarsenic pentaoxide (CAS 1303-28-2) (synonym - arsenic pentoxide)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Diarsenic trioxide (CAS 1327- 53-3)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1

Dibutyl phthalate (DBP) (CAS 84-74-2) Please note this substance is prohibited elsewhere on this table at a more restrictive level.	Prohibited at or above 0.1% weight by weight of the Deliverable. Prohibited at or above 0.1% by weight (or 1000ppm) in homogeneous materials	1,44
Dibutyltin (DBT) compounds (Annex KK)	Prohibited in Mixtures and Articles where the concentration in the Mixture or Article, or part thereof, is greater than the equivalent of 0.1% by weight of tin.	1
Diisobutyl phthalate (DIBP) (CAS 84-69-5) Please note this substance is prohibited elsewhere on this table at a more restrictive level.	Prohibited at or above 0.1% weight by weight of the Deliverable. Prohibited at or above 0.1% by weight (or 1000ppm) in homogeneous materials.	1,44
Dimethylfumarate (CAS 624- 49-7)	Prohibited in Articles, Products, Parts, and Deliverable greater than 0.1 mg/kg of the weight of the Article, Product, Part or Deliverable. Prohibited in pouches (e.g., desiccants) and in chemicals, Substances, and Preparations.	1,30
2,4-Dinitrotoluene (CAS 121- 14-2)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Diocetyl (DOT) compounds (e.g., dioctyltin oxide CAS 870-08-6 and dioctyltin dilaurate CAS 3648-18-8)	Prohibited in concentrations greater than the equivalent of 0.1% by weight of tin in: 1. Textile articles intended to come into contact with skin, and 2. Two-component room temperature vulcanization molding kits (RTV-2 molding kits).	1
N,N'-ditolyl-p-phenylenediamine (Annex XX)	Prohibited	
Dioxins (Annex YY)	Prohibited	

Fluorinated ethers and alcohols (Annex OO)	Prohibited	32
Halogenated aromatic substances (Annex D)	Prohibited from use in capacitors and transformers above 500 ppm for monohalogenated or 50 ppm for polyhalogenated aromatic substances in materials of the component. (Please note PCBs have further restrictions, see entry in this Table for PCBs.)	1,2
Halogenated diphenyl methanes (Annex E)	Prohibited from use and in Preparations and products containing it.	1,12
Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (alpha HBCDD, beta HBCDD, gamma HBCDD) (CAS 25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52-8)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Hexachlorobenzene (CAS 118- 74-1)	Prohibited except if incidentally present.	15,40
Hexachlorobutadiene (CAS 87- 68-3)	Prohibited.	10, 15
Hexachloroethane (Annex F)	Prohibited in manufacturing or processing of nonferrous metals.	1,2,12

Hexavalent Chromium/ Hexavalent Chromium Compounds (Annex G) *	Intentional Addition is prohibited by TGCS in paints and plastic resins. Prohibited in leather articles or articles containing leather parts coming into contact with skin in concentrations equal to or greater than 3 mg/kg (0.0003% by weight) of the total dry weight of the leather.	TGCS Requirement 1
Hydrofluorocarbons (Annex JJ)	Prohibited in non-refillable containers, foams, and non-confined, direct evaporation systems containing refrigerants. Prohibited in new products and applications from October 2014.	32
Lead chromate (CAS 7758-97- 6) (Please note hexavalent chromium and lead are prohibited for use in Deliverables; see TGCS RoHS specifications and other entries in this table.) *	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Lead chromate molybdate sulphate red (Color Index Pigment Red 104) (CAS 12656- 85-8)) (Please note hexavalent chromium and lead are prohibited for use in Deliverables; see TGCS RoHS specifications and other entries in this table.) *	Prohibited at or above 0.1% weight by weight of the Deliverable.	1

Lead/ Lead Compounds (Annex H) *	<p>1. Lead carbonates (CAS 598-63-0 and 1319-46-6) and lead sulfates (CAS 7446-14-2 and 15739-80-7) may not be used as substances and constituents of Preparations intended for use as paints.</p> <p>2. Paints and varnishes shall not have lead or lead compounds with a lead content of 0.01% or more by mass.</p> <p>3. Lead is prohibited in wood based materials in excess of 90 milligrams per kilogram of dry matter.</p> <p>4. The lead content of the surface layer of cables and cords for Frequently Handled Cables (e.g., Mouse cables) must be below 300 ppm. See Definitions Section for examples of Frequently Handled Cables. A lab analysis will be required to document the lead content for these types of cables. See Section 2.3.1 for details about the analysis.</p> <p>5. For restrictions in battery applications see Table 8.</p> <p>6. Lead as an ingredient in the manufacturing of paints, enamels, coatings and inks is prohibited when the total lead content of 600 ppm or greater in the non-volatile part of the product or a dry film of the product.</p> <p>7. Prohibited in Chemicals</p> <p>8. Lead is prohibited in paints or similar surface coating material in excess of 0.009 percent (90 ppm) of the weight of the total nonvolatile</p>	1, 12 2 14 39, 42 40 50, 54
Lead sulfochromate yellow (Color Index Pigment Yellow 34) (CAS 1344-37-2, see Annex II for deleted CAS numbers.) (Please note hexavalent chromium and lead are prohibited for use in Deliverables, see TGCS RoHS specifications and other entries in this table.) *	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Mercury/ Mercury Compounds (Annex I)*	<p>Prohibited in Deliverables except as unavoidable impurity at levels below 10ppm. Please note, there may be existing products with cold cathode fluorescent lamps (CCFLs), released prior to October 2014. No new products may use mercury containing CCFLs as of October 2014.</p> <p>Mercury use in cold cathode fluorescent lamps, for previously released parts, has multiple requirements including labeling (see section 2.6). When present in an approved application, TGCS must be supplied with a data sheet on mercury content.</p> <p>For additional mercury restrictions in batteries, see Table 8.</p>	1, 2, 8, 9, 12, 13, 17, 18, 45

2-methoxyethanol (CAS 109- 86-4)	Prohibited except for use in semiconductor manufacturing processes.	15
2-(2-methoxyethoxy)ethanol (DEGME) (CAS 111-77-3)	Prohibited in paints, paint strippers, cleaning agents, and self-shining emulsions in concentrations equal to or greater than 0.1% by weight.	1
Monomethyl- dibromo-diphenyl methane bromobenzylbromo-toluene, mixture of isomers (Trade name DBBT) (CAS 99688-47-8)	Prohibited in Substances, Mixtures, and Articles.	1, TGCS Requirement
Monomethyl-dichloro- diphenyl methane (Trade names Ugilec 121 and Ugilec 21) (CAS 81161-70-8)	Prohibited in Substances, Mixtures, and Articles	1, TGCS Requirement
Monomethyl-tetrachlorodiphenyl methane (Trade name Ugilec 141) (CAS 76253-60-6)	Prohibited in Substances, Mixtures, and Articles.	1, TGCS Requirement
Nickel and compounds (Annex J)	Nickel finishes are prohibited on surfaces that are designed to be in prolonged contact with skin. Examples of relevant applications in the electronics industry include wrist straps, mice, keyboards, headphones, and portable electronic products designed to be frequently handled. Contact your TGCS representative for questions about use of the Deliverable in a TGCS application which may or may not be in prolonged contact with skin	1
Nitrogen trifluoride (CAS 7783-54-2)	Prohibited in Preparations and Articles.	1, ,32
Ozone-Depleting Substances (CFCs, HCFCs, HBFCs, carbon tetrachloride, etc.) (Annex K)	Prohibited in Deliverables and Deliverables may not be manufactured with these substances.	2, 5, 6, 7, 12, TGCS Requirement

Pentachlorobenzene (CAS 608- 93-5)	Prohibited.	10, 15, 40
Perfluorinated compounds (Annex TT has a complete list of regulated substances)	Prohibited	32
Perfluorocarbons (PFC) (Annex L)	Must not be contained in Products or Parts as a gas. Prohibited in nonrefillable containers, foams, and non-confined direct evaporation systems containing refrigerants.	4,27,32
Perfluorooctane sulfonates (PFOS) and salts, C ₈ F ₁₇ SO ₂ X (X=OH, metal salt, halide, amide and other derivatives including polymers), or Compounds that contain C ₈ F ₁₇ SO ₂ , C ₈ F ₁₇ SO ₃ or C ₈ F ₁₇ SO ₂ N, (for a list of PFOS CAS numbers see OECD Annex 1 at http://search.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono%282006%2915&doclanguage=en) (Please note this includes CAS numbers 1763-23-1, 2795-39-3, 29457-72-5, 29081-56-9, 70225-14-8, 56773-42-3, 251099-16-8, 4151-50-2, 31506-32-8, 1691-99-2, 24448-09-7, 307-35-7 in addition to all PFOS and salts as cited by the OECD document)	<ol style="list-style-type: none"> 1. Prohibited in Substances, in Mixtures or as a constituent of Preparations in a concentration higher than 10mg/kg (0.001% by weight). (See Table 2 for more restrictive requirements for TGCS Field UseMaterials, Chemical Product Supplies, Substances, Mixtures and Preparations.) 2. Prohibited in products or parts when PFOS is equal to or higher than 0.1% by weight. If a PFOS substance is present in concentrations below 0.1%, then it may only be incidentally present and not intentionally added. 3. Prohibited in textiles when PFOS is equal to or higher than 1 ug/m². If a PFOS substance is present in concentrations below 1 ug/m², then it may only be incidentally present and not intentionally added. <p>Refer to the referenced regulations for more details on these requirements and exemptions.</p>	1,2,10,15,36,40

<p>Perfluorooctanoic acid (PFOA CAS 335-67-1) including its salts and any other substance having linear or branched perfluoroheptyl derivatives with the formula C7F15- as a structural element, including its salts except those derivatives with the formula C7F15-X, where X= F, Cl, Br and any other substance having linear or branched perfluorooctyl derivatives with the formula C8F17- as a structural element, including its salts, except those derivatives with the formula C8F17-X, where X= F, Cl, Br or, C8F17-SO2X', C8F17-C(=O)OH or C8F17-CF2-X' (where X'=any group, including salts) (Annex Z and for a more extensive list of PFOA CAS numbers see OECD Annex 3 at http://search.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono%282006%2915&doclanguage=en)</p>	<p>Prohibited as a Substance, as constituents of other substances in concentrations equal or above 2 ppb of a single substance, in a mixture in concentrations equal or above 2 ppb of a single substance. Prohibited in Articles or any parts thereof containing one of the substances in concentrations equal to or greater than 2 ppb of a single substance. This prohibition for Articles applies to newly releasing TGCS part numbers effective July 1, 2015.</p>	<p>1</p>
<p>Phthalates: Benzyl butyl phthalate (BBP) (CAS 85-68-7), Bis (2-ethylhexyl) phthalate (DEHP) (CAS 117-81-7), Dibutyl phthalate (DBP) (CAS 84-74-2), Diisobutyl phthalate (DIBP) (CAS 84-69-5)</p>	<p>Prohibited, when summed together, at or above 1000ppm in a homogeneous material. (Please note these substances are prohibited elsewhere in this specification. The more restrictive level applies, which will generally be this entry.)</p>	<p>1</p>
<p>Phenol, 2- (2H-benzotriazol -2- yl)- 4,6-bis (1,1- dimethylethyl) (CAS 3846-71-7)</p>	<p>Prohibited in decorative laminate, adhesives, paints, printing inks, inked ribbon, and molded plastic products.</p>	<p>10</p>
<p>Polybrominated Biphenyls (PBBs) (Annex M) *</p>	<p>Prohibited in Deliverables.</p>	<p>1, 2, 12, 10, 15, 36, 40 TGCS Requirement</p>

Polybrominated Diphenyl ethers (PBDEs); also known as Polybrominated Biphenyl ethers (PBBEs) or polybrominated Biphenyl Oxides (PBBOs); except Decabromo diphenyl ether (see this substance in separate entry) (See Annex N for a limited list.) *	Prohibited in Deliverables.	10, 16, 36, 40,51 TGCS Requirement
Polychlorinated biphenyls (PCBs) (Annex O)	Prohibited. (Please note PCBs are prohibited by other regulations; see halogenated aromatic substances in Table 1 and Annex O.)	1, 10, 12, 36, 37, 40, TGCS Requirement
Polychlorinated naphthalenes, C ₁₀ H _{8-n} Cl _n where “n” is greater than 1 (Annex R)	Prohibited except if incidentally present. Prohibited in Field Use Materials, Substances, Preparations, Mixtures, and Chemical Product Supplies.	2,10, 15,37
Polychlorinated terphenyls (PCTs) (e.g., CAS 61788-33-8)	Prohibited.	1, 12, 15
Polycyclic aromatic hydrocarbons (Annex LL)	Prohibited in Articles at and above 1 mg/kg by weight, if any rubber or plastic component comes in to direct and prolonged or short-term repetitive contact with skin or oral cavity under normal or reasonable foreseeable conditions of use.	1
Potassium chromate (CAS 7789-00-6)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Potassium dichromate (CAS 7778-50-9)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1

Red phosphorus	Prohibited in coating of electrical cables	
Shortchain Chlorinated Paraffins (C 10 -13) (also referred to as Short-chain Chlorinated Alkanes) (Annex P)	Prohibited above 0.1 % by weight in products, Substances, and Preparations. If present below 0.1% by weight of the product, it must be only incidentally present.	1, 2, 12 15
Sodium chromate (CAS 7775- 11-3)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Sodium dichromate (CAS 7789-12-0 and 10588-01-9)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Substances subject to REACH Authorization found in Annex XIV of REACH regulation and amendments (Annex OO in this specification lists current authorized substances as of date of this specification)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Sulphur hexafluoride (CAS 2551-62-4)	Prohibited in Preparations and Articles. Prohibited in foams and nonrefillable containers.	2, 27, 32
Tetrachlorobenzenes (CAS numbers included in Annex D)	Prohibited	15
Trichloroethylene (CAS 79-01- 6)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Tris-(aziridinyl) – phosphineoxide (CAS 545-55- 1)	Prohibited from use in textile articles intended to come into contact with skin, e.g., wrist straps and headphones.	1,12

Tris (2,3 dibromopropyl) phosphate (CAS 126-72-7)	Prohibited from use in textile articles intended to come into contact with skin, e.g., wrist straps and headphones.	1, 12, 35
Tris(2-chloroethyl) phosphate (CAS 115-96-8)	Prohibited at or above 0.1% weight by weight of the Deliverable.	1
Tri-substituted organostannic compounds, e.g., tributyltin (TBT) (Annex EE) and triphenyltin (TPT) (Annex EE)	Prohibited in Articles, or part thereof, where the concentration in the article is greater than the equivalent of 0.1% by weight of tin.	1,15
Yellow phosphorus (CAS 12185-10-3)	Prohibited in Deliverables except for semiconductors	
Tri-substituted organostannic compounds (tributyl tin compound, triphenyl tin compound)	Prohibited	NEC
Dimethyl fumarate	Prohibited	NEC

Sample regulatory references for Table 1

1. EU Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
2. Switzerland Ordinance on Risk Reduction related to the Use of certain particularly dangerous Substances, Preparations and Articles (Ordinance on Risk Reduction related to Chemical Products (ORRChem) of 18 May 2005.
3. United States Toxic Substances Control Act; Occupational Safety and Health Act (29 CFR 1910.1001-1051).
4. Statutory Order no. 552 of 2 July 2002 Regulating Certain Industrial Greenhouse Gasses (Denmark).
5. EU Regulation (EC) No. 1005/2009 on Substances that deplete the ozone layer.
6. United States Clean Air Act Section 611 of the 1990 amendments; 40 CFR Part 82.
7. Law Concerning the Protection of the Ozone Layer through the Control of Specified Substances and Other Measures (Law No. 53 of May 20, 1988) (Japan).
8. No. 553 Decree of 9 September 1998, comprising regulations regarding products containing mercury (Decree on Product Containing Mercury, 1998
9. TheMercury-containing Products (Certain) Ordinance (SFS 1991:1290) Sweden.
10. Japan Act on the Evaluation of chemical substances and Regulation of Their Manufacture, etc. (Act No. 117 of October 16, 1973, last revised October 30,
11. The Netherlands 178 Besluit van 22 maart 2001, houdende vaststelling van hetWarenwetbesluit formaldehyde in textiel.

12. Norway Product Control Regulation Chapter 2. Restricted Substances and Preparations.
13. Connecticut Public Law 02-90, the Mercury Education and Reduction Act.
14. California Safe Drinking Water and Toxic Enforcement Act of 1986.
15. Canada Environmental Protection Act, 1999. Prohibition of Certain Toxic Substances Regulations.
16. State of Washington Title 70 RCW an act relating to phasing out the use of polybrominated diphenyl ethers.
17. Louisiana Mercury Risk Reduction Act of 2006.
18. Rhode Island Mercury Education and Reduction Act.
19. Maine Public Law Chapter 296 Section 1. 38 MRSA 1609, with 2009 amendment Public Law Chap 121 Section 17 38 MRSA 1609 Sub 5
20. Austria - BGB I 1990/194: Formaldehydverordnung, 2, 12/2/1990.
21. Germany: LMBG B 82.02-1 Untersuchungen von Bedarfsgegenständen; Bestimmung der Formaldehydabgabe aus textilen Bedarfsgegenständen; Ausgabe: 1985-06.
22. Norway Regulation amending regulation of 1 June 2004 No 922 relating to restrictions on the use of chemicals dangerous to health and environment and other products.
23. Minnesota 325E.387 Ban on deca-BDE in computer enclosures.
24. California Regulation 93120 Airborne Toxic Control Measure to Reduce Formaldehyde Emissions from Composite Wood Products.
25. USA 29 CFR 1910.1048 Toxic and Hazardous Substances - Formaldehyde.
26. EU Regulation (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).
27. Austria Ordinance on bans and restrictions of partly fluorinated and fully fluorinated hydrocarbons and of sulfur hexafluoride 447/2002, with amendments 246/2005, 86/2006 and 139/2007.
28. Sweden. The Chemical Products Ordinance 1998:944 to 2009:14.
29. Lithuanian Hygiene Norm HN 96:2000.
30. EU Commission Decision 2009/251/EC Products containing the biocide dimethylfumarate.
31. Oregon SB 596 Relating to decabrominated diphenyl ether amending ORS 453.005, 453.025 and 453.085.
32. EU Regulation (EC) No 517/2014 on fluorinated greenhouse gases
33. Maryland Act concerning Environment – Decabrominated Diphenyl Ether – Prohibitions.
34. Canadian Environmental Protection Act, 2-butoxyethanol regulations SOR/2006-347.
35. Canada Hazardous Products Act.
36. EU Commission Regulation 757/2010 of 24 August 2010 amending Regulation No 850/2004 of the European Parliament and of the Council on persistent organic pollutants as regards Annexes I and III.
37. EU Regulation No 850/2004 of the European Parliament and of the Council of 29 April 2004 on persistent organic pollutants and amending Directive 79/117/EEC
38. France Decree no. 2012-232 concerning the annual declaration of substances with nanoparticle status.
39. NORMA Oficial Mexicana NOM-004-SSA1-2013 Environmental Health. Limitations and sanitation specification for the use of lead compounds.
40. EU Regulation No 649/2012 of 4 July 2012 concerning the export and import of hazardous chemicals.
41. EU Regulation No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products.
42. NOM-003-SSA1-2006 Health Environmental. Health requirement to be met by the labeling of paints, inks, varnishes, lacquers and enamels.
43. USA 40 CFR Part 721.1660 Benzidine-based chemical substances.
44. EU Directive amending Annex II to Directive 2011/65/EU of the European Parliament and of the Council as regards the list of restricted substances (RoHS).
45. Canada Products Containing Mercury SOR/2014-1244.

46. California Consumer Products Regulations - Regulation for Reducing Emissions from Consumer Products.
47. Japan Act on Preventing Environmental Pollution of Mercury.
48. Belgium Royal Decree concerning the placing on the market of substances produced in nanoparticulate state.
49. Washington DC Carcinogenic Flame Retardant Prohibition Amendment Act of 2016.
50. Philippines Chemical Control Order for lead and lead compounds.
51. Minnesota 325E.386 Products containing certain polybrominated diphenyl ethers banned
52. EU Directive 2013/59/EURATOM laying down basic safety standards for protection against the dangers arising from exposure to ionizing radiation.
53. New Zealand Radiation Safety Act 2016.
54. Canada Consumer Product Safety Act.
55. Connecticut Public Act No 11-222 An Act Prohibiting the Use of Bisphenol-A in Thermal Receipt Paper.
56. Connecticut Regulation Concerning Consumer Products and Architectural and Industrial Maintenance Coatings.
57. Columbia Decree 2133-2016 Control measures for the importation and commercialization of mercury and the products that contain it.
58. EU Regulation 2017/852 of the European Parliament and of the Council of 17 May 2017 on mercury, repealing Regulation (EC) No1102/3008.
59. EU Regulation 2017/746 of the European Parliament and of the Council of 5 April 2017 on in vitro diagnostic medical devices.
60. EU Regulation 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices.
61. United Arab Emirates: Restrictions on the Use of Hazardous Materials in Electronic and Electrical Devices Control Scheme, Regulation No.10, 2017.
62. EU Directive 93/42/EEC of 14 June 1993 concerning medical devices.

Table 3. Thresholds for reporting of RoHS substances	
RoHS substance	Threshold for reporting in non-restricted applications* (ppm of the substance in any Homogeneous Material)
Cadmium use in plating and surface coating applications.	Any detectable level must be reported.*
Cadmium, all applications except plating and surface coating applications.	100
Hexavalent chromium (CrVI) **	1000
Lead ***	1000
Mercury	Any detectable level must be reported, except unavoidable impurities at levels below 10ppm.
Polybrominated biphenyl (PBB) flame retardants	Any detectable level must be reported. ****
Polybrominated diphenyl ether (PBDE) flame retardants. Note this reporting category includes Deca BDE.	Any detectable level must be reported. ****
Bis (2-ethylhexyl) phthalate (DEHP)*****	1000
Butyl benzyl phthalate (BBP) *****	1000
Dibutyl phthalate (DBP) *****	1000

Diisobutyl phthalate (DIBP) *****	1000
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* Restricted applications are defined in Table 1. Concentrations of these substances above the levels referenced in Table 1 are

** TGCS prohibits intentional addition of hexavalent chromium in paints and plastic resins. See Table 1. For EU RoHS requirements, see specification 3ADENVM0002. This TGCS RoHS specification bans the use of hexavalent chromium and compounds in finishing processes for sheet steel, aluminized, electroless nickel and die cast parts, fasteners and heatsinks. Hexavalent chromium and its compounds must not be used prior to painting or in other surface treatments for metal parts. This RoHS specification applies to Deliverables where the specification is cited on the print, contract, Statement of Work or other procurement documentation.

*** There are restrictions for lead use at levels lower than 1000ppm. See Table 1 for details.

**** While listed here for completeness, PBB and PBDE flame retardants are banned by TGCS per Section 2.1.1 and Table 1 of this There are no permissible applications which can be reported.

***** While listed here for completeness of the list of RoHS substances, Table 1 has more restrictive levels for these 4 phthalates than the levels cited on this table.

Table Table 4. Other Reporting Requirements		
Reportable Substance	Threshold for Reporting is at the "Part" level unless otherwise noted.	Examples of Industry Uses / Comments
Antimony/Antimony Compounds (Annex T) Please note antimony trioxide should not be reported in this category, antimony trioxide has a separate entry on this table.	1000 ppm (0.1%)	Solder alloy CRT glass
Antimony trioxide (CAS 1309-64-4)	1000 ppm (0.1%) in a homogeneous material	Flame retardant, e.g., in plastic housings and chip encapsulant. Often used in combination with brominated flame retardants. Opacifying agent for glass, ceramics and enamels Pigments Catalyst for polyethylene terephthalate and

<p>Arsenic/Arsenic Compounds (Annex U) Please note some applications of arsenic are prohibited in Table 1 and reportable in Table 5 as an SVHC. Reporting here is for other applications and/or concentrations. Arsenic pentoxide and arsenic trioxide should not be reported with this entry but in each of their respective entries on this table.</p>	<p>1000 ppm (0.1%)</p>	<p>Dopant in semiconductor manufacture Gallium arsenide is used as semiconductor substrate</p>
<p>Arsenic pentoxide (CAS 1303-28-2) (synonym - diarsenic pentoxide) Please note, this substance should not be reported under the entry of Arsenic/ Arsenic compounds in this Table but rather here in this entry. This substance is restricted in Table 1 at 0.1% by weight of the Deliverable. This entry is for reporting levels below this.</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Solution in the manufacturing of metal adhesives, wood preservatives, and in printing and dyeing.</p>
<p>Arsenic trioxide (CAS 1327-53-3) Please note, this substance should not be reported under the entry of Arsenic/ Arsenic compounds in this Table but rather here in this entry. This substance is restricted in Table 1 at 0.1% by weight of the Deliverable. This entry is for reporting levels below this.</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Wood preservative, glass, and non-ferrous alloys.</p>
<p>2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) (CAS # 3846-71-7)</p>	<p>At or above 0.1% weight by weight of the Deliverable</p>	<p>UV stabilizer for plastics, polyurethanes and rubber and constituent in formulations used for coating of surfaces</p>
<p>2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) (CAS 25973-55-1)</p>	<p>At or above 0.1% weight by weight of the Deliverable</p>	<p>Light stabilizing in coatings, ABS resin, epoxy resin, fiber resin, propylene and polyvinyl chloride. Light stabilization of unsaturated polyester, polyacrylates and</p>

Beryllium metal (CAS 7440-41-7) Please note, this substance should not be reported under the entry of Beryllium compounds in this Table but rather here in this entry.	1000ppm (0.1%) in a homogeneous material	Heat transport and heat sinking applications, gears, and cogs
Beryllium Compounds (Annex V) Please note this entry does not include beryllium, beryllium oxide and beryllium copper alloys. These beryllium substances have their own entry for reporting on this table.	200 ppm (0.02%)	Substrate for integrated circuits Lightweight housings
Beryllium copper alloys. Please note, this substance should not be reported under the entry of Beryllium compounds in this Table but rather here in this entry.	1000 ppm (0.1%) in a homogeneous material	Connectors Electrical contacts and springs
Beryllium oxide (CAS 1204-56-9)	1000 ppm (0.1%)	Insulator Structural ceramic
Bis(2-ethylhexyl)tetrabromophthalate (TBPH or BEHTBP) (CAS 26040-51-7)	1000 ppm (0.1%) in a homogeneous material	Flame retardant in polyurethane foam Plasticizer for PVC Adhesives
Bismuth/Bismuth Compounds (also alloys) (Annex W)	1000 ppm (0.1%)	Solder alloy

Bisphenol A (CAS 80-05-7)	1000 ppm (0.1%) in a homogeneous material	Used in synthesis of epoxy and plastic resins, e.g., polycarbonate, polyesters Antioxidant in some plasticizers Polymerization inhibitor in PVC Precursor for the flame retardant tetrabromobisphenol A Color developer in thermal paper Carbonless paper
Brominated Flame Retardants (other than PBBs, PBDEs or other brominated flame retardants specifically called out in this Table) in all applications except printed wiring board laminates. (Annex X)	1000 ppm (0.1%) in a homogeneous material	Flame retardant
Brominated Flame Retardants (other than PBBs or PBDEs) in printed wiring board laminates.	500 ppm (0.05%) in a homogeneous material in printed wiring board laminate	Flame retardant
2-Butanone oxime (CAS 96-29-7)	1000 ppm (0.1%) in a homogeneous material	Paints, varnishes, stains and coatings Wood preservatives Adhesives, silicone sealants and printing inks Corrosion inhibitors Urethane polymers Epoxy resin
n-Butyl glycidyl ether (CAS 2426-08-6)	1000 ppm (0.1%) in a homogeneous material	formulations for coatings, adhesives, binders, sealants, fillers and resins
Chlorinated Flame Retardants in all applications except printed wiring board laminates	1000 ppm (0.1%) in a homogeneous material	Flame retardant

Chlorinated Flame Retardants in printed wiring board laminates only	900 ppm (0.09%) in a homogeneous material in printer wiring board laminate	Flame retardant
Cobalt dichloride (CAS 7646-79-9) Please note this substance is also listed in Table 5 for reporting. This entry requires reporting for a lower concentration level than Table 5.	1000 ppm (0.1%) in a homogeneous material	Cobalt plating and cobalt based pigments and drier compounds (desiccants). Pneumatic panels for indicating water contamination.
Cobalt metal (CAS 7440-48-4)	1000 ppm (0.1%) in a homogeneous material	Electroplating
Cobalt sulfate (CAS 10124-43-4; 13455-64-0 monohydrate; 10026-24-1 heptahydrate)	1000 ppm (0.1%) in a homogeneous material	Preparation of pigments for glass and porcelain Used in storage batteries Electroplating baths Use in cyanotype ink
4, 4'-Diaminodiphenylmethane (MDA) (CAS 101-77-9) Please note this substance has prohibited levels listed in Table 1. This entry is for reporting levels below the restricted amount.	1000 ppm (0.1%) in a homogeneous material	Epoxy hardening agent Production of high performance polymers Curative for neoprene Preparation of isocyanates and polyisocyanates
2, 3-Dibromo-1-propanol (CAS 96-13-9) Please note, this substance should not be reported under the entry of Brominated Flame Retardants in this Table but rather here in this entry.	1000 ppm (0.1%) in a homogeneous material	Flame retardant
Dibromoneopentyl glycol (CAS 3296-90-0) Please note this substance is not to be included in the Brominated Flame Retardant entry in this table, but rather as its own separate entry here.	1000 ppm (0.1%) in a homogeneous material	Flame retardant in unsaturated polyester resins, in molded products, and in rigid polyurethane foam.

P-Dichlorobenzene (CAS 106-46-7) Please note this substance has a restricted application in Table 1 under Halogenated aromatic substances and Annex D. Reporting for this table is for applications which are not restricted.	1000 ppm (0.1%) in a homogeneous material	Precursor to the high performance polymer poly (p-phenylene sulfide) Disinfectant
Diethyl phthalate (DEP) (CAS 84-66-2) Please note this phthalate compound should not be reported in the general phthalate category in this table, but rather her in this entry.	Diethyl phthalate (DEP) (CAS 84-66-2) Please note this phthalate compound should not be reported in the general phthalate category in this table, but rather her in this entry.	Plasticizer
Diisodecyl phthalate (DIDP) (CAS 26761-40-0 and 68515-49-1) Please note this phthalate compound should not be reported in the general phthalate category in this table, but rather here in this entry.	1000 ppm (0.1%) in a homogeneous material	Plasticizer (e.g., for PVC) Paints, sealing compounds, and textile inks
Diisononyl phthalate (DINP) (CAS 28553-12-0 and 68515-48-0) Please note this phthalate compound should not be reported in the general phthalate category in this table, but rather here in this entry.	1000 ppm (0.1%) in a homogeneous material	Plasticizer (e.g., for PVC)
Di-n-hexyl phthalate (DNHP) (CAS 84- 75-3) Please note this phthalate compound should not be reported in the general phthalate category in this table and is also reportable in Table 5 as a REACH SVHC when present at or above 0.1% by weight.	1000 ppm (0.1%) in a homogeneous material	Plasticizer
2, 4-Dinitrotoluene (CAS 121-14-2) Please note this substance has prohibited levels listed in Table 1. This entry is for reporting levels below the restricted amount.	1000 ppm (0.1%) in a homogeneous material	Production of flexible polyurethane foam Plasticizer
Di-n-octyl phthalate (DnOP) (CAS 117- 84-0) Please note this phthalate compound should not be reported in the general phthalate category in this table.	1000 ppm (0.1%) in a homogeneous material	Constituent of phthalate mixtures

Di-n-pentyl phthalate (DnPP) (CAS 131-18-0) Please note this phthalate compound should not be reported in the general phthalate category in this table.	1000 ppm (0.1%) in a homogeneous material	Plasticizer
Diocetyl tin (DOT) compounds (e.g., dioctyltin oxide CAS 870-08-6 and dioctyltin dilaurate CAS 3648-18-8) Please note Table 1 prohibits DOT in some applications. This entry is for reporting of all other non-restricted applications.	Reportable in Articles where the concentration in the Article, or a part thereof, is greater than 0.1% by weight of tin.	Textiles Vulcanization molding kits
2-Ethylhexyl-2,3,4,5-tetrabromobenzoate (TBB) (CAS 183658-27-7) Please note TBB is not to be included in the Brominated Flame Retardant entry in this table, but rather as its own separate entry here.	1000 ppm (0.1%) in a homogeneous material	Flame retardant in polyurethane foam
Hexabromocyclododecane (HBCDD), (e.g., CAS 25637-99-4, 3194-55-6, 134237-50-6, 134237-51-7, 134237-52- 8.) Please note this substance has a restricted level listed in Table 1. This entry is for reporting at lower levels.	50 ppm (0.005%) in a homogeneous material	Flame retardant in extruded and expanded polystyrene and flexible polyurethane foam
n-Hexane (CAS 110-54-3)	1000 ppm (0.1%) in a homogeneous material	Used as solvents in cleaning agents in the printing and textile industry. Used in glues for the leather industry. Used in quick-drying glues and rubber
Hydrazine (CAS 302-01-2)	1000 ppm (0.1%) in a homogeneous material	Nickel plating Polymerization of urethane Corrosion inhibitor
Indium phosphide (CAS 22398-80-7)	1000 ppm (0.1%) in a homogeneous material	Semiconductor

<p>Lead/ Lead compounds</p> <p>Please note, lead /lead compound are restricted on Tables 1 and 3, this entry is for levels of lead either below those restricted levels or for lead acid batteries only.</p>	<p>300ppm to 1000ppm in surface coating materials for cables/ cords with thermoset or thermoplastic coatings;</p> <p>Lead acid batteries</p>	<p>Stabilizer</p>
<p>Long chain chlorinated paraffins</p> <p>(LCCP; generally C 18-28) (also referred to as Long-chain chlorinated alkanes) (e.g., CAS 85535-86-0)</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Metal working applications Plasticizer Leather Paints and coatings Sealants Rubber applications</p>
<p>Magnesium/Magnesium Alloys (Annex Y)</p>	<p>1000 ppm (0.1%)</p>	<p>Surface coating Computer casings</p>
<p>Medium chain chlorinated paraffins (C 14-17 alkyl chain) (MCCPs) (e.g., CAS 85535-85-9) (also referred to as Medium-chain chlorinated alkanes)</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Flame retardant Plasticizer</p>

<p>Nanomaterials intended to be released under normal or reasonably foreseeable conditions of use. Nanomaterials are defined as natural, incidental or manufactured material containing</p> <p>Particles, in an unbound state or as an Aggregate or as an Agglomerate and where, for 50% or more of the Particles in the number size distribution, one or more external dimensions is in the size range 1nm – 100nm. In addition, fullerenes, graphene flakes and single wall carbon nanotubes with one or more external dimensions below 1nm are considered nanomaterials.</p>	<p>Any amount intended to be released under normal or reasonably foreseeable conditions of use.</p>	<p>Carbon black in hoses, tubes, vibration mounts, pigments, inks, paints, and rubber based adhesives and sealants</p> <p>Nanosilver for antimicrobial properties</p> <p>Synthetic amorphous silica as a filling agent.</p> <p>Aluminum oxide in rubber, paints, varnishes, catalysts, and plastics.</p> <p>Cerium dioxide in catalysts, paints, coated steel, and coating agents.</p> <p>Carbon nanotubes in paints and coating agents.</p> <p>Titanium dioxide in plastics, coated electronic components, catalysts, paints, and inks.</p> <p>Zinc oxide in ceramics, adhesive</p>
<p>Nickel sulfamate (CAS 13770-89-3)</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Nickel plating</p>
<p>Nickel sulphate CAS 7786-81-4 (anhydrous), 10101-97-0 (hexahydrate), 10101-98-1 (heptahydrate)</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Nickel plating</p>

Nonylphenols (Annex RR)	1000 ppm (0.1%) in a homogeneous material	Lubrication oil additive Emulsifier Wetting and dispersing agent Antistatic agent Demulsifier and solubiliser
Perfluoro carboxylic acid and related compounds (PFCAs) for a list of PFCA CAS numbers see OECD Annex 4 at http://search.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono%282006%2915&doclanguage=en	1000 ppm (0.1% by mass) in Deliverables	Water, oil and grease repellant Surfactant Spreading/ wetting agent.
Perfluoroalkyl sulfonates (PFASs) (for a list of PFAS CAS numbers see OECD Annex 2 at http://search.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono%282006%2915&doclanguage=en	1000 ppm (0.1% by mass) in Deliverables	Semiconductor applications Flame retardant in resins
Perfluorooctanoic acid (PFOA) and its salts (Annex Z and for a more extensive list of PFOA CAS numbers see OECD Annex 3 at http://search.oecd.org/officialdocuments/displaydocumentpdf/?cote=env/jm/mono%282006%2915&doclanguage=en) Please note:PFOAs are restricted, see entry in Table 1. Reporting PFOAs is allowed only for parts which were released prior to July 1, 2015.	1000 ppm (0.1% by mass) in Deliverables	Semiconductor applications
Phthalates (Annex AA) Please note several phthalates have separate entries on this Table and should not be included for reporting in this general phthalate category. Several phthalates are restricted, see Table 1.	1000 ppm (0.1%)	Plasticizer in plastics (e.g., PVC) PVC electrical cables Solder paste Sealants, varnishes, paper coating, inks, resins and adhesives

Polycyclic aromatic hydrocarbons (PAHs) (e.g., phenanthrene CAS 85-01- 8) (Annex LL) Please note this substance grouping has prohibited applications listed in Table 1. This entry is for reporting of all other non-restricted applications or levels below the restricted amount	1000 ppm (0.1%) in a homogeneous material	Dyes, plastics, coal tars, and creosote.
Polyvinyl chloride (PVC) (Annex BB)	1000 ppm (0.1%) in a homogeneous material	Plastic Insulator Windows on cell phones Housings for IT equipment Electrical cables Flexible CD jackets
Postconsumer recycled material - Plastic (see definitions in Section 1.2)	Report only the amount of postconsumer recycled material - plastic (not the amount of pre-consumer or new plastic) in grams for parts equal to or greater than 25 grams.	Bezels, fillers, enclosure covers
Radioactive Substances (Annex CC)	Any Intentional Addition	Promethium 147 as an over-voltage device Measuring devices Gauges Detectors Optical properties (e.g., thorium)
Refractory Ceramic Fibres; Special Purpose Fibres, [Man-made vitreous (silicate) fibres with random orientation with alkaline oxide and alkali earth oxide (Na ₂ O+K ₂ O+CaO+MgO+ BaO)	Content less or equal to 18 % by weight	Insulation material in high temperature applications

<p>Recyclable Materials – glass in Covered Electronic Devices only, e.g., monitors with a screen size greater than 4 inches (measured diagonally) with a liquid crystal display or cathode ray tube, as defined by California Electronic Waste Recycling Act</p>	<p>Report the amount of glass (in grams) in a Covered Electronic Devices which are recyclable.</p>	<p>In Covered Electronic Devices, as defined by the California Electronic Waste Recycling Act:http://www.dtsc.ca.gov/HazardousWaste/EWaste/MoreInfo.cfm#Covered_Electronic_Devi</p>
<p>Recyclable Materials – metals in Covered Electronic Devices only, e.g., monitors with a screen size greater than 4 inches (measured diagonally) with a liquid crystal display or cathode ray tube, as defined by California Electronic Waste Recycling Act</p>	<p>Report the amount of metals (in grams) in a Covered Electronic Devices which are recyclable.</p>	<p>In Covered Electronic Devices, as defined by the California Electronic Waste Recycling Act:http://www.dtsc.ca.gov/HazardousWaste/EWaste/MoreInfo.cfm#Covered_Electronic_Devic</p>
<p>Recyclable Materials – plastics in Covered Electronic Devices only, e.g., monitors with a screen size greater than 4 inches (measured diagonally) with a liquid crystal display or cathode ray tube, as defined by California Electronic Waste Recycling Act</p>	<p>Report the amount of plastics (in grams) in a Covered Electronic Devices which are recyclable.</p>	<p>In Covered Electronic Devices, as defined by the California Electronic Waste Recycling Act:http://www.dtsc.ca.gov/HazardousWaste/EWaste/MoreInfo.cfm#Covered_Electronic_Devic</p>
<p>Selenium/Selenium Compounds (Annex DD)</p>	<p>1000 ppm (0.1%)</p>	<p>Diodes and light detectors (lead selenide) Historically used as photoelectric coating</p>
<p>Tetrabromobisphenol A (CAS 79-94-7) Please note TBBA is not to be included in the Brominated Flame Retardant entry in this table, but rather as its own separate entry here.</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Flame retardant Epoxy resins in printed circuit boards</p>

Tetrabutyltin (TTBT) (CAS 1461-25-2)	1000 ppm (0.1%) in a homogeneous material	Stabilizer for PVC
Toluene (CAS 108-88-3)	1000 ppm (Please note that in Table 2 toluene is prohibited as a Substance or constituent of Preparations in concentrations equal to or greater than 0.1% by mass in adhesives and spray paints.)	Adhesive Paints/varnishes Coatings Silicon sealants
Toluene Diisocyanates (see Annex UU for all inclusive list of CAS numbers)	1000 ppm (0.1%) in a homogeneous material	Chemical intermediate in the production of polyurethane
Tributyltin (TBT) and tributyltin compounds (Annex EE) Please note this substance has restrictions in Table 1 under the entry for trisubstituted organostannic compounds. This reporting is for lower concentration levels.	Any Intentional Addition in chemical products	Antibacterial and antifungal agents, antifoulant Paint, pigment, and stabilizer
1, 2, 3-Trichlorobenzene (CAS 87-61- 6) Please note this entry has a prohibited application listed in Table 1 for Halogenated aromatic substances. This entry is for reporting of all other non-restricted applications.	1000 ppm (0.1%) in a homogeneous material	Solvent Dye carrier Heat transfer medium
1, 2, 4-Trichlorobenzene (CAS 120-82- 1) Please note this entry has a prohibited application listed in Table 1 for Halogenated aromatic substances. This entry is for reporting of all other non-restricted applications.	1000 ppm (0.1%) in a homogeneous material	Solvent Dielectric fluid Dye carrier Synthetic transformer oil Lubricant Heat transfer medium Wood preservatives
Triphenyltin (TPT) and triphenyltin compounds (Annex EE) Please note this substance has restrictions in Table 1 under the entry for "Trisubstituted organostannic compounds". This reporting is for lower concentration levels.	Any Intentional Addition in chemical products	Antiseptic and antifungal agent Paint, pigment, and stabilizer

<p>Tris (2-chloroethyl) phosphate (TCEP) (CAS 115-96-8) Please note this substance has restrictions in Table 1. Reporting in this table is for lower concentration levels.</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Flame retardant, plasticizer, and viscosity regulator in polyurethane, polyester resins, polyacrylates, polyvinyl chloride, cellulose derivatives, and thermoplastic resins. Also in adhesives, paints, varnishes, and epoxy</p>
<p>Tris (2-chloro-1-methylethyl) phosphate (TCPP) (CAS 13674-84-5)</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Flame retardant, e.g., for polyurethane</p>
<p>Tris (2, 3-dibromopropyl) phosphate (CAS 126-72-7) Please note this entry has a prohibited application listed in Table 1. This entry is for reporting of all other unrestricted applications.</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Flame retardant, e.g., synthetic textiles and plastics Phenolic resins Paints, paper coatings, and rubber</p>
<p>Tris (1,3-dichloro-2-propyl) phosphate (TDCPP) (CAS 13674-87-8)</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Flame retardant, e.g., in textiles and polyurethane foam.</p>
<p>Vinyl chloride (CAS 75-01-4)</p>	<p>1000 ppm (0.1%) in a homogeneous material</p>	<p>Chemical intermediate used in production of polyvinyl chloride</p>

ANNEXES: Chemical Lists with CAS Numbers

Unless specifically indicated as complete for the chemicals affected, these annex listings are examples only, except where noted.

Sustance	CAS No.
Annex A. Asbestos	
Asbestos	1332-21-4
Actinolite	77536-66-4
Amosite (Grunerite)	12172-73-5
Anthophyllite	77536-67-5
Chrysotile	12001-29-5
Crocidolite	12001-28-4
Cummingtonite	17499-08-0
Fibrous erionite	66733-21-9
Tremolite	77536-68-6 14567-73-8
Annex B. Azo colorants -	
Note: The EC azo dyes ban applies to 1) Certain azo colorants that by reductive cleavage of azo groups may release one of the following 22 aromatic amines and 2) The Azodye compound listed in the second table of this annex.	
1. List of regulated aromatic amines	
biphenyl-4-ylamine	92-67-1
Benzidine (Note: benzidine is also listed as prohibited in Table 1, which is more restrictive than the requirements for azo colorants.)	92-87-5
4-chloro-o-toluidine	95-69-2
2-naphthylamine	91-59-8
o-aminoazotoluene	97-56-3
5-nitro-o-toluidine	99-55-8
4-chloroaniline	106-47-8
4-methoxy-m-phenylenediamine	615-05-4
4,4'-methylenedianiline	101-77-9
3,3'-dichlorobenzidine	91-94-1
3,3'-dimethoxybenzidine	119-90-4
3,3'-dimethylbenzidine	119-93-7
4,4'-methylenedi-o-toluidine	838-88-0
6-methoxy-m-toluidine	120-71-8
4,4'-methylene-bis(2-chloroaniline)	101-14-4
4,4'-oxydianiline	101-80-4
4,4'-thiodianiline	139-65-1
o-toluidine	95-53-4
4-methyl-m-phenylenediamine	95-80-7
2,4,5-trimethylaniline	137-17-7
o-anisidine	90-04-0
4-amino azobenzene	60-09-3
2. List of regulated azodyes	

ANNEXES: Chemical Lists with CAS Numbers

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Sustance	CAS No.
1-naphtholato) (1- (5- chloro -2-oxidophenylazo) -2-naphtholato) chromate (1-); (molecular formula C ₃ 9H ₂ 3ClCrN ₇ O ₁ 2 S.2Na); Trisodium bis (6- (4-anisidino) -3- sulfonato -2- (3,5-dinitro-2- oxidophenylazo) -1- naphtholato) chromate(1-) (molecular formula C ₄ 6H ₃ 0CrN ₁ 0O ₂ 0 S ₂ .3Na)	118685-33-9 Not available
Annex C. Cadmium/Cadmium Compounds	
Cadmium	7440-43-9
Cadmium oxide	1306-19-0
Cadmium sulfide	1306-23-6
Cadmium chloride	10108-64-2
Cadmium sulfate	10124-36-4
Cadmium chromate	14312-00-6
Other cadmium compounds	-
Annex D. Halogenated aromatic substances	
Polychlorinated biphenyls (PCB)(Note: PCBs are prohibited by other regulations, see PCBs in Table 1 and Annex O)	See Annex O
Halogenated diarylalkanes - Monomethyltetrachlorodiphenylmethane (Trade name: Ugilec Monomethyldichlorodiphenylmethane (Trade name: Ugilec 121) Monomethyldibromodiphenylmethane (Trade name: DBBT)	76253-60-6 81161-70-8 99688-47-8
Halogenated benzenes - Chlorobenzene (Monochlorobenzene, MCB) Dichlorobenzene, 1,2- (ortho-DCB) Dichlorobenzene, 1,4- (para-DCB) Pentachlorobenzene Tetrachlorobenzene, 1, 2, 4, 5- Tetrachlorobenzene, 1, 2, 3, 5- Tetrachlorobenzene, 1, 2, 3, 4- Trichlorobenzene, 1, 2,4 - Trichlorobenzene, 1, 2, 3- Hexachlorobenzene	108-90-7 95-50-1 106-46-7 608-93-5 95-94-3 634-90-2 634-66-2 120-82-1 87-61-6 118-74-1
Annex E. Halogenated diphenyl methanes	
Monomethyl tetrachloro diphenyl methane; Trade name: Ugilec 141	76253-60-6
Monomethyl dichloro diphenyl methane; Trade name: Ugilec 121, Ugilec 21	81161-70-8
Monomethyl dibromo dipenyl methane (DBBT)	99688-47-8
Annex F. Hexachloroethane	
Hexachloroethane	67-72-1
Annex G. Hexavalent Chromium/Hexavalent Chromium Compounds	
Ammonium dichromate	7789/9/5

ANNEXES: Chemical Lists with CAS Numbers

Unless specifically indicated as complete for the chemicals affected, these annex listings are examples only, except where noted.

Sustance	CAS No.
Chromium (VI) oxide	1333-82-0
Barium chromate	10294-40-3
Calcium chromate	13765-19-0
Chromic acetate	1066-30-4
Chromium trioxide	1333-82-0
Lead (II) chromate	7758-97-6
Lead chromate molybdate sulphate red	12656-85-8
Lead sulfochromate yellow	1344-37-2
Potassium chlorochromate	16037-50-6
Potassium chromate	7789-00-6
Potassium dichromate	7778-50-9
Silver chromate	7784/1/2
Sodium chromate	7775/11/3
Sodium chromate, dihydrate	7789-12-0
Sodium dichromate	10588-01-9
Strontium chromate	7789/6/2
Zinc chromate	13530-65-9
Chromic acid (H ₂ CrO ₄), bis (triphenylsilyl) ester Bis(triphenylsilyl)chromate	1624-02-8
Hexanoic acid, 2-ethyl-, chromium salt	7329-33-1
Chromic acid	7738-94-5, 13530-68-2
Chromate (1-), hydroxyoctaoxodizincatedi-, potassium	11103-86-9
Chromic acid (H ₂ CrO ₄), magnesium (1:1)	13423-61-5
Chromic acid (H ₂ CrO ₄), cobalt (2++) salt (1:1)	13455-25-9
Chromic acid (H ₂ CrO ₇), calcium salt (1:1)	14307-33-6
Chromic acid (H ₂ CrO ₇), dilithium salt	14307-35-8
Lead chromate oxide	18454-12-1
Chromic acid (H ₂ CrO ₇), compd. with pyridine (1:2)	20039-37-6
Octanoic acid, chromium salt	20195-23-7
Zinc chromate hydroxide (Zn ₅ (CrO ₄)(OH) ₈)	49663-84-5
Phenazinium, 3-[[7-[(4-aminophenyl)amino]-5-phenylphenazinium-3-yl]amino]-5-phenyl-7-[[5-phenyl-7-(phenylamino) phenazinium-3-yl]amino]-, salt with chromic acid (H ₂ CrO ₇) (2:3)	75578-75-5
Other hexavalent chromium compounds -	-
Annex H. Lead/Lead Compounds	
Lead	7439-92-1
Lead (II) sulfate	7446-14-2
Lead (II) carbonate	598-63-0
Lead hydrocarbonate	1319-46-6
Lead acetate	301-04-2
Lead (II) acetate, trihydrate	6080-56-4
Lead phosphate	7446-27-7
Lead (II) phosphate	7446-27-7
Lead selenide	12069-00-0

ANNEXES: Chemical Lists with CAS Numbers

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Sustance	CAS No.
Lead (IV) oxide	1309-60-0
Lead (II,IV) oxide	1314-41-6
Lead (II) sulfide	1314-87-0
Lead (II) oxide	1317-36-8
Lead (II) carbonate basic	1319-46-6
Lead hydroxidcarbonate	1344-36-1
Lead (II) chromate	7758-97-6
Lead (II) titanate	12060-00-3
Lead sulfate, sulphuric acid, lead salt	15739-80-7
Lead sulphate, tribasic	12202-17-4
Lead stearate	1072-35-1
Lead arsenite	10031-13-7
Lead azide	13424-46-9
Lead hexafluorosilicate	25808-74-6
Lead (II) methanesulphonate	17570-76-2
Lead naphthenate	61790-14-5
Lead dinitrate	10099-74-8
Lead chromate molybdate sulphate red	12656-85-8
Lead sulfochromate yellow	1344-37-2
Tetraethyl lead	78-00-2
Tetramethyl lead	75-74-1
Other lead compounds -	-
Annex I. Mercury/Mercury Compounds	
An extensive list of mercury compounds can be found at http://www.pic.int/en/CasNumbers/mercury%20compounds%20CAS%20numbers.pdf	
Mercury	7439-97-6
Phenylmercury acetate	62-38-4
Phenylmercury propionate	103-27-5
Phenylmercury 2-ethylhexanoate	13302-00-6
Phenylmercuric octanoate	13864-38-5
Phenylmercury neodecanoate	26545-49-3
Mercuric chloride	33631-63-9
Mercury (II) chloride	7487-94-7
Mercuric sulfate	7783-35-9
Mercuric nitrate	10045-94-0
Mercuric (II) oxide	21908-53-2
Mercuric sulfide	1344-48-5
Other mercury compounds	-
Annex J. Nickel	
Nickel	7440-02-0
Nickelacetate	373-02-4
Nickelcarbonate	3333-67-3
Nickelcarbonyl	13463-39-3

ANNEXES: Chemical Lists with CAS Numbers

Unless specifically indicated as complete for the chemicals affected, these annex listings are examples only, except where noted.

Sustance	CAS No.
Nickelhydroxide	12054-48-7, 11113-74-9
Nickelocene	1271-28-9
Nickeloxide	1313-99-1
Nickelsulfide	12035-72-2
Other nickel compounds -	-
Annex L. Perfluorocarbons (PFC)	
Carbon tetrafluoride (Perfluoromethane, tetrafluoromethane)	75-73-0
Perfluoroethane (Hexafluoroethane) (PFC-116)	76-16-4
Perfluoropropane (Octafluoropropane) (PFC-218)	76-19-7
Perfluorobutane (Decafluorobutane) (PFC-3-1-10; R-31-10)	355-25-9
Perfluoropentane (Dodecafluoropentane) (PFC-4-1-12; R-41-12)	678-26-2
Perfluorohexane (Tetraecafluorohexane) (PFC-5-1-14)	355-42-0
Perfluorocyclobutane (Octafluorocyclobutane) (PFC-c-318)	115-25-3
Perfluoroheptane	335-57-9
Perfluorooctane	307-34-6
Annex M. Polybrominated biphenyls (PBBs) including all congeners and isomers	
2-Bromobiphenyl	2052/7/5
3-Bromobiphenyl	2113-57-7
4-Bromobiphenyl	92-66-0
Decabromobiphenyl	13654-09-6
Dibromobiphenyl	92-86-4
Heptabromobiphenyl	35194-78-6
Hexabromobiphenyl	59080-40-9
Hexabromo-1,1-biphenyl	36355-01-8
Nonabromobiphenyl	27753-52-2
Octabromobiphenyl	61288-13-9, 27858-07-7
Pentabromobiphenyl	56307-79-0
Polybrominated Biphenyl	59536-65-1
Tetrabromobiphenyl	40088-45-7
Tribromobiphenyl	59080-34-1
Firemaster FF-1	67774-32-7
Annex N. Polybrominated diphenyl ethers (PBDEs) including all congeners and isomers	
Bromobiphenyl Ether	101-55-3
Decabromobiphenyl Ether	1163-19-5
Dibromobiphenyl Ether	2050-47-7
Heptabromobiphenyl Ether	68928-80-3
Hexabromobiphenyl Ether	36483-60-0
Nonabromobiphenyl Ether	63936-56-1
Octabromobiphenyl Ether	32536-52-0
Pentabromobiphenyl Ether	32534-81-9
Tetrabromobiphenyl Ether	40088-47-9
Tribromobiphenyl Ether	49690-94-0

ANNEXES: Chemical Lists with CAS Numbers

Unless specifically indicated as complete for the chemicals affected, these annex listings are examples only, except where noted.

Sustance	CAS No.
Annex O. Polychlorinated biphenyls (PCBs)	
Polychlorinated Biphenyls	1336-36-3
Aroclor	12767-79-2
Chlorodiphenyl (Aroclor 1260)	11096-82-5
Kanechlor 500	27323-18-8
Aroclor 1254	11097-69-1
Terphenyls	26140-60-3
Annex P. Shortchain Chlorinated Paraffins (also known as Shortchain chlorinated alkanes) Only shortchain chlorinated paraffins with carbon length of 10-13 atoms are covered.	
Chlorinated paraffins (C10-13) (also known as Alkanes, C10-13, chl	85535-84-8
Alkanes, C 10-12, chloro	108171-26-2
Alkanes, C 12-13, chloro	71011-12-6
Other Short Chain Chlorinated Paraffins	-
Annex R. Polychlorinated naphthalenes	
Polychlorinated Naphthalenes	70776-03-3
Dichloronaphthalene	28699-88-9
Trichloronaphthalene	1321-65-9
Tetrachloronaphthalene	1335-88-2
Pentachloronaphthalene	1321-64-8
Hexachloronaphthalene	1335-87-1
Heptachloronaphthalene	32241-08-0
Octachloronaphthalene	2234-13-1
Other polychlorinated naphthalenes	-
Annex T. Antimony/Antimony Compounds	
Antimony (metallic)	7440-36-0
Antimony pentoxide	1314-60-9
Antimony trichloride	10025-91-9
Sodium antimonate	15432-85-6
Other antimony compounds	-
Annex U. Arsenic/Arsenic Compounds	
Arsenic	7440-38-2
Gallium arsenide	1303-00-0
Calcium arsenate	7778-44-1
Calcium arsenite	27152-57-4
Potassium arsenite	10124-50-2
Potassium arsenate	7784-41-0
Lead arsenate	3687-31-8
Sodium arsenate	10048-95-0
Copper arsenate	10103-61-4
Ammonium arsenate	7784-44-3
Lead arsenate	7784-40-9
Arsenic acid, magnesium salt	10103-50-1
Arsenic trichloride	7784-34-1

ANNEXES: Chemical Lists with CAS Numbers

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Sustance	CAS No.
Arsine	7784-42-1
Copper arsenite	10290-12-7
Arsenic acid	7778-39-4
Other arsenic compounds, not including arsenic pentoxide and arsenic trioxide, as these substances have a separate entry on the reportable table)	-
Annex EE. Tributyl Tin, Triphenyl Tin	
Tributyltin	688-73-3
Tributyltin oxide	56-35-9
Tributyltin benzoate	4342-36-3
Tributyl tin bromide	1461-23-0
Tributyltin linoleate	24124-25-2
Tributyltin methacrylate	2155-70-6
Triphenyl tin	668-34-8
Triphenyltin N,N'-dimethyldithiocarbamate	1803-12-9
Triphenyltin fluoride	379-52-2
Triphenyltin acetate	900-95-8
Triphenyltin chloride	639-58-7
Triphenyltin hydroxide	76-87-9
Triphenyltin fatty acid salts (C=9-11)	47672-31-1
Triphenyltin chloroacetate	7094-94-2
Tributyltin methacrylate	2155-70-6
Bis(tributyltin) fumarate	6454-35-9
Tributyltin fluoride	1983/10/4
Bis(tributyltin) 2,3-dibromosuccinate	31732-71-5
Tributyltin acetate	56-36-0
Tributyltin laurate	3090-36-6
Bis(tributyltin) phthalate	4782-29-0
Copolymer of alkyl acrylate, methyl methacrylate and tributyltin methacrylate(alkyl; C=8)	67772-01-4
Tributyltin sulfamate	6517-25-5
Bis(tributyltin) maleate	14275-57-1
Tributyltin chloride	1461-22-9, 7342-38-3
Mixture of tributyltin cyclopentanecarboxylate and its analogs (Tributyltin naphthenate)	-
Tributyltin cyclopentane carbonate=mixture	5409-17-2
Triphenyltin fatty acid ((9-11) salt)	18380-71-7
	18380-72-8
	47672-31-1
	94850-90-5

ANNEXES: Chemical Lists with CAS Numbers

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Sustance	CAS No.
Mixture of tributyltin 1,2,3,4,4a,4b,5,6,10,10a-decahydro -7-isopropyl- 1,4a- dimethyl- 1- phenanthlenecarboxylate and its analogs (Tributyltin rosin salt)	26239-64-5
Tributyltin naphthenate	85409-17-2
Other Tributyl Tins & Triphenyl Tins	-
Annex FF. Creosote, Coal Tar, Anthracene Etc.	
Cresote; wash oil	8001-58-9
Creosote Oil; wash oil	61789-28-4
Distillates (coal tar), naphthalene oils; naphthalene oil	84650-04-4
Cresote oil, acenaphthene fraction; wash oil	90640-84-9
Distillates (coal tar), upper; heavy anthracene oil	65996-91-0
Anthracene oil	90640-80-5
Tar acids, coal, crude; crude phenols	65996-85-2
Cresote, wood	8021-39-4
Low temperature tar oil, alkaline; extract residues (coal), low temperature coal tar alkaline	122384-78-5
Coal tar	8007-45-2
Annex JJ. Hydrofluorocarbons (HFCs)	
Trifluoromethane (HFC-23)	75-46-7
Difluoromethane (HFC-32)	1975/10/5
Fluoromethane (HFC-41)	593-53-3
1,1,1,2,3,4,4,5,5,5-decafluoropentane (HFC-43-10)	138495-42-8
2H, 3H-Decafluoropentane (HFC-43-10mee)	138495-42-8
Pentafluoroethane (HFC - 125)	354-33-6
1,1,2,2-tetrafluoroethane (HFC-134)	359-35-3
1,1,1,2-tetrafluoroethane (HFC-134a)	811-97-2
1,1,2-trifluoroethane (HFC-143)	430-66-0
1,1,1-trifluoroethane (HFC-143a)	420-46-2
1,2-Difluoroethane (HFC-152)	624-72-6
1,1-Difluoroethane (HFC-152a)	75-37-6
Monofluoroethane (Ethyl fluoride) (HFC-161)	353-36-6
1,1,1,2,3,3,3-heptafluoropropane (HFC-227ca)	431-89-0
1,1,1,2,2,3,3-heptafluoropropane (HFC-227ca)	2252-84-8
1,1,2,2,3,3-hexafluoropropane (HFC-236ca)	27070-61-7
1,1,1,2,2,3-hexafluoropropane (HFC-236cb)	677-56-5
1,1,1,2,3,3-hexafluoropropane (HFC-236ea)	431-63-0
1,1,1,3,3,3-hexafluoropropane (HFC-236fa)	690-39-1
1,1,2,2,3-pentafluoropropane (HFC-245ce and HFC245ca)	679-86-7
1,1,1,3,3-pentafluoropropane (HFC-245fa)	460-73-1
1,1,1,3,3-pentafluorobutane (HFC-365mfc)	406-58-6
Heptafluorocyclopentane (HFC-c-447ef)	15290-77-4
1,1,1,2,2,3,4,5,5,5,-decafluoropentane (HFC-43-10 mee)	138495-42-8
HFC-1234yf	Not available

ANNEXES: Chemical Lists with CAS Numbers

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Sustance	CAS No.
HFC-1234ze	Not available
HFC-1336mzz	Not available
HFC-1233zd	Not available
HFC-1233xf	Not available
Annex KK. Dibutyltin Compounds (DBT)	
Dibutyltin oxide	818-08-6
Dibutyltin chloride	683-18-1
Dibutyltin diacetate	1067-33-0
Dibutyltin dilaurate	77-58-7
Dibutyltin hydrogen borate	75113-37-0
Dibutyltin maleate	1978/4/6
Other dibutyltin compounds	-
Annex LL. Polycyclic aromatic hydrocarbons (PAHs)	
Acenaphthene	83-32-9
Acenaphthylene	208-96-8
Anthanthrene	191-26-4
Anthracene (Please note this substance is also a REACH SVHC required to be reported on the PCD if present in the referenced concentration as cited in Section 2.2.3.)	120-12-7
Benz[a]anthracene	56-55-3
Benzo[b]fluoranthene	205-99-2
Benzo[j]fluoranthene	205-82-3
Benzo[k]fluoranthene	207-08-9
Benzo[ghi]fluoranthene	203-12-3
Benzo[a]fluorene	238-84-6
Benzo[b]fluorene	243-17-4
Benzo[ghi]perylene	191-24-2
Benzo[c]phenanthrene	195-19-7
Benzo[a]pyrene	50-32-8
Benzo[e]pyrene	192-97-2
Chrysene	218-01-9
Coronene	191-07-1
Cyclopenta[c d]pyrene	27208-37-3
Dibenz[a, h]anthracene	53-70-3
Dibenzo[a, e]pyrene	192-64-0
Dibenzo[a h]pyrene	189-64-0
Dibenzo[a, i]pyrene	189-55-9
Dibenzo[a, l]pyrene	191-30-0
Fluoranthene	206-44-0
Fluorene	86-73-7
Indeno[1,2,3-cd]pyrene	193-39-5
5-methylchrysene	3697-24-3
1-methylphenathrene	832-69-9

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Sustance	CAS No.
Naphthalene	91-20-3
Perylene	198-55-0
Phenanthrene	1985/1/8
Pyrene	129-00-0
Triphenylene	217-59-4
Dibenz[a, c]anthracene	215-58-7
Dibenz[a, j]anthracene	224-41-9
Annex OO. List of substances subject to REACH Authorization (current as of the date of this specification, current list maintained in the latest REACH regulation and its amendments)	
1-Bromopropane (n-propyl bromide)	106-94-5
Diisopentylphthalate	605-50-5
1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7	71888-89-6
1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl	68515-42-4
1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	84777-06-0
Bis(2-methoxyethyl) phthalate	117-82-8
Dipentyl phthalate	131-18-0
N-pentyl-isopentylphthalate	776297-69-9
Anthracene oil	90640-80-5
Pitch, coal tar, high temp.	65996-93-2
4-(1,1,3,3-Tetramethylbutyl) phenol, ethoxylated	Not available
4-Nonylphenol, branched and linear, ethoxylated	Not available
Acids generated from chromium trioxide and their oligomers. Group containing:	7738-94-5
Chromic acid	13530-68-2
Dichromic acid	Not yet assigned
Oligomers of chromis acid and dichromic acid	
Ammonium dichromate	7789/9/5
Arsenic acid	7778-39-4
Benzyl butyl phthalate (BBP) Please note a more restrictive level is listed in Table 1 for this substance.	85-68-7
Bis (2-ethylhexyl) phthalate (DEHP) Please note a more restrictive level is listed in Table 1 for this substance.	117-81-7
Bis(2-methoxyethyl) ether (Diglyme)	111-96-6
Chromium trioxide	1333-82-0
Diarsenic trioxide	1327-53-3
4,4' -Diaminodiphenylmethane (MDA)	101-77-9
Diarsenic pentaoxide	1303-28-2
Dibutyl phthalate (DBP) Please note a more restrictive level is listed in Table 1 for this substance.	84-74-2

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Sustance	CAS No.
1,2-dichloroethane (EDC)	107-06-2
2,2' -dichloro-4,4' -methylenedianiline (MOCA)	101-14-4
Dichromium tris(chromate)	24613-89-6
Diisobutyl phthalate (DIBP) Please note a more restrictive level is listed in Table 1 for this substance.	84-69-5
N,N-dimethylacetamide (DMAC)	127-19-5
2,4-Dinitrotoluene (2,4-DNT)	121-14-2
Formaldehyde, oligomeric reaction products with aniline	25214-70-4
Hexabromocyclododecane (HBCDD) alpha-hexabromocyclododecane beta-hexabromocyclododecane gamma-hexabromocyclododecane	3194-55-6, 25637-99-4 134237-50-6 134237-51-7 134237-52-8
Lead chromate	7758-97-6
Lead sulfochromate yellow (C.I. Pigment Yellow 34)	1344-37-2
Lead chromate molybdate sulphate red (C.I. Pigment Red 104)	12656-85-8
Pentazinc chromate octahydroxide	49663-84-5
Potassium chromate	7789-00-6
Potassium dichromate	7778-50-9
Potassium hydroxyoctaoxodizincatedichromate	11103-86-9
Sodium chromate	7775/11/3
Sodium dichromate	7789-12-0 10588-01-9
Strontium chromate	7789/6/2
5-tert-butyl-2,4,6-trinitro- m-xylene (Musk xylene)	81-15-2
Trichloroethylene	1979/1/6
Tris (2-chloroethyl) phosphate (TCEP)	115-96-8
Annex TT. Perfluorinated compounds	
Perfluoropolymethylisopropyl-ether (PFPMIE)	Not available
Trifluoromethyl sulphur pentafluoride	Not available
Nitrogen trifluoride	7783-54-2
Perfluorocyclopropane	Not available
Annex VV. Nonylphenol Ethoxylates	
Ethanol, 2-[2-(4-nonylphenoxy)ethoxy]-	20427-84-3
Poly(oxy-1,2-ethanediyl), α -(4-nonylphenyl)- ω -hydroxy-	26027-38-3
3,6,9,12,15,18,21-Heptaaxatricosan-1-ol, 23-(nonylphenoxy)-	27177-05-5
3,6,9,12,15,18,21,24,27-Nonaoxanonacosan-1-ol, 29-(nonylphenoxy)-	27177-08-8
Ethanol, 2-(nonylphenoxy)-	27986-36-3
Ethanol, 2-[2-[2-[2-(4-nonylphenoxy)ethoxy]ethoxy]ethoxy]-	7311-27-5

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Sustance	CAS No.
Poly(oxy-1,2-ethanediyl), α (nonylphenyl)- ω -hydroxy-	9016-45-9
Ethanol, 2-[2-(nonylphenoxy)ethoxy]-	27176-93-8
Poly(oxy-1,2-ethanediyl), α -(2-nonylphenyl)- ω -hydroxy-	51938-25-1
Poly(oxy-1,2-ethanediyl), α -(isononylphenyl)- ω -hydroxy-	37205-87-1
3,6,9,12,15,18,21,24-Octaoxahexacosan-1-ol, 26-(nonylphenoxy)-	26571-11-9
Annex XX. N,N' -ditolyl-p-phenylenediamine	
N,N' -ditolyl-p-phenylenediamine	27417-40-9
N-tolyl-N' -xylyl-p-phenylenediamine	28726-30-9
N,N' -dixylyl-p-phenylenediamine	70290-05-0
Annex YY. Dioxins	
Polychlorinated dibenzo-p-dioxin Not available	Not available
Polychlorinated dibenzofuran Not available	Not available
Co-PCBs	-

客户要求:

Items	客户	客户要求review 时间	XAC有害物质标准是否符合客户要求	是否需要修改XAC有害物质标准	修改的条款/内容
1	wistron	2020.9	是	否	N/A
2	Sampo	2021.5	是	否	N/A