

# 進宣科技股份有限公司

## National Enhance Technology Corp.

### 環境有害物質限用規範

### Environmental Restriction of Hazardous Substances Specification

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## 1、 目的：

為因應全球各國、各地國際環保法規要求，對危害人體或環境的物質進行管制，以及對該物質含量進行禁用或限用的要求，限制有害物質混入產品中，以便達到減輕環境及對生態影響之目的。故訂定本規範，以使管理標準能與國際同步並使供應商(及關係企業)有所遵循。

## 2、 範圍：

- 2.1. 適用於進宣、供應商(及關係企業)所直接或間接提供進行環保管控的產品所包含的零組件、材料、副資材及其他物品，這些均必須符合本規範所述之標準規定。
- 2.2. 本規範未明確規定之物質，如製造當地或國家法規明令禁用，必須按照規定執行。

## 3、 名詞定義(Definitions are reference only)：

- 3.1. **環境有害物質(Hazardous substance)**：係指本規範所定義對人體、環境、生態有危害之物質。
- 3.2. **無危害物質(Hazardous substance free, HSF)**：減量或排除表列於 WEEE 與 RoHS 指令或其他適用標準及法規中之任何物質。
- 3.3. **均質材料(Homogeneous materials)**：係指零部件無法以機械外力拆解成不同組成。
- 3.4. **故意添加物質(Intentionally added)**：爲了要改變產品或材料的物理或化學特性，於製造過程中故意添加特定物質，添加後該物質存在於產品或材料中。
- 3.5. **雜質(Natural impurity)**：存在於天然材料之中，現有技術無法完成去除的物質，或合成反應過程中產生而在技術上無法完全去除之物質。
- 3.6. **包裝材料**：指提供產品運輸保護到客戶端過程中所使用的包裝、防護、標示等材料(例：內外箱、塑膠袋、泡棉、油墨、標籤、脆盤、管(帶)狀包裝、束線帶...等)
- 3.7. **長時間皮膚接觸**：係指產品接觸人體皮膚長達 10 分鐘以上。
- 3.8. **副資材**：生產工序所使用的材料，例如焊錫、焊油、清洗劑、溶劑、治具...等。
- 3.9. **物質安全資料表**簡稱 MSDS，即 Material Safety Data Sheet。由於其簡明扼要地記載化學物質的特性，故有人稱之爲“化學品的身分證”。它是化學物質的說明書；是化學物質管理的基本工具；也是一份提供化學物質資訊之技術性文獻。其內容廣泛，包括過

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量暴露情況下的健康危害、操作、貯存或使用時的危害性評估、在過量暴露風險下，保護員工的方法、以及緊急處理步驟。

註：**MSDS 每三年需更新。**

**3.10. 廢電機電子指令 (Waste Electrical and Electronic Equipment, 以下簡稱 WEEE)：**由於電機電子等設備產品其功能日新月異，產品生命週期相當短暫，造成其汰換與廢棄之速度往往也高於一般產品，若這些廢棄物沒有經過適當的處理程序，直接進入焚化或掩埋處理，其中大量之有害物質勢必會對環境造成嚴重之影響，也形成資源不必要的浪費；若能有適當的回收與處理機制，相對地必能大幅減輕環境之負荷有鑑於此，歐盟於 1998 年提出 WEEE 指令草案，並於 2003 年 2 月正式成為歐盟 EU 2002/96/EC 指令。目前最新版本為 **2012/19/EU** (於 2012 年 8 月 13 日生效)。

**3.11. 歐盟耗能產品環保設計指令(Energy-Related Products, 以下簡稱 ErP)：**歐盟於 2009 年 10 月 31 日發布了 2009/125/EC(ErP 指令)以取代舊版的 EuP 指令 2005/32/EC，將產品範圍由耗能產品擴大至所有耗能相關產品(energy-related products)。

註：因應 ErP 指令，有關製造商的責任：

- ◆ 製造商應確保於市場流通之 EuP 符合本指令及該產品之實施方法之所有要求(生態化設計規格)
- ◆ 製造商應確保已針對該產品之「實施方法」中所有要求進行符合性評估(選擇「內部設計管理」(如附錄四)或從「環境管理系統」(如附錄5)開始進行符合性評估)
- ◆ EuP 於市場流通前，應貼上「CE 符合標示」，並出示「符合性宣告」，以確保並宣告該 EuP 符合其實施方法之所有規定
- ◆ 隨時備妥「符合性宣告」與「符合性技術文件」以供查驗，當歐盟會員國主管單位提出要求，需在 10 日之內備妥相關文件。

**3.12. 電氣及電子設備使用某些危害物質限制指令 (RoHS 2.0) 2011/65/EU：**歐盟於 2011 年 7 月 1 日公告新版 RoHS 指令(2011/65/EU)，於 2013 年 1 月 3 日起，此指令取代原 RoHS 指令(2002/95/EC)。

**3.13. 化學品註冊、評估、授權與管制政策(Registration, Evaluation and Authorization of Chemicals System 以下簡稱 REACH)：**為 2003 年 10 月，歐盟化學署採用歐盟新化學管制的架構 COM(2003) 644，發表名為 REACH 化學品登記、評估及授權之機制) 的新化學品政策。在 REACH 法規系統中，歐盟國生產或進口化學物質一噸/年以上的企業都將受到法規的管制，並向歐洲化學品管理局提交了所需的註冊檔案材料。



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**註：2016/06/20 REACH 增加到 169 項高度關注物質(SVHC)**

**3.14. 聯合產業指南**(Joint Industry Guide for Material Composition Declaration for Electronic Products，簡稱 JIG)：為日本環保產品優先購入調查共通化協議會(Japan Green Procurement Survey Standardization Initiative，以下簡稱 JPGSSI)和美國電子工業聯盟 (Electronic Industries Association，以下簡稱 EIA)及歐洲信息訊技術工業協會 (European Information& Communications Technology Association，以下簡稱 EICTA) 攜手合作制定共通的調查指南研究，並於 2005 年 5 月發佈了 JIG。

**3.15. 美國 H. R. 2420**：為了確保管制電器設備中的有害物質，美國眾議員 Michael Burgess 於 2009 年 5 月 14 日提交修訂《美國聯邦毒性物質管理法》(Toxic Substances Control Act of 1976，簡稱 TSCA) 的法案《H.R. 2420：電氣設備環境保護設計法案》(Environmental Design of Electrical Equipment Act，簡稱 EDEE)至眾議院能源和商業委員會。

禁用物質要求 H.R.2420 中要求的限值和歐盟 RoHS 相同，自 2010 年 7 月 1 日起，在美國市場銷售的電器產品設備所採用的均質物料，其鉛、汞、六價鉻、聚溴聯苯(PBB)及聚溴聯苯醚(PBDE)含量，按重量計不得超過 0.1%，鎘含量不得超過 0.01%；被豁免者除外。

**3.16. China RoHS**：中國大陸工信部已於 2016 年 1 月 21 日與其他 7 個部門正式公布"電器電子產品有害物質限制使用管理辦法"，也就是一般通稱之 China RoHS 2.0，此一管理辦法將於 2016 年 7 月 1 日起正式生效，同時原先於 2006 年 2 月 28 日公布的"電子信息產品污染控制管理辦法"亦將同時廢止。

**3.17. 包材與包材廢棄物指令 (Directive 94/62/EC)**：自 1996 年執行以來限制四項重金屬在包裝材料和包裝成品中的限值。歐盟委員會於 2013 年 2 月 8 日發佈指令 2013/2/EU，修訂 Directive 94/62/EC 附件一所列舉的包材應用範例。此次修訂，主要是增加說明範例，進一步闡明 Directive 94/62/EC 的產品範圍。新指令對包裝材料中有害物質：鉛、鎘、汞、六價鉻的四項總和的要求維持不變，仍限定為 100ppm。2013/2/EU 將於 2013 年 9 月 30 日起生效。

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- 4、無衝突礦產：進宣科技不接受產品所含有之金(Au)、鉭(Ta)、錫(Sn)、鎢(W)，其礦產來源來自剛果人民共和國或其他非法開採之礦區。如供應商供應之材料成分含有上述金屬時，需額外提供此材料之熔煉廠資訊(包含熔煉廠名稱、所在國家、聯絡人等資訊)。
- 5、檢測報告要求：驗證單位須為 ISO17025 或國家政府單位授權認證之驗證機構，且供應商須備有檢驗機構認可證照影本或可茲證明之文件，以便進宣科技查驗及確保實驗室之有效性。建議的合格實驗室有：SGS(台灣檢驗科技公司)、ETC(財團法人台灣電子檢驗中心)，及 ITS(全國公證檢驗中心)等合格實驗機構。
- 6、如供應商提供原廠之符合性聲明書，聲明書內容至少須有原廠名稱、地址、電話、負責人簽名、限用物質及含量限制數值。
- 7、供應商對產品 RoHS 禁用物質承諾之料件，需於外箱及內箱標示“RoHS”字樣，樣式不拘，唯需可清楚辨識出 RoHS 字樣。

8、限用物質含量管理標準：

8.1. RoHS2.0 (2011/65/EU)限用物質含量：

管制物質	濃度限值	檢測手法	執行日期
鎘 (Cd)	0.01%	IEC62321-2013	即刻
鉛 (Pb)	0.1%	IEC62321-2013	即刻
汞 (Hg)	0.1%	IEC62321-2013	即刻
六價鉻 (Cr6+)	0.1%	IEC62321-7-1-2015	即刻
多溴聯苯 (PBB)	0.1%	IEC62321-6-2015	即刻
多溴二苯醚 (PBDE)	0.1%	IEC62321-6-2015	即刻
鄰苯二甲酸二(2-乙基己基)酯 (DEHP)	0.1%	IEC 62321-8	2019/07/22
鄰苯二甲酸丁酯苯甲酯 (BBP)	0.1%	IEC 62321-8	2019/07/22
鄰苯二甲酸二丁酯 (DBP)	0.1%	IEC 62321-8	2019/07/22
鄰苯二甲酸二異丁酯 (DIBP)	0.1%	IEC 62321-8	2019/07/22

註：關於排外條款，請自行參考官方網站。

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### 8.2. 包材指令(94/62/EC) 限用物質含量：

管制物質	濃度限值	檢測手法	執行日期
鎘 (Cd)	100ppm	IEC62321-2013	即刻
鉛 (Pb)	100ppm	IEC62321-2013	即刻
汞 (Hg)	100ppm	IEC62321-2013	即刻
六價鉻 (Cr6+)	100ppm	IEC62321-2015	即刻

### 8.3. PFOS(2006/122/EC)限用物質含量：

管制物質	濃度限值	部件	執行日期
全氟辛烷磺酸鹽 (PFOS)	< 0.005%(w/w)	成品	2008/06/27
全氟辛烷磺酸鹽 (PFOS)	< 0.1%(w/w)	半成品、零件	2008/06/27

### 8.4. 歐盟電池指令(2013/56/EU)限用物質含量：

管制物質	要求	執行日期
鎘(Cd)	可攜式電池與蓄電池之鎘 (Cd)限值为 0.002%	2017/01/01
	2017/01/01 取消無線電動工具排外，使用於該類產品之電池亦須符合 0.002%的要求。	
汞(Hg)	排除項目： 使用於以下產品之可攜式電池與蓄電池則不受上述限值規範 a. 緊急照明及逃生系統 b. 醫療器材	2015/10/01
	電池之汞 (Hg)限值一律為 0.0005%，2015/10/01 取消鈕扣電池排外。 2014/10/01，將再評估助聽器所使用之鈕扣電池是否維持為排除項目。	

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**8.5. REACH 限用物質含量：至 2016/12/19 為止，目前共有 173 項高度關注物質。**

歐洲化學品管理局（ECHA）近期修訂了高度關注物質清單。

高度關注物質清單新增至總共 173 種 SVHCs。

該法律義務適用於列入候選名單的物質、其混合物或物品。

任何物品含有以下物質，如同時符合以下兩種情形,其生產者及進口商應向歐洲化學品管理局（ECHA）通報：

每生產者/進口商物品中所含的此物質數量超過 1 噸/年；且此物質在物品中的濃度超過 0.1%。

高度關注物質 SVHCs 授權名單：本清單如未即時更新，請以歐盟化學品管制局所列清單為主：<http://echa.europa.eu/candidate-list-table>

項次	檢測項目		EC Number	CAS Number
第一批管制物質(2008.10.09)				
1	蒽(綠油腦)	Anthracene	204-371-1	120-12-7
2	4,4' -二氨基二苯甲烷	4,4'-Diaminodiphenylmethane	202-974-4	101-77-9
3	六溴環十二烷	Hexabromocyclododecane (HBCDD)	247-148-4	25637-99-4
4	氯化石蠟	Short Chain Chlorinated Paraffins (C10~C13)	287-476-5	85535-84-8
5	二氯化鈷	Cobalt dichloride	231-589-4	7646-79-9
6	五氧化二砷	Diarsenic pentoxide	215-116-9	1303-28-2
7	三氧化二砷	Diarsenic trioxide	215-481-4	1327-53-3
8	三乙基砷酸酯	Triethyl arsenate	427-700-2	15606-95-8
9	重鉻酸鈉	Sodium dichromate		7789-12-0
10	砷酸鉛	Lead hydrogen arsenate	232-064-2	7784-40-9
11	二甲苯麝香	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2
12	鄰苯二甲酸二丁酯	Dibutyl Phthalate (DBP)	201-557-4	84-74-2
13	鄰苯二甲酸二(2-乙基己基)酯	Bis(2-ethylhexyl) phthalate (DEHP)	204-211-0	117-81-7
14	鄰苯二甲酸丁酯苯甲酯	Benzyl butyl phthalate (BBP)	201-622-7	85-68-7
15	氧化三丁錫	Bis(tributyltin) oxide (TBTO)	200-268-0	56-35-9



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第二批管制物質(2010.01.13)			
16	蔥油	Anthracene oil	292-602-7 90640-80-5
17	蔥油，蔥湖，輕油	Anthracene oil, anthracene paste, distn. Lights	295-278-5 91995-17-4
18	蔥油，蔥湖，蔥餾分	Anthracene oil, anthracene paste, anthracene fraction	295-275-9 91995-15-2
19	蔥油，含蔥量少	Anthracene oil, anthracene-low	292-604-8 90640-82-7
20	蔥油，蔥湖	Anthracene oil, anthracene paste	292-603-2 90640-81-6
21	鄰苯二甲酸二異丁酯	Diisobutyl phthalate	201-553-2 84-69-5
22	2，4-二硝基甲苯	2,4-Dinitrotoluene	204-450-0 121-14-2
23	煤瀝青，高溫	Coal tar pitch, high temperature	266-028-2 65995-93-2
24	三(2-氯乙基)磷酸酯	Tris(2-chloroethyl)phosphate	204-118-5 115-96-8
25	鉻酸鉛(C.I.顏料黃 34)	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7 1344-37-2
26	鉬鉻紅 (C.I. 顏料紅 104)	Lead chromate molybdate sulphate red(C.I. Pigment Red 104)	235-759-9 12656-85-8
27	鉻酸鉛(鉻黃)	Lead chromate	231-846-0 7758-97-6
28	丙烯醯胺	Acrylamide	201-173-7 79-06-1
第三批管制物質(2010.03.08)			
29	三氯乙烯	Trichloroethylene	201-167-4 79-01-6
30	硼酸	Boric acid	233-139-2 10043-35-3 234-343-4 11113-50-1
31	四硼酸二鈉(無水)	Disodium tetraborate, anhydrous	215-540-4 1330-43-4 12179-04-3 1303-96-4
32	水合硼酸鈉	Tetraboron disodium heptaoxide, hydrate	235-541-3 12267-73-1

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33	鉻酸鈉	Sodium chromate	231-889-5	7775-11-3
34	鉻酸鉀	Potassium chromate	232-140-5	7789-00-6
35	重鉻酸銨	Ammonium dichromate	232-143-1	7789-09-5
36	重鉻酸鉀	Potassium dichromate	231-906-6	7778-50-9
第四批管制物質(2010.12.15)				
37	硫酸鈷	Cobalt(II) sulphate	203-839-2	111-15-9
38	硝酸鈷	Cobalt(II) dinitrate	232-142-6	2151068
39	碳酸鈷	Cobalt(II) carbonate	271-084-6	68515-42-4
40	醋酸鈷	Cobalt(II) diacetate	206-114-9	7803-57-8 302-01-2
41	乙二醇單甲醚	2-Methoxyethanol	212-828-1	872-50-4
42	乙二醇單乙醚	2-Ethoxyethanol	202-486-1	96-18-4
43	三氧化鉻	Chromium trioxide	276-158-1	71888-89-6
44	鉻酸及其低聚物產生的酸類： Acids generated from chromium trioxide and their oligomers			
	鉻酸	Chromic acid	231-801-5	7738-94-5
	重鉻酸	Dichromic acid	236-881-5	13530-68-2
	鉻酸及重鉻酸的低聚物	Oligomers of chromic acid and dichromic acid	-	-
第五批管制物質(2011.05.31)				
45	乙二醇乙醚醋酸酯	2-ethoxyethyl acetate	203-839-2	111-15-9
46	鉻酸銣	Strontium Chromate	232-142-6	2151068
47	鄰苯二甲酸二(鏈)烷基酯 (C7-11 支鏈與直鏈) 烷基酯	1,2-benzenedicarboxylic Acid, di-C7-11-branched and Linear Alkyl Esters	271-084-6	68515-42-4
48	聯安	Hydrazine	206-114-9	7803-57-8 302-01-2
49	1-甲基-2-吡咯烷酮	1-methyl-2-pyrrolidone	212-828-1	872-50-4
50	1,2,3-三氯丙烷	1,2,3-trichloropropane	202-486-1	96-18-4

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51	鄰苯二甲酸二(C6-8 支鏈與直鏈)烷基酯,富 C7	1,2-benzenedicarboxylic Acid, di-C6-8-branched Alkyl Esters, C7-rich	276-158-1	71888-89-6
第六批管制物質(2011.12.19)				
52	鉻酸鉻	Dichromium tris(chromate)	246-356-2	24613-89-6
53	氫氧化鉻酸鋅鉀	Potassium hydroxyoctaoxodizincate chromate	234-329-8	11103-86-9
54	C.I.顏料黃 36	Pentazinc chromate octahydroxide	256-418-0	49663-84-5
55	矽酸鋁, 耐火陶瓷纖維	Aluminosilicate Refractory Ceramic Fibres (RCF)	650-017-00-8*	-
56	氧化鋯矽酸, 耐火陶瓷纖維	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	650-017-00-8*	-
57	甲醛和苯胺聚合物	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	500-036-1	25214-70-4
58	鄰苯二甲酸二甲氧乙酯	Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8
59	鄰甲氧基苯胺	2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0
60	對特辛基苯酚	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	205-426-2	140-66-9
61	1,2-二氯乙烷	1,2-Dichloroethane	203-458-1	107-06-2
62	二甘醇二甲醚	Bis(2-methoxyethyl) ether	203-924-4	111-96-6
63	砷酸	Arsenic acid	231-901-9	7778-39-4
64	砷酸鈣	Calcium arsenate	231-904-5	7778-44-1
65	砷酸鉛	Trilead diarsenate	222-979-5	3687-31-8
66	N,N-二甲基乙醯胺	N,N-dimethylacetamide (DMAC)	204-826-4	127-19-5
67	4,4'-烷, 二氨基-3,3'-二氯二苯甲烷	2,2'-dichloro-4,4'-methylenedianiline(MOCA)	202-918-9	101-14-4

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68	酚酞	Phenolphthalein	201-004-7	1977/9/8
69	疊氮化鉛	Lead azide Lead diazide	236-542-1	13424-46-9
70	收斂酸鉛	Lead styphnate	239-290-0	15245-44-0
71	苦味酸鉛	Lead dipicrate	229-335-2	6477-64-1
第七批管制物質(2012.06.18)				
72	三甘醇二甲醚	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	203-977-3	112-49-2
73	乙二醇二甲醚	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4
74	三氧化二硼	Diboron trioxide	215-125-8	1303-86-2
75	甲醯胺	Formamide	200-842-0	75-12-7
76	甲基磺酸鉛	Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2
77	異氰尿酸三縮水甘油酯	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	219-514-3	2451-62-9
78	異氰脲酸 β-三縮水甘油酯	β-TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	423-400-0	59653-74-6
79	米氏酮	4,4'-bis(dimethylamino) benzophenone (Michler's ketone)	202-027-5	90-94-8
80	4,4'-(對二甲氨基)二苯基甲烷	N,N,N',N'-tetramethyl-4,4'-methylenedianiline(Michler's base)	202-959-2	101-61-1
81	結晶紫；甲基紫；龍膽紫；鹼性紫 3	[4-[4,4'-bis(dimethylamino) benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	208-953-6	548-62-9



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82	鹼性藍 26	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26)	219-943-6 2580-56-5
83	溶劑藍 4	$\alpha,\alpha$ -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	229-851-8 6786-83-0
84	A,A 氨基苯甲醇-二[(二甲氨基)苯基]-4-甲氨基苯甲醇	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	209-218-2 561-41-1
第八批管制物質(正式公布 2012.12.19)			
85	十溴聯苯醚	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	214-604-9 1163-19-5
86	全氟十三酸	Pentacosafuorotridecanoic acid	276-745-2 72629-94-8
87	全氟十二烷酸	Tricosafuorododecanoic acid	206-203-2 307-55-1
88	全氟十一烷酸	Henicosafuoroundecanoic acid	218-165-4 2058-94-8
89	全氟代十四酸	Heptacosafuorotetradecanoic acid	206-803-4 376-06-7
90	偶氮二甲醯胺	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	204-650-8 123-77-3
91	六氫鄰苯二甲酸酐	Cyclohexane-1,2-dicarboxylic anhydride [1] cis-cyclohexane-1,2-dicarboxylic anhydride [2] trans-cyclohexane-1,2-dicarboxylic anhydride [3]	201-604-9 236-086-3 238-009-9 85-42-7 13149-00-3 14166-21-3

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92	甲基六氫苯酐 4-甲基六氫苯酐 甲基六氫化鄰苯二甲酸酐 3-甲基六氫苯二甲酯酐	Hexahydromethylphthalic anhydride [1] Hexahydro-4-methylphthalic anhydride [2] Hexahydro-1-methylphthalic anhydride [3] Hexahydro-3-methylphthalic anhydride [4]	25550-51-0 19438-60-9 48122-14-1 57110-29-9
93	支鏈及直鏈壬基酚-包括含有 9 個碳烷基鏈之所有獨立同分異構體及所有含有含直鏈或支鏈之 9 個碳烷基鏈 UVCB 物質	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	-
94	辛基酚聚醚-9，包括界定明確的物質以及 UVCB 物質、聚合物及同系物	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-
95	甲氧基乙酸	Methoxyacetic acid	625-45-6
96	N,N-二甲基甲醯胺	N,N-dimethylformamide	25174
97	二丁基二氯化錫	Dibutyltin dichloride (DBTC)	683-18-1
98	一氧化鉛	Lead monoxide (Lead oxide)	1317-36-8
99	四氧化三鉛	Orange lead (Lead tetroxide)	1314-41-6
100	氟硼酸鉛	Lead bis(tetrafluoroborate)	13814-96-5
101	鹼式碳酸鉛	Trilead bis(carbonate)dihydroxide	1319-46-6

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102	鈦酸鉛	Lead titanium trioxide	235-038-9	12060-00-3
103	鈦酸鉛鋯	Lead titanium zirconium oxide	235-727-4	12626-81-2
104	矽酸鉛	Silicic acid, lead salt	234-363-3	11120-22-2
105	摻雜鉛的矽酸鋇	Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), barium salt (1:1), lead-doped	272-271-5	68784-75-8
106	1-溴丙烷	1-bromopropane (n-propyl bromide)	203-445-0	106-94-5
107	1,2-環氧丙烷	Methyloxirane (Propylene oxide)	200-879-2	75-56-9
108	1,2-苯二羧二戊酯（支鏈和直鏈）	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0
109	鄰苯二甲酸二異戊酯	Diisopentylphthalate (DIPP)	210-088-4	605-50-5
110	鄰苯二甲酸正戊基異戊基酯	N-pentyl-isopentylphthalate	-	776297-69-9
111	乙二醇二乙醚	1,2-diethoxyethane	211-076-1	629-14-1
112	鹼式乙酸鉛	Acetic acid, lead salt, basic	257-175-3	51404-69-4
113	鹼式硫酸鉛	Lead oxide sulfate	234-853-7	12036-76-9
114	二鹽基鄰苯二甲酸鉛	[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9
115	雙(十八酸基)二氧代三鉛	Dioxobis(stearato)trilead	235-702-8	12578-12-0
116	C16-C18 脂肪酸鉛鹽 脂肪酸鉛鹽	Fatty acids, C16-18, lead salts	292-966-7	91031-62-8
117	氨基氰鉛鹽	Lead cyanamidate	244-073-9	20837-86-9
118	硝酸鉛	Lead dinitrate	233-245-9	10099-74-8
119	氧化鉛與硫酸鉛的複合物	Pentalead tetraoxide sulphate	235-067-7	12065-90-6
120	顏料黃 41	Pyrochlore, antimony lead yellow	232-382-1	8012-00-8
121	亞硫酸鉛 (II)	Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7
122	四乙基鉛	Tetraethyllead	201-075-4	78-00-2
123	三鹼式硫酸鉛	Tetralead trioxide sulphate	235-380-9	12202-17-4

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124	磷酸氧化鉛	Trilead dioxide phosphonate	235-252-2	12141-20-7
125	呋喃	Furan	203-727-3	110-00-9
126	硫酸二乙酯	Diethyl sulphate	200-589-6	64-67-5
127	硫酸二甲酯	Dimethyl sulphate	201-058-1	77-78-1
128	3-乙基-2-甲基-2-(3-甲基丁基) 噁唑烷	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2
129	地樂酚	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7
130	4,4'-烷二胺基-3,3'-二甲基二苯甲烷	4,4'-methylenedi-o-toluidine	212-658-8	838-88-0
131	4,4'-二氨基二苯醚	4,4'-oxydianiline and its salts	202-977-0	101-80-4
132	4-胺基偶氮苯	4-aminoazobenzene	200-453-6	22162
133	2,4-二氨基甲苯	4-methyl-m-phenylene diamine (toluene-2,4-diamine)	202-453-1	95-80-7
134	2-甲氧基-5-甲基苯胺	6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8
135	4-胺基聯苯	Biphenyl-4-ylamine	202-177-1	92-67-1
136	鄰氨基偶氮甲苯	o-aminoazotoluene[(4-o-tolylazo-o-toluidine)]	202-591-2	97-56-3
137	鄰-甲苯胺	o-toluidine	202-429-0	95-53-4
138	N-甲基乙醯胺	N-methylacetamide	201-182-6	79-16-3
第九批管制物質(2013.06.20)				
139	鎘	Cadmium	231-152-8	7440-43-9
140	氧化鎘	Cadmium oxide	215-146-2	1306-19-0
141	全氟辛酸鉍	Ammoniumpentadecafluorooctanoate (APFO)	223-320-4	3825-26-1
142	全氟辛酸	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1
143	鄰苯二甲酸二戊酯	Dipentyl phthalate (DPP)	205-017-9	131-18-0



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144	分支或線性的乙氧壬基酚，包括含有 9 個碳烷基鏈的所有獨立的同分異構體和所有含有線性或分支 9 個碳烷基鏈的 UVCB 物質	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]	-
第十批管制物質(2013.12.16)			
145	硫化鎘	Cadmium sulphide	215-147-8
146	C.I.直系紅 28	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-aminonaphtalene-1-sulphonate) (C.I. Direct Red 28)	209-358-4
147	C.I.直系黑 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)	217-710-3
148	鄰苯二甲酸二己酯	Dihexyl phthalate	201-559-5
149	1,2-亞乙基硫脲	Imidazolidine-2-thione ; 2-imidazoline-2-thiol	202-506-9
150	醋酸鉛	Lead di(acetate)	206-104-4
151	磷酸三(二甲苯)酯	Trixylyl phosphate	246-677-8

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第十一批管制物質(2014.06.16)			
152	氯化鎘	Cadmium chloride	233-296-7 10108-64-2
153	鄰苯二甲酸二己酯（支鏈和直鏈）	,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	271-093-5 68515-50-4
154	過硼酸鈉	Sodium peroxometaborate	231-556-4 7632-04-4
155	過硼酸鈉水合物	Sodium perborate; perboric acid, sodium salt	239-172-9 234-390-0
第十二批管制物質(2014.12.17)			
156	氟化鎘	Cadmium fluoride	232-222-0 7790-79-6
157	硫酸鎘	Cadmium sulphate	233-331-6 10124-36-4 31119-53-6
158	2-苯并三唑-2-基-4,6-雙叔丁基苯酚(紫外線吸收劑-UV320)	2-benzotriazol-2-yl-4,6-di-tert-butylpheno l (UV-320)	223-346-6 3846-71-7
159	2-(2'-羥基-3'-5'-二叔戊基苯基) 苯并三唑 (紫外線吸收劑-UV328)	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8 25973-55-1
160	二正辛基-双(2-乙基己基巯基乙酸酯) 錫	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4 15571-58-1
161	二正辛基-双(2-乙基己基巯基乙酸酯) 錫和單辛基-三(2-乙基己基巯基乙酸酯) 錫的反應物	reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	- -

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第十三批管制物質(2015.06.15)			
162	烷基酯的混合物（鄰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 (EC No. 201-559-5)	271-094-0 272-013-1 68515-51-568 648-93-1
163	卡拉花醛及其同分異構物	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], -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]	- -
第十四批管制物質(2015.12.17)			
164	1,3-丙烷磺內酯	1,3-propanesultone	214-317-9 1120-71-4
165	紫外線吸收劑 UV-327	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	223-383-8 3864-99-1
166	紫外線吸收劑 UV-350	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1 36437-37-3
167	硝基苯	Nitrobenzene	202-716-0 98-95-3
168	十七氟壬酸及其鈉鹽和銨鹽	Perfluorononan-1-oic acid and its sodium and ammonium salts	206-801-3 375-95-1 21049-39-8 4149-60-4
第十五批管制物質(2016.06.20)			
169	苯並(a)芘	Benzo[def]chrysene	200-028-5 50-32-8

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項次	檢測項目	EC Number	CAS Number
第十六批管制物質(2016.12.19)			
170	雙酚 A	4,4'-isopropylidenediphenol (bisphenol A)	201-245-8 80-05-7
171	4-庚基苯酚，支鍊及直鍊，包括含有 7 個碳烷基鏈的所有獨立的同分異構體和所有含有線性或分支 7 個碳烷基鏈的 UVCB 物質	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]	
172	十九氟癸酸及其鈉和銨鹽	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	206-400-3 221-470-5 3108-42-7 335-76-2 3830-45-3
173	對(1,1-二甲基丙基)苯酚	p-(1,1-dimethylpropyl)phenol	201-280-9 80-46-6



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## 1、 Purpose:

In response to International global environmental regulations, as for controlling the substances harmful to humans or the environment, plus the content of substances banned or restricted requirements that to limit the harmful substances mixed into the goods and to achieve the purpose of reducing the impact on the environment and ecology. Therefore, setting up this specification to enable management standards can be synchronized internationally and can be followed by the suppliers (and affiliated companies).

## 2、 Scope of Application:

2.1. Applying to Netsys, suppliers (and affiliates) directly or indirectly carry out environmental control products including spare parts, materials, Sub-materials and other articles that all need to comply with this specification.

2.2. Harmful substances not clearly mentioned in this specification, If they are banned by the local manufacturers or the nation's regulations, then the regulations must be followed.

## 3、 Definitions(reference only):

**3.1. Hazardous substance:** Substances which defined by this specification as hazardous toward human body, environment and ecology.

**3.2. Hazardous substance free, HSF:** Reduction or exclusion of any substances listed on WEEE or RoHS directives or on the other standards and regulations.

**3.3. Homogeneous materials:** Materials which defined are evenly mixed and can not be used mechanical power to separate into two different materials.

**3.4. Intentionally added:** To change a product's physical or chemical characteristics, a substance is added intentionally during the manufacturing process. Upon being added, the substance will continue to exist in the product or material.

**3.5. Natural impurity:** Substances which exist in the natural materials or are produced during the synthesis reaction process, and technically can not be fully removed.

**3.6. Packaging materials:** Materials which are used for packaging, protecting, labeling from the product's transportation protection to the customers (i.e. boxes, plastic bags, buffering materials, inks, labels, tray, tapes and cable ties )

**3.7. Prolonged Skin contact:** It means continually be in contact with the skin for more

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than 10 minutes.

**3.8. Sub-materials:** Materials used in the production process(i.e. solder, welding oil, cleaning agents, solvents, and fixture...etc. )

**3.9. Material Safety Data Sheet(MSDS):** Chemical materials are simply and clearly addressed on the material safety data sheet (MSDS), so it is also called the ID for the chemicals. It is the instructions for the chemical materials, and also the basic managing tool. It is also a technical literature which offers the chemical material's information. Its broad content which includes the health risks under over exposure, and the hazard evaluation during operation, storage and usage. Plus the methods for protecting workers and the emergency procedures under the over exposure risks.

Note: A qualified MSDS needs to be updated every three years.

**3.10. Waste Electrical and Electronic Equipment(WEEE):** As the electrical and electronic products improve every day, the product's life cycle has shortened, and the speed to replace and discard them is much higher than the general products. If those waste materials have not been through the proper handling procedures, and being incinerated and buried directly, then most of the hazard materials will cause the environment a serious impact and unnecessary waste on the resources. If there is a proper recycling and processing mechanism, it can widely reduce the heavy burden for the environment. Officially became European Law as Directive 2002/96/EC in February 2003. Current version is 2012/19/EU(Started was August 13, 2012).

**3.11. Energy-Related Products(ErP):** EU released the new version of Directive ErP 2009/125/EC on October 31, 2009 to replace the old version of Directive EuP 2005/32/EC. Enlarges the product range from energy-used products to energy-related products. Current version is 2009/125/EC.

Notes: Manufacturer responsibility:

- ◆ Manufacturers need to make sure all EuP circulated in market should comply with the current Directive ErP and all requirements for the products (Eco-design)
- ◆ Manufacturers need to make sure all product's requirements go through the compliance evaluation which starts from choosing Inner Design Management or Environment Management System.
- ◆ Before entering the market, please paste CE compliance sticker and show the declaration of conformity to ensure compliance with all EuP standards.
- ◆ Prepare the declaration of conformity and technical documentation for inspection at any time. When the EU Member States authorities make the request, the

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relevant documents need to be ready within 10 days.

**3.12. RoHS 2.0(2011/65/EU):** On July 1, 2011 EU released the new version of RoHS Directive(2011/65/EU) which replaced the original RoHS Directive(2002/95/EC) starting from January 3, 2013.

**3.13. Registration , Evaluation and Authorization of Chemicals System(REACH):**

In October 2003, European Chemicals Agency adopt the new EU chemical regulation architecture COM(2003)644, and released a new chemical policy called REACH for chemical's registration, evaluation and authorization. In REACH regulation system, the EU countries companies that produce or import chemicals above one ton / year will be subject to regulatory control, and need to submit the required registration file of materials to European Chemicals Management Bureau.

Note: REACH increased to 169 SVHC items on 2016/06/20.

**3.14. Joint Industry Guide for Material Composition Declaration for Electronic Products(JIG):** Japan Green Procurement Survey Standardization Initiative (JPGSSI)

works together with EIA and EICTA to develop a common guidelines survey research, and JIG was released in May 2005.

**3.15. H. R. 2420:** To ensure the control of hazardous substances in electrical equipment, US Rep. Michael Burgess submitted revised TSCA bill H.R.2420: **EDEE** to the House Energy and Commerce Committee in May 14, 2009. Since July 1, 2010 , the homogeneous materials used in electrical products that are sold In the US market, H.R.2420 required the standard to be the same as EU RoHS. The Pb, Hg, Cr6+, PBB, PBDE concentration does not exceed 0.1%(W/W); Cd concentration does not exceed 0.01%(W/W); Except those who are exempted.

**3.16. China RoHS:** In January 21, 2016, the Chinese authority officially released the "electrical and electronic products restrict the use of hazardous substances management approach" which was called China RoHS 2.0. This management approach will come into effect from July 1, 2016. The old approach released on February 28, 2006 will be abolished the same time.

**3.17. Directive of Packaging and Packaging Waste (Directive 94/62/EC):** To restrict four heavy metal's limit value in packaging materials and article since 1996 execution, The European Commission released Directive 2013/2 / EU on February 8, 2013 which revised Directive 94/62/EC. The revision added more examples to explain, and further elaborate Derective 94/62/EC product range. The new directive required the sum of

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the four hazardous substances of packaging material(Pb, Cd, Hg, Cr6+) remains unchanged which is still limited to 100ppm. 2013/2/EU will come into effect from Sep 30, 2013.

- 4、 **Metal Conflict-Free Minerals:** National Enhance Technology Corp. does not accept products containing the Gold (Au), Tantalum (Ta) , Tin (Sn), Tungsten (W) and Cobalt (Co) which mineral sources come from the Democratic Republic of Congo (DRC) or illegally taxed on trade routes, either of which are controlled by non-governmental military groups, or unlawful military factions. If the suppliers provide such material ingredients containing the above metal, then the additional smelter Information (including smelting plant name, country area, contacts and other information.) is required.
- 5、 **Test reporting requirements:** The certification unit shall be ISO 17025 or a certification body accredited by the national government authority, and the supplier shall have a photocopy of the certificate of accredited by an inspection body or any other certificate documents, so that Netsys can check and ensure the effectiveness of the laboratory. Some recommend qualified laboratories: SGS, ETC, ITS and etc.
- 6、 If the suppliers provide the declaration of conformity from the original manufacturers, the statement needs to include the name, address and telephone of the manufacturer, legal signature of the person in charge, and the restricted substances and limit values.
- 7、 Suppliers need to mark "RoHS" on the carton box and inner box when the products are complied with RoHS directive. The "RoHS" style is unlimited, but it needs to be clearly identified.



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8、 Restricted substance content management standard：

8.1. RoHS2.0 (2011/65/EU) restricted substance content：

Controlled Substances	Concentration limit	Detection methods	Execution date
Cd	0.01%	IEC62321-2013	Immediately
Pb	0.1%	IEC62321-2013	Immediately
Hg	0.1%	IEC62321-2013	Immediately
Cr6+	0.1%	IEC62321-7-1-2015	Immediately
PBB	0.1%	IEC62321-6-2015	Immediately
PBDE	0.1%	IEC62321-6-2015	Immediately
DEHP	0.1%	IEC 62321-8	2019/07/22
BBP	0.1%	IEC 62321-8	2019/07/22
DBP	0.1%	IEC 62321-8	2019/07/22
DIBP	0.1%	IEC 62321-8	2019/07/22

註：Regarding exemption items, please refer to the official website。

8.2. Directive of Packaging (94/62/EC) restricted substance content:

Controlled Substances	Concentration limit	Detection methods	Execution date
Cd	100ppm	IEC62321-2013	Immediately
Pb	100ppm	IEC62321-2013	Immediately
Hg	100ppm	IEC62321-2013	Immediately
Cr6+	100ppm	IEC62321-2015	Immediately

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8.3. PFOS(2006/122/EC) restricted substance content:

Controlled Substances	Concentration limit	Part	Execution date
PFOS	< 0.005%(w/w)	Article	2008/06/27
PFOS	< 0.1%(w/w)	Semi-finished products, part	2008/06/27

8.4. EU BATTERY DIRECTIVE (2013/56/EU) restricted substance content:

Controlled Substances	Request	Execution date
Cd	Portable battery and battery cadmium limit of 0.002%	2017/01/01
	2017/01/01 Eliminate the exclusion of wireless power tools , it must also comply the upper limit of 0.002% .	
	Exclusions: Portable batteries and accumulators used in the following products are not subject to these limits a. Emergency lighting and escape systems b. medical equipment	
Hg	Battery Hg limit of 0.0005%. 2015/10/01, cancel the button battery exemption .	2015/10/01
	2014/10/01 , will reevaluate whether the button cell used by the hearing aid is maintained as an excluded item .	

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#### 8.5. REACH restricted substance content:

**REACH increased to 173 SVHC items on 2016/12/19.**

SVHC List of Substances of Very High Concern : If the list below does not updated timely, please refer to the list chemicals listed in the ECHA website :

<http://echa.europa.eu/candidate-list-table>

NO.	Detection Items	EC Number	CAS Number
First Controlled Substances (2008.10.09)			
1	Anthracene	204-371-1	120-12-7
2	4,4'-Diaminodiphenylmethane	202-974-4	101-77-9
3	Hexabromocyclododecane (HBCDD)	247-148-4	25637-99-4
4	Short Chain Chlorinated Paraffins (C10~C13)	287-476-5	85535-84-8
5	Cobalt dichloride	231-589-4	7646-79-9
6	Diarsenic pentaoxide	215-116-9	1303-28-2
7	Diarsenic trioxide	215-481-4	1327-53-3
8	Triethyl arsenate	427-700-2	15606-95-8
9	Sodium dichromate		7789-12-0
10	Lead hydrogen arsenate	232-064-2	7784-40-9
11	5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene)	201-329-4	81-15-2
12	Dibutyl Phthalate (DBP)	201-557-4	84-74-2
13	Bis(2-ethylhexyl) phthalate (DEHP)	204-211-0	117-81-7
14	Benzyl butyl phthalate (BBP)	201-622-7	85-68-7
15	Bis(tributyltin) oxide (TBTO)	200-268-0	56-35-9

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NO.	Detection Items	EC Number	CAS Number
Second Controlled Substances (2010.01.13)			
16	Anthracene oil	292-602-7	90640-80-5
17	Anthracene oil, anthracene paste, distn. Lights	295-278-5	91995-17-4
18	Anthracene oil, anthracene paste, anthracene fraction	295-275-9	91995-15-2
19	Anthracene oil, anthracene-low	292-604-8	90640-82-7
20	Anthracene oil, anthracene paste	292-603-2	90640-81-6
21	Diisobutyl phthalate	201-553-2	84-69-5
22	2,4-Dinitrotoluene	204-450-0	121-14-2
23	Coal tar pitch, high temperature	266-028-2	65995-93-2
24	Tris(2-chloroethyl)phosphate	204-118-5	115-96-8
25	Lead sulfochromate yellow (C.I. Pigment Yellow 34)	215-693-7	1344-37-2
26	Lead chromate molybdate sulphate red(C.I. Pigment Red 104)	235-759-9	12656-85-8
27	Lead chromate	231-846-0	7758-97-6
28	Acrylamide	201-173-7	79-06-1
Third Controlled Substances (2010.03.08)			
29	Trichloroethylene	201-167-4	79-01-6
30	Boric acid	233-139-2 234-343-4	10043-35-3 11113-50-1
31	Disodium tetraborate, anhydrous	215-540-4	1330-43-4 12179-04-3 1303-96-4
32	Tetraboron disodium heptaoxide, hydrate	235-541-3	12267-73-1
33	Sodium chromate	231-889-5	7775-11-3
34	Potassium chromate	232-140-5	7789-00-6
35	Ammonium dichromate	232-143-1	7789-09-5
36	Potassium dichromate	231-906-6	7778-50-9



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NO.	Detection Items	EC Number	CAS Number
Fourth Controlled Substances (2010.12.15)			
37	Cobalt(II) sulphate	203-839-2	111-15-9
38	Cobalt(II) dinitrate	232-142-6	2151068
39	Cobalt(II) carbonate	271-084-6	68515-42-4
40	Cobalt(II) diacetate	206-114-9	7803-57-8 302-01-2
41	2-Methoxyethanol	212-828-1	872-50-4
42	2-Ethoxyethanol	202-486-1	96-18-4
43	Chromium trioxide	276-158-1	71888-89-6
44	Acids generated from chromium trioxide and their oligomers:		
	Chromic acid	231-801-5	7738-94-5
	Dichromic acid	236-881-5	13530-68-2
	Oligomers of chromic acid and dichromic acid	-	-
Fifht Controlled Substances (2011.05.31)			
45	2-ethoxyethyl acetate	203-839-2	111-15-9
46	Strontium Chromate	232-142-6	2151068
47	1,2-benzenedicarboxylic Acid, di-C7-11-branched and Linear Alkyl Esters	271-084-6	68515-42-4
48	Hydrazine	206-114-9	7803-57-8 302-01-2
49	1-methyl-2-pyrrolidone	212-828-1	872-50-4
50	1,2,3-trichloropropane	202-486-1	96-18-4
51	1,2-benzenedicarboxylic Acid, di-C6-8-branched Alkyl Esters, C7-rich	276-158-1	71888-89-6

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NO.	Detection Items	EC Number	CAS Number
Sixth Controlled Substances (2011.12.19)			
52	Dichromium tris(chromate)	246-356-2	24613-89-6
53	Potassium hydroxyoctaoxidizincatedi-chromate	234-329-8	11103-86-9
54	Pentazinc chromate octahydroxide	256-418-0	49663-84-5
55	Aluminosilicate Refractory Ceramic Fibres (RCF)	650-017-00-8*	-
56	Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF)	650-017-00-8*	-
57	Formaldehyde, oligomeric reaction products with aniline (technical MDA)	500-036-1	25214-70-4
58	Bis(2-methoxyethyl) phthalate	204-212-6	117-82-8
59	2-Methoxyaniline; o-Anisidine	201-963-1	90-04-0
60	4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol)	205-426-2	140-66-9
61	1,2-Dichloroethane	203-458-1	107-06-2
62	Bis(2-methoxyethyl) ether	203-924-4	111-96-6
63	Arsenic acid	231-901-9	7778-39-4
64	Calcium arsenate	231-904-5	7778-44-1
65	Trilead diarsenate	222-979-5	3687-31-8
66	N,N-dimethylacetamide (DMAC)	204-826-4	127-19-5
67	2,2'-dichloro-4,4'-methylenedianiline(MOCA)	202-918-9	101-14-4
68	Phenolphthalein	201-004-7	1977/9/8
69	Lead azide Lead diazide	236-542-1	13424-46-9
70	Lead styphnate	239-290-0	15245-44-0
71	Lead dipicrate	229-335-2	6477-64-1

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Seventh Controlled Substances (2012.06.18)			
72	1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme)	203-977-3	112-49-2
73	1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME)	203-794-9	110-71-4
74	Diboron trioxide	215-125-8	1303-86-2
75	Formamide	200-842-0	75-12-7
76	Lead(II) bis(methanesulfonate)	401-750-5	17570-76-2
77	TGIC (1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione)	219-514-3	2451-62-9
78	$\beta$ -TGIC (1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione)	423-400-0	59653-74-6
79	4,4'-bis(dimethylamino)benzophenone (Michler's ketone)	202-027-5	90-94-8
80	N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base)	202-959-2	101-61-1
81	[4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3)	208-953-6	548-62-9
82	[4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene] dimethylammonium chloride (C.I. Basic Blue 26)	219-943-6	2580-56-5
83	$\alpha, \alpha$ -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4)	229-851-8	6786-83-0
84	4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol	209-218-2	561-41-1

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NO.	Detection Items	EC Number	CAS Number
Eighth Controlled Substances (正式公布 2012.12.19)			
85	Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE)	214-604-9	1163-19-5
86	Pentacosafuorotridecanoic acid	276-745-2	72629-94-8
87	Tricosafuorododecanoic acid	206-203-2	307-55-1
88	Henicosafuoroundecanoic acid	218-165-4	2058-94-8
89	Heptacosafuorotetradecanoic acid	206-803-4	376-06-7
90	Diazene-1,2-dicarboxamide (C,C'-azodi(formamide))	204-650-8	123-77-3
91	Cyclohexane-1,2-dicarboxylic anhydride [1]	201-604-9	85-42-7
	cis-cyclohexane-1,2-dicarboxylic anhydride [2]	236-086-3	13149-00-3
	trans-cyclohexane-1,2-dicarboxylic anhydride [3]	238-009-9	14166-21-3
92	Hexahydromethylphthalic anhydride [1]	247-094-12	25550-51-0
	Hexahydro-4-methylphthalic anhydride [2]	43-072-0	19438-60-9
	Hexahydro-1-methylphthalic anhydride [3]	256-356-4	48122-14-1
	Hexahydro-3-methylphthalic anhydride [4]	260-566-1	57110-29-9
93	4-Nonylphenol, branched and linear [substances with a linear and/or branched alkyl chain with a carbon number of 9 covalently bound in position 4 to phenol, covering also UVCB- and well-defined substances which include any of the individual isomers or a combination thereof]	-	-
94	4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [covering well-defined substances and UVCB substances, polymers and homologues]	-	-
95	Methoxyacetic acid	210-894-6	625-45-6
96	N,N-dimethylformamide	200-679-5	25174
97	Dibutyltin dichloride (DBTC)	211-670-0	683-18-1
98	Lead monoxide (Lead oxide)	215-267-0	1317-36-8
99	Orange lead (Lead tetroxide)	215-235-6	1314-41-6
100	Lead bis(tetrafluoroborate)	237-486-0	13814-96-5
101	Trilead bis(carbonate)dihydroxide	215-290-6	1319-46-6



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102	Lead titanium trioxide	235-038-9	12060-00-3
103	Lead titanium zirconium oxide	235-727-4	12626-81-2
104	Silicic acid, lead salt	234-363-3	11120-22-2
105	Silicic acid (H <sub>2</sub> Si <sub>2</sub> O <sub>5</sub> ), barium salt (1:1), lead-doped	272-271-5	68784-75-8
106	1-bromopropane (n-propyl bromide)	203-445-0	106-94-5
107	Methyloxirane (Propylene oxide)	200-879-2	75-56-9
108	1,2-Benzenedicarboxylic acid, dipentylester, branched and linear	284-032-2	84777-06-0
109	Diisopentylphthalate (DIPP)	210-088-4	605-50-5
110	N-pentyl-isopentylphthalate	-	776297-69-9
111	1,2-diethoxyethane	211-076-1	629-14-1
112	Acetic acid, lead salt, basic	257-175-3	51404-69-4
113	Lead oxide sulfate	234-853-7	12036-76-9
114	[Phthalato(2-)]dioxotrilead	273-688-5	69011-06-9
115	Dioxobis(stearato)trilead	235-702-8	12578-12-0
116	Fatty acids, C16-18, lead salts	292-966-7	91031-62-8
117	Lead cyanamidate	244-073-9	20837-86-9
118	Lead dinitrate	233-245-9	10099-74-8
119	Pentalead tetraoxide sulphate	235-067-7	12065-90-6
120	Pyrochlore, antimony lead yellow	232-382-1	8012-00-8
121	Sulfurous acid, lead salt, dibasic	263-467-1	62229-08-7
122	Tetraethyllead	201-075-4	78-00-2
123	Tetralead trioxide sulphate	235-380-9	12202-17-4
124	Trilead dioxide phosphonate	235-252-2	12141-20-7
125	Furan	203-727-3	110-00-9

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126	Diethyl sulphate	200-589-6	64-67-5
127	Dimethyl sulphate	201-058-1	77-78-1
128	3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine	421-150-7	143860-04-2
129	Dinoseb (6-sec-butyl-2,4-dinitrophenol)	201-861-7	88-85-7
130	4,4'-methylenedi-o-toluidine	212-658-8	838-88-0
131	4,4'-oxydianiline and its salts	202-977-0	101-80-4
132	4-aminoazobenzene	200-453-6	22162
133	4-methyl-m-phenylenediamine (toluene-2,4-diamine)	202-453-1	95-80-7
134	6-methoxy-m-toluidine (p-cresidine)	204-419-1	120-71-8
135	Biphenyl-4-ylamine	202-177-1	92-67-1
136	o-aminoazotoluene[(4-o-tolylazo-o-toluidine)]	202-591-2	97-56-3
137	o-toluidine	202-429-0	95-53-4
138	N-methylacetamide	201-182-6	79-16-3
Ninth Controlled Substances (2013.06.20)			
139	Cadmium	231-152-8	7440-43-9
140	Cadmium oxide	215-146-2	1306-19-0
141	Ammoniumpentadecafluorootanoate (APFO)	223-320-4	3825-26-1
142	Pentadecafluorooctanoic acid (PFOA)	206-397-9	335-67-1
143	Dipentyl phthalate (DPP)	205-017-9	131-18-0
144	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]	-	-

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Tenth Controlled Substances (2013.12.16)			
145	Cadmium sulphide	215-147-8	1306-23-6
146	Disodium 3,3'-[[1,1'-biphenyl]-4,4'-diylbis (azo)]bis(4-aminonaphthalene-1-sulphonate) (C.I. Direct Red 28)	209-358-4	573-58-0
147	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)	217-710-3	1937-37-7
148	Dihexyl phthalate	201-559-5	84-75-3
149	Imidazolidine-2-thione : 2-imidazoline-2-thiol	202-506-9	96-45-7
150	Lead di(acetate)	206-104-4	301-04-2
151	Trixylyl phosphate	246-677-8	25155-23-1
Eleventh Controlled Substances (2014.06.16)			
152		233-296-7	10108-64-2
153	,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear	271-093-5	68515-50-4
154	Sodium peroxometaborate	231-556-4	7632-04-4
155	Sodium perborate; perboric acid, sodium salt	239-172-9	234-390-0
Twelfth Controlled Substances (2014.12.17)			
156	Cadmium fluoride	232-222-0	7790-79-6
157	Cadmium sulphate	233-331-6	10124-36-4 31119-53-6
158	2-benzotriazol-2-yl-4,6-di-tert-butylpheno l (UV-320)	223-346-6	3846-71-7
159	2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	247-384-8	25973-55-1
160	2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (DOTE)	239-622-4	15571-58-1
161	reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate and 2-ethylhexyl 10-ethyl-4-[[2-[(2-ethylhexyl)oxy]-2-oxoethyl]thio]-4-octyl-7-oxo-8-oxa-3,5-dithia-4-stannatetradecanoate (reaction mass of DOTE and MOTE)	-	-

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NO.	Detection Items	EC Number	CAS Number
Thirteenth Controlled Substances (2015.06.15)			
162	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 (EC No. 201-559-5)	271-094-0 272-013-1	68515-51-568 648-93-1
163	5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], -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]	-	-
Fourteenth Controlled Substances (2015.12.17)			
164	1,3-propanesultone	214-317-9	1120-71-4
165	2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327)	223-383-8	3864-99-1
166	2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350)	253-037-1	36437-37-3
167	Nitrobenzene	202-716-0	98-95-3
168	Perfluorononan-1-oic-acid and its sodium and ammonium salts	206-801-3	375-95-1 21049-39-8 4149-60-4
Fifteenth Controlled Substances (2016.06.20)			
169	Benzo[def]chrysene	200-028-5	50-32-8



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NO.	Detection Items	EC Number	CAS Number
Sixteenth Controlled Substances (2016.12.19)			
170	4,4'-isopropylidenediphenol (bisphenol A)	201-245-8	80-05-7
171	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]		
172	Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts	206-400-3 221-470-5	3108-42-7 335-76-2 3830-45-3
173	p-(1,1-dimethylpropyl)phenol	201-280-9	80-46-6