

乾坤科技 HSF 要求管制標準
Cyntec HSF Management Standard

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ANNEX 相關物質清單 Relevant substance lists	



Revision History

Rev. 版別	修改內容	PAGE 修改頁數	PREPARE 修訂者	Date 修訂日期
G0	修訂 ■ 適用範圍 Scope ■ 名詞定義 Terms Definition ■ 乾坤科技 HSF 管制標準 Cyntec HSF Control Standard CAS No.欄位 ■ 針對包裝材料禁用物質 增加其它管制物質 Perfluoro carboxylic acid and relative compounds (PFCAs); Perfluoronon-1-oi-c-acid and its sodium and ammonium salts; 1,2-bis(2-methoxyethoxy)ethane(TEGDME; triglyme) Cyanogen chloride; Cyanamide Potassium cyanide; Calcium cyanide; Sodium cyanide; Cuprous cyanide; Bisphenol F; Bisphenol S; 4-Aminodiphenyl and its salts; Benzyl chloride; Ethylene glycol; 2-Cyclohexen-1-one, 3,5,5-trimethyl-	all	Maei.Sung	2019/01/23
G1	增加目錄 2.適用範圍修改 3.名詞定義修改 4.乾坤科技 HSF 管制標準項目修改&刪除客戶不管控之物質 5.XRF 檢測管制項目及濃度限制 7.3 客戶指定時需提供 7.5 測試樣品要求 7.9 成份訊息	all	Maei.Sung	2020/03/13
G2	增加&修訂 4. 環保等級 Environmental Level 5.2 無鹵 Halogen Free(HF) 5.6 揮發性有機化合物 VOC 含量限制 5.3 增加其他管制物質及修改其濃度限制： 呋喃Furans 110-00-9；正己烷 Hexane, branched and linear/Potassium；氫氧化鉻酸鉀hydroxyoctaoxodizincatedichromate 5.4 增加包裝材料禁用物質及修改其濃度限制： 多溴聯苯醚(PBDEs)Polybrominated diphenylethers；氯元素 Elemental chlorine	all	Maei.Sung	2020/12/20
G3	增加&修訂 5.2 溴係耐燃劑增加管制物質：三溴苯酚封端的溴化环氧树脂 (CAS:135229-48-0)；三溴苯酚封端的溴化环氧树脂 (158725-44-1)；TTBP-TAZ (25713-60-4) 5.3 增加其他管制物質及修改其濃度限制： 臭氧層相關物質，氟化溫室氣體相關物質 TSCA-PBT5 項物質、十溴二苯乙烷 DBDPE 5.4 增加包裝材料禁用物質及修改其濃度限制： 全氟/多氟烷基物質、法國礦物油 Mineral Oil 5.7 製程限制 7.2 測試項目 金屬和陶瓷材料需提供鄰苯二甲酸六項檢測報告 7.8 測試方法 新增溴化有機溶劑(Brominated Organic Solvents) 8.6 報告有效期限兩年 刪除 XRF 檢測管制項目及濃度限制	all	Maei.Sung	2022/01/13

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G4	新增 3.名詞定義 Intentional addition: 有意添加及其說明 No Intentional addition: 不得故意添加該物質。 Reportable : 需宣告成分 5.3 電池和電池組的限用物質 5.4 廢棄車輛指令 ELV 5.5 其他管制物質項目 全氟己酸 (PFHxA) 及其鹽類和相關物質 5.4 新增包材管制項目二甲苯 1,4 二氧六環 芘艷紫紅 29 麝香 CAS NO. 81-14-1、3391-83-1 5.6 包裝材料禁用物質 氯化亞鈷 Cobalt dichloride、二甲苯 Xylene 7.廠商管理 金屬來源調查程序說明 修訂 5.1 修正 PBB 名稱多溴聯苯 5.5 其他管制物質項目 修改 Intentionally added 為 No Intentionally added 更正 MCCP 名稱為中鏈氯化石蠟 修正 PFOA、PFOS 限定物質並增加法規連結 修正 PFHxS、PFAS、PFCAs 限定物質並增加法規連結 DIPP、nPIPP 限值改為 800ppm 更正二氯化鈷 CAS No. N-methylpyrrolidone(NMP)限值改為 No Intentionally added 持久性有機汙染物 POPs 修正參考法規 低分子矽氧烷及含有矽氧烷的矽橡膠、矽樹脂、矽脂、矽油、移除矽管制 磷化銦 Indium phosphide 改為 Reportable 新增石棉 CAS NO. 12172-67-7 臭氧層破壞物質、氟化溫室氣體改為 No Intentionally added 7.2 測試項目修改鄰苯管制材料類別改為金屬和陶瓷除外的所有材料 7.3 含玻璃成份之材料須依規定檢測砷元素 7.6 調整文字敘述 7.8 新增砷測試方法 7.10 IMDS 說明與要求 移除 2.4 備品與雜項要求 5.3 致敏感物質	all	Sherry.Chen	2022/12/30
G5	修訂 5.1 鎘(Cd)及其化合物 新增 Plating 材料 ND 5.1 鉛(Pb)及其化合物增加 No Intentional added 管制 5.3 電池和電池組的限用物質 鎘(Cd)及其化合物限值更正為 0.0002% 汞(Hg)及其化合物限值修正為 ND 5.5 其它管制物質 更正 SCCP 中文名稱鏈氯化石蠟 修正 PFCA C9-C20 砷及其化合物新增限制半導體除外 銻及其化合物修改限值<700ppm 鈷及其化合物修改限值为與皮膚長期接觸的產品/零件表面 Long-term contact with skin : Banned	all	Sherry.Chen	2024/1/2



磷化銨 Reportable Expect future restrictions

鉍及其化合物修改限值 1000ppm

雙酚 S、雙酚 F 改為雙酚化學品 Contact with skin : Banned

Other<100ppm

* 限值改為 No Intentionally added :

溴系耐燃劑修正為溴系阻燃劑、長鏈氯化石蠟

* 限值改為 Banned :

鄰苯二甲酸正戊基異基酯、硼酸氫二丁基錫、環己烷、正丁基縮水甘油醚、

二甲苯 (含異構體)、正庚烷、磷系添加型阻燃劑有機材料 organic

material、內分泌干擾物質 (EDC)

* 限值改為 Reportable :

三價鉻及其化合物、甲乙酮脒; 2-丁酮脒、胺磺酸鎳 Nickel sulfamate、硫酸

鎳 Nickel sulphate、六水合硫酸鎳 hexahydrate、七水合硫酸鎳

heptahydrate Reportable/禁止與皮膚接觸 No contact with skin

5.6 針對包裝材料禁用物質

溴 Bromine (Br)<900ppm

氯 Chlorine (Cl)<900ppm

REACH Dangerous Substances ANNEX XVII 危險物質附錄十七

依照 REACH 1907/2006 要求執行

According to REACH 1907/2006 requirements

8.6 已認證材料需定期更新有害物質報告

新增

5.5 其它管制物質

新增多溴聯苯氧化物(PBBOs)限值 No Intentionally added

新增中鏈氯化石蠟 CAS NO.198840-65-2、1372804-76-6

新增氟 Fluorine (F)>50ppm Reportable

新增 PFBS 及有關物質 1000ppm

新增三(2,3-二溴丙基)磷酸酯(TDBPP) Banned

新增 N-乙基吡咯烷酮 (NEP)3000ppm

新增德克隆 Dechlorane Plus Banned

新增溴化有機溶劑

新增乙醇胺 No Intentionally added

新增 PFHpA 全氟庚酸 No Intentionally added

5.6 針對包裝材料禁用物質

新增 二氯化鈷

表 K 雙酚化學品 Bisphenol Chemicals

5.8 VOC 報告 2 年有效期

6. 新增排外說明

7. HSF 相關資料蒐集

8.2 新增氟檢測項目

8.8 氟檢測方法

8.9 成分信息, 新增 MCD、PFAS 要求

刪除

5.5 其它管制物質

壬基酚移除 CAS NO. 68412-53-3

單水合硫酸鈷、七水合硫酸鈷

4-(para)-nonylphenol, 4-nonylphenol, 4-tert-octylphenol

5.6 針對包裝材料禁用物質

溴甲烷 Methyl Bromide、五氯酚 Pentachlorophenol、富馬酸二甲酯

Dimethyl fumarate (DMF)、砷化合物 Arsenic compounds、石棉及石棉化

合物 Asbestos、放射性質物 Radioactive substances、聚氨基酯

Polyurethane

管制文件

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G6	新增 5.4 其它管制物質 • 新增氯化烴類相關物質之 CAS NO. • 新增四氯苯及異構物 CAS NO. • 新增表 L 氫氟碳化物、全氟碳化物清單 • 環十二烷 Cyclododecane CAS NO. 294-62-2 • 乙二醇醚及其醋酸酯 Tetraethylene glycol dimethyl ether(CAS NO. 143-24-8) • N-(羥甲基)丙烯醯胺 N-Methyloacrylamide (CAS NO. 924-42-5) : Intentionally added • Tris(2ethylhexyl) Trimellitate(TEHTM)Also: Trioctyl trimellitate (TOTM)"三(2 乙基己基 偏苯三甲酸酯(亦称：偏苯三甲酸三辛酯 (TOTM) : Intentionally added • Indium and its compounds (In) : Solder<1000ppm • 乙苯 ethylbenzene : Intentionally added • 乙醛 acetaldehyde : Intentionally added • 甲氧滴滴涕 Methoxychlor : Banned 修訂 4. 環保等級定義說明 原第 5 章的鹵素、VOC、製程限制移除，新增至第 6、7、8 章，其餘章節往後順延；物質清單改為 ANNEX 並移至最後面 5.4 其他管制物質 • 合併多項重複物質 • 更正鈹青銅 CAS NO. 11133-98-5 • 更正對二氨基聯苯及其化合物改為聯苯胺及其化合物及其鹽類 • 鄰苯二甲酸酯類合併為一項，新增表格 M 鄰苯二甲酸酯及其鹽類 phthalates List • 全氟羧酸(C9-C20)及相關化合物→C9-C21 • 甲乙酮肟; 2-丁酮肟 2-Butanone oxime : 1000ppm • 雙酚化學品，Other<50ppm 7. VOC 報告期限改為 1 年 11.2 更正 DEHP 名稱敘述 11.8 PFOA/PFOS 檢測方法改為 EN 17681-1: 2022 & EN 17681-2: 2022 修訂管制限值 • Banned : PFBS • No Intentionally added : 鈹青銅、N-乙基吡咯烷酮 (NEP)1-ethylpyrrolidin-2-one 刪除 5.4 其他管制物質 • 將原聚氯乙炔及聚氯乙炔混合物改為聚氯乙炔 • 鄰苯二甲酸二 (C6 -C10) 烷基酯 CAS NO. 68515-51-5、68648-93-1 • 聯苯胺及其鹽類 Benzidine and its Salts 11.9 成分訊息：刪除雜質與專利材料的敘述	all	Sherry.Chen	2025/1/6



1. 目的 Purpose

- 依據 IECQ QC080000 標準及『HSF 管理程序 QA-PR-020』辦理。
Implement HSF management according to IECQ QC080000 standard and 『HSF Management Procedure QA-PR-020』.
- 為因應客戶需求與國際間環保趨勢,特訂定此乾坤科技 HSF 要求管制標準(以下簡稱 HSF 管制標準),定義本公司所生產或銷售之產品,規範當中所含零部件與材料符合 HSF 要求管制、計劃全廢物質以及適用對象外項目等規定,來達到防止產品混入、遵守法令、保護地球以及減輕對生態系統影響的目的。
To meet customer requirements and follow the trend of international environmental protection, Cyntec HSF Requirements Standard (hereinafter called HSF Control Standard) is formulated. To reach the aim of preventing mixing, observing laws and regulations, protecting the earth and reducing influences on the ecological system, the standard defines parts and materials of products produced or sold by our company should meet the HSF requirement control and plans full-abandonment substances, other items except for applicable objects and so on.

2. 適用範圍 Scope

適用於本公司委託設計、製造的產品所包含的零件、電子元器件、材料,必須符合本程序的規定。

Parts, electronic components, and materials applicable to the products designed and manufactured by our company must comply with the provisions of this procedure.

- 原材料(生產過程中經加工改變其形態並構成產品主要實體的各種原料)
Raw material (all kinds of material which are changed its nature in manufacturing and composed the goods)
- 半成品(功能單元、模塊、板組件等的組裝部件等)
Semi-finished products (assembling parts of function units, modules, board modules and so on)
- 零部件(成品主要構成材料、部件)
Parts (main materials of finished products <BOM>, components)
- 電子元件(電阻、電感、電容、IC...等)
Electronic components (resistor, inductor, capacitor, IC...)
- 副資材(非主要構成材料,但在生產過程中及設備等與成品直接接觸的物品)
Auxiliary materials (non-main materials but directly touch products in production process or in the machine)
- 產品所使用的附屬材料(膠帶、焊接材料、粘結劑等)等構成材料。此外,在本辦法中未明確規定的物質或者其用途,如果各國或當地法規禁止使用或限制使用,必須依照其法規執行。
Attached materials used in products (such as adhesive tape, welding materials, binder). Besides, for substances or their functions unspecified in this standard, if there are prohibitions or limitations in countries or local laws, it would be implemented according to laws.
- 包裝材料: 運送或儲存過程中提供保護用的材料(例如:紙箱、箔、襯墊、袋、收縮帶、膠帶/膠),包含標籤使用的油墨及顏料。
Packaging materials: used to provide protection in transportation or storage process (such as carton, foil, gasket, bag, striation belt, adhesive tape/glue), including ink and paint used on labels.

3. 名詞定義 Terms Definition

- 有害物質 (HS) : 指任何適用法規或顧客要求規定禁用、限用、減少使用或通報其存在情況的物質，這些物質本身會對人類健康或環境安全帶來危害。
Hazardous Substance (HS): any substance regulated by applicable laws and regulations or customer requirements as to prohibiting, restricting, reducing its use or reporting its existence, which will inherently do harm to human health or safety of the environment.
- 有害物質減免(HSF)：指任何 HS 的減少或者消除。
Hazardous Substance Free (HSF): The reduction or elimination of any HS.
- 不合格品:未達《乾坤科技 HSF 要求管制標準》之成品及材料
Non-conforming product: finished product and material not conforming to the Cyntec HSF Requirements Control Standard
- 合格品：符合《乾坤科技 HSF 要求管制標準》之成品及材料
Conforming product: finished product and material conforming to the Cyntec HSF Requirements Control Standard
- HSF 管理物質:包含在成品與材料等物質中，有對地球環境和人體存在顯著影響的物質。
HSF management substance: The substances contained in finished products and materials and obviously affecting the earth's environment and humankind.
- **Intentional addition**: 有意添加，在一種材料或組件配方中刻意使用的物質，該物質存在於最終產品中帶來特定的特徵，外觀或品質。(天然素材中所含有的工業材料在精製過程中技術性不能被去除的物質 (natural impurity)或合成反應的過程中所發生技術性不能被去除的物質是不純物，不屬於「有意添加」。)
Substance deliberately used in the formulation of a material or component, where the presence of the substance in the final product provides a specific characteristic, appearance, or quality.
Natural impurities contained in natural materials that cannot be technically removed during the refining process (natural impurity) or substances that cannot be removed technically during the synthesis reaction are impurities and do not belong to "intentional addition".
- **N.D.、negative、LOD**: Not detected/Not detectable/Limit of Detection: 小於偵測極限值; 陰性; 未檢出
- **Banned**: 禁止含有
- **N/A**: 不適用
- **No Intentional added**: 不得故意添加。
- **Reportable** : 需宣告成分 **Requires to declare material composition.**

4. 環保等級

Environmental Grade

環保等級 G : 符合 QA-WI-005 乾坤科技 HSF 要求管制標準「5. 禁限用物質清單」

Grade G : Comply with QA-WI-005 Cyntec HSF Control Standard '5. Prohibited and restricted substances list'

環保等級 A : 符合 ELV 廢棄車輛指令

Grade A : Comply with End of Life Vehicles Directive, 2000/53/EC

符合全球汽車申報物質清單要求

Comply with Global Automotive Declarable Substance List (GADSL)

(<https://www.gadsl.org/>)

符合歐盟(EC) 1907/2006 REACH 法規

Comply with REACH regulation (EC) No 1907/2006

不使用紅磷 No red phosphorus is used

環保等級 C : 符合歐盟 2011/65/EU&(EU) 2015/863 RoHS 指令

Grade C : Comply with RoHS Directive 2011/65/EU & (EU) 2015/863

符合歐盟(EC) 1907/2006 REACH 法規

Comply with REACH regulation (EC) No 1907/2006

環保等級 S1: 客戶指定用料

環保等級 S2: 材料含有有害物質(*)

(*)經 Cyntec 內部評估確認，會簽保證書審核單才准許使用。

(*)Only allowed to be used after Cyntec's internal evaluation and confirmation, and the guarantee certificate review form is countersigned.

5. 禁限用物質清單 Prohibited and restricted substances list

5.1 禁用物質 Controlled substances

化學物質 Chemical	CAS No.	濃度限制(ppm)
鎘(Cd)及其化合物 Cadmium and cadmium compounds	7440-43-9 Several	Plating, Plastics, Rubbers, Resins, surface coatings, Paints and inks : N.D. Solder<20ppm Other <50ppm
鉛(Pb)及其化合物 Lead and lead compounds	7439-92-1 Several	No Intentional added Plastics, Rubbers, Resins, surface coatings, Paints and inks<50ppm Solder < 500ppm Metal < 500ppm Other<500ppm
汞(Hg)及其化合物 Mercury and mercury compounds	7439-97-6 Several	N.D.
六價鉻(Cr6+)及其化合物 Hexavalent chromium and its compounds	18540-29-9 Several	N.D.
多溴聯苯(PBBs) Polybrominated Biphenyls	59536-65-1 Several	N.D.
多溴聯苯醚(PBDEs) Polybrominated diphenylethers	1163-19-5 Several	N.D.
鄰苯二甲酸二(2-乙基己基)酯 Diethylhexyl phthalate (DEHP)	117-81-7	N.D.
鄰苯二甲酸二丁酯 Dibutyl phthalate (DBP)	84-74-2	N.D.
鄰苯二甲酸甲苯基丁酯 Butylbenzyl phthalate (BBP)	85-68-7	N.D.
鄰苯二甲酸二異丁酯 Diisobutyl phthalate (DIBP)	84-69-5	N.D.

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5.2 電池和電池組的限用物質 Restricted Substances for Batteries and Battery Packs

化學物質 Chemical	CAS No.	濃度限制(ppm)
鎘(Cd)及其化合物 Cadmium and cadmium compounds	7440-43-9 Several	電池及電池組的鎘含量不得大於電池及電池組總重的 0.0002% (2ppm) Cd <0.0002% of the total weight of batteries and battery packs. 使用以下產品之可攜式電池與蓄電池則不受上述限值規範 The prohibition shall not apply to portable batteries and accumulators intended for use in: 1. 緊急照明設備及逃生系統 emergency lighting and escape systems. 2. 醫療器材 medical equipment
鉛(Pb)及其化合物 Lead and lead compounds	7439-92-1 Several	所有電池中的鉛含量不得大於電池總重的 0.004% Pb <0.004% of the total weight of all batteries.
汞(Hg)及其化合物 Mercury and mercury compounds	7439-97-6 Several	N.D.

5.3 廢棄車輛指令 ELV-End-of-life Vehicle

化學物質 Chemical	CAS No.	濃度限制(ppm)
歐盟汽車報廢指令(汽車產品適用) End-of-Life Vehicles(ELV) (for Automotive products) 根據歐盟關於報廢車輛的指令 2000/53/EC (第 4 (2) 條)。 鉛 (Pb)、汞 (Hg)、鎘 (Cd) 和六價鉻 (Cr VI)	https://environment.ec.europa.eu/topics/waste-and-recycling/end-of-life-vehicles_en	依法規 2000/53/EC 定義執行 According to 2000/53/EC requirements

5.4 其它管制物質 Other controlled substances

編號	化學物質 Chemical	CAS No.	濃度限制(ppm)
1	氯系阻燃劑 Chlorinated Flame Retardants(CFRs)	51936-55-1 115-28-6 13560-89-9 38051-10-4 51936-55-1 66108-37-0 Several	No Intentionally added
2	溴系阻燃劑 Brominated Flame Retardants(BFRs)	135229-48-0 158725-44-1 25713-60-4 3296-90-0 96-13-9 Several	No Intentionally added
3	多溴聯苯氧化物(PBBOs)		No Intentionally added
4	其他有機氯化化合物 Other chlorinated organic compound		Banned
5	溴甲烷 Methyl bromide	74-83-9	Banned
6	溴丙烷/溴代丙烷;n-Propyl Bromide (nPB)/1-Bromopropane	106-94-5	Banned
7	四溴雙酚 A 及其醚類和酯類(TBBPA) Tetrabromobispheno A its esters and salts	21850-44-2 79-94-7 30496-13-0 40039-93-8 71342-77-3 70682-74-5 32844-27-2 37853-61-5 21850-44-2 94334-64-2 25327-89-3 28906-13-0 4162-45-2 68928-70-1 Several	Banned
8	多氯聯苯 Polychlorinated biphenyl(PCBs)	1336-36-3 Several	Banned

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9	多氯化萘 Polychlorinated naphthalenes(PCNs)	70776-03-3 Several	Banned
10	多氯三聯苯 Polychlorinated terphenyls(PCTs)	61788-33-8	Banned
11	短鏈氯化石蠟(SCCPs) Short-Chain Chlorinated Paraffins (SCCPs) C _x H _{2x+2} -yCl _y , where x=10-13 and y=1-13 [4 items]	85535-84-8 84082-38-2 71011-12-6 85536-22-7 Several	Banned
12	中鏈氯化石蠟(C14~C17) Medium-Chain Chlorinated Paraffins (MCCPs) C _x H _{2x+2} -yCl _y , where x=14-17 and y=1-17 [1 item]	85535-85-9 198840-65-2 1372804-76-6 Several	Banned
13	長鏈氯化石蠟 Long Chained Chlorinated paraffins(LCCP,C18~C30)	85535-86-0 Several	No Intentionally added
14	對二氯苯 p-Dichlorobenzene	106-46-7	<1000ppm
15	氯化烴類 Chlorinated Hydrocarbons (CHCs)	75-35-4 75-09-2 71-55-6 79-34-5 76-01-7 56-23-5 67-66-3 79-00-5 79-01-6 542-88-1 630-20-6 127-18-4 75-01-4 74-97-5 75-00-3 75-34-3 540-59-0 156-59-2 9003-22-9 95-50-1 106-46-7 108-70-3 118-74-1 Several	Banned
16	三氯沙 Triclosan	3380-34-5	Banned
17	1,2-二氯乙烷 1,2-Dichloroethane	107-06-2	Banned
18	1,2,3-三氯苯 1,2,3-Trichlorobenzene	87-61-6	<1000ppm
19	氯苯 Chlorobenzene	108-90-7	Banned
20	四氯苯及異構物; Tetrachlorobenzene and diastereoisomers 1,2,4,5-Tetrachlorobenzene; 1,2,3,5-Tetrachlorobenzene; 1,2,3,4-Tetrachlorobenzene	95-94-3; 634-90-2 634-66-2 12408-10-5 84713-12-2 Several	Banned
21	五氯苯 Pentachlorobenzene (PeCB)	608-93-5	Banned
22	六氯環己烷 (α&β&γ) Hexachlorocyclohexane isomers(HCH)	58-89-9 319-84-6 319-85-7 608-73-1	Banned
23	六氯乙烷 Hexachloroethane	67-72-1	Banned
24	鹵化戴奧辛及呋喃 Halogenated Dioxins and Furans	136677-10-6 1746-01-6 3268-87-9 40321-76-4 67562-39-4 51207-31-9 55673-89-7 57117-31-4 39001-02-0 39227-28-6 50585-81-6 19408-74-3 109333-34-8 57653-85-7 67733-57-7 57117-41-6 131166-92-2	Banned



		70648-26-9 110999-44-5 72918-21-9 110999-46-7 57117-44-9 110999-45-6 60851-34-5 109333-34-8 35822-46-9 71998-76-0 82291-37-0 71925-18-3 39227-62-8 58802-09-8 58200-66-1 58200-70-7 3268-87-9 Several	
25	鹵化二苯基甲烷 Halogenated diphenyl methanes	76253-60-6 81161-70-8 99688-47-8	Banned
26	聚氯乙烯 Polyvinyl chloride(PVC)	9002-86-2	Banned
27	1,3 二氯丙烯 1,3-Dichloropropene	542-75-6	Banned
28	氯酸鹽/高氯酸鹽 Perchlorate 高氯酸鹽化合物; Perchlorate Compounds 高氯酸鋰; Lithium perchlorate;	7791-03-9 14797-73-0 7791-03-9 7601-89-0 7778-74-7 7790-98-9 10034-81-8 10025-64-6 Several	Banned
29	氫氟碳化合物 Hydrofluorocarbons(HFCs) 全氟化合物 Perfluorocarbons(PFCs)	表 L 氫氟碳化合物 Hydrofluorocarbons(HFCs) List 全氟碳化合物 Perfluorocarbons (PFCs) List	Banned
30	三氟化氮 Nitrogen trifluoride	7783-54-2	Banned
31	六氟化硫 Sulfur hexafluoride(SF6)	2551-62-4	Banned
32	氟 Fluorine (F)	14762-94-8 Several	>50ppm Reportable 須提供氟化合物 CAS NO. 訊息 參考 PFAS 調查表<QA-WI-005-04> Fluorine compound CAS NO. information must be provided (Refer to PFAS Questionnaire <QA-WI-005-04>)
33	PFOA 其鹽類及相關化合物 Perfluorooctanoic acid(PFOA), its salts and PFOA-Related Compounds	挪威 FOR-2004-06-01-922EU 2017/1000 包括但不限於參考連結第 79-81 頁的化合物。 Including but not limited to Page 79~81 of below URL oecd.org/officialdocuments/pub licdisplaydocumentpdf/?doclan guage=en&cote=env/jm/mono(2006)15	Banned
34	PFOS 及其衍生物 Perfluorooctane Sulfonates(PFOS) and its derivatives	2004/850/EU 包括但不限於參考連結第 24-44 頁的化合物。 Including but not limited to Page 24~44 of below URL https://www.oecd.org/officialdo cuments/publicdisplaydocume ntpdf/?doclanguage=en&cote= env/jm/mono(2006)15	Banned
35	全氟己基磺酸其鹽類及有關物質 Perfluorohexane-1-sulphonic acid(PFHxS), its salts and related substances	355-46-4 68259-08-5 3871-99-6 2923-26-4 包括但不限於參考連結第 168-	No Intentionally added

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		192 頁所列的化合物。 Including but not limited to Page 168~192 of below URL https://echa.europa.eu/documents/10162/a22da803-0749-81d8-bc6d-ef551fc24e19	
36	全氟己酸 (PFHxA) 及其鹽類和相關物質 Perfluorohexanoic acid (PFHxA), its salts and PFHxA-related substances	包括但不限於參考連結所列的化合物。Including but not limited to below URL https://echa.europa.eu/documents/10162/7da473c1-7f27-df34-9e6a-46152ef10d4b	No Intentionally added
37	全氟烷基磺酸鹽 Perfluoroalkyl sulfonates (PFAS)	包括但不限於參考連結第 45-78 頁的化合物。Including but not limited to Page 45~78 of below URL https://echa.europa.eu/documents/10162/f605d4b5-7c17-7414-8823-b49b9fd43aea	No Intentionally added
38	PFBS 及有關物質 PFBS and related substances	化學式 C ₄ F ₉ SO ₃ H 之化合物、其鹽及其任何組合，包括具全氟基元族（線性或分枝）C ₄ F ₉ - 直接連接至硫原子的任何物質。包括但不限於參考連結第 14、15、24 及 25 頁的化合物列清單。 www.miljodirektoratet.no/globalassets/publikasjoner/M759/M759.pdf	Banned
39	全氟庚酸 Perfluoro-heptanoic Acid (PFHpA)	378-85-9	No Intentionally added
40	全氟羧酸(C9-C21)及相關化合物 Perfluoro carboxylic acid and relative compounds (PFCAs)	包括但不限於參考連結第 31、56 及 198-205頁所列的化合物。Including but not limited to Page 31, 56, 198~205 of below URL https://echa.europa.eu/documents/10162/2ec5dfdd-0e63-0b49-d756-4dc1bae7ec61	No Intentionally added
41	全氟辛烷磺氟(PFOSF) Perfluorooctane sulfonyl fluoride	307-35-7	Banned
42	長鏈全氟烷基羧酸鹽 Long chain perfluoroalkyl carboxylate (LCPFAC)		Banned
43	DecaBDE, PIP(3:1), 2,4,6-TTBP PCTP, HCBd	1163-19-5 68937-41-7 732-26-3 133-49-3 87-68-3	No Intentionally added
44	1,4 二氧六環 1,4-dioxane	123-91-1	No Intentionally added
45	花藍紫紅 29 Pigment Violet 29	81-33-4	No Intentionally added
46	十溴二苯乙烷 DBDPE	84852-53-9	No Intentionally added
47	六溴環十二烷及其同素異構物 Hexabromocyclododecane(HBCDD) and all major doastereoisomers identified(α-HBCDD, β-HBCDD,γ-HBCDD)	25637-99-4 3194-55-6 134237-51-7 134237-50-6 134237-52-8 4736-49-6 65701-47-5 138257-17-7 138257-18-8 138257-19-9 169102-57-2 678970-15-5 678970-16-6 678970-17-7 Several	Banned
48	多氯酚 Polychlorinated phenols	95-95-4 88-06-2	Banned

	氯酚 Chlorophenols 三氯酚(TeCP)(Tetrachlorphenol) 四氯酚(TriCP)(Trichlorophenol)	58-90-2 935-95-5 4901-51-3 25167-82-2 Several	
49	五氯酚及其鹽類和酯類 Pentachlorophenol (PCP) and its salts and esters	28990-85-4 87-86-5 131-52-2 13673-54-6 2917-32-0 3772-94-9 7778-73-6 13673-51-3 13673-53-5 23234-97-1 1825-21-4 27735-64-4 Several	Banned
50	鄰苯二甲酸酯及其鹽類 phthalates	表 M phthalates List	Banned
51	鈹及其化合物 Beryllium and its compounds	7440-41-7 several	No Intentionally added
52	鈹青銅 Beryllium copper	11133-98-5	No Intentionally added
53	氧化鈹 Beryllium oxide	1304-56-9	Banned
54	鈹粉塵以及煙霧 Beryllium Dust and Fumes		Metals and metal plating, glass and ceramics : 1000 ppm Organic Materials : No Intentionally added
55	砷及其化合物 Arsenic and its compounds	7440-38-2 several	No Intentionally added 半導體除外 All other materials except semiconductors
56	銻及其化合物(Sb)Antimony and its compounds	1315-04-4 1314-60-9 10025-91-9 7783-56-4 1309-64-4 1345-04-6 12064-03-8 1312-41-0 7440-36-0 15432-85-6 several	<700ppm
57	鈷及其化合物 Cobalt and its compounds	7440-48-4 Several	與皮膚長期接觸的產品/零件表面 Long-term contact with skin : Banned Other : Reportable
58	二氧化鈷 Cobalt dichloride	7646-79-9 7791-13-1 several	Banned
59	鉍及其化合物 Bismuth(Bi) and its compounds	7440-69-9 1304-76-3 10361-44-1 several	1000ppm
60	硒及其化合物 Selenium(Se) and its compounds	593-739-3 7783-07-5 20601-83-6 15060-62-5 1314-05-2 7782-49-2 7746-08-4 12640-89-0 7446-34-6 10112-94-4 1313-85-5 several	No Intentionally added
61	三價鉻及其化合物 Chromium(III) compounds and its compounds	16065-83-1 several	Reportable
62	三氧化鉻 Chromium trioxide	1333-82-0	<1000ppm
63	鎵 Gallium(Ga) and its compounds		Reportable
64	疊氮化鈉 Sodium Azide	26628-22-8	Banned
65	鈷,金,鈹,鉀,鎢,錫來自於剛果及其鄰近國家之衝突礦產 Cobalt(Co)/ gold(Au)/ palladium(Pd)/ tantalum(Ta)/		Banned

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	tungsten(W)/ tin(Sn) derived from conflict minerals in the DRC or an adjoining country		
66	有機錫及其化合物 Organic Tin Compounds	表 A appendix Organotin Compounds List	No Intentionally added
67	三苯基錫其化合物 Triphenyl tin (TPT) and compound	668-34-8 892-20-6	Banned
68	硼酸氫二丁基錫 Dibutyltin hydrogen borate (DBB)		Banned
69	三丁基氧化錫(TBTO) Tri-substituted organostannic compounds	56-35-9	Banned
70	三取代有機錫化合物(TBTO 除外) Tri -Tri -substituted organostannic compounds(except for TBTO)		Banned
71	二取代有機錫化合物 Di-substituted organic tin compounds		No Intentionally added
72	正丁基錫羧基硼烷(DBB) Di-u-oxo-di-n-butylstanniohydroxyborane	75113-37-0	Banned
73	四丁基錫 Tetrabutyltin(TTBT)	1461-25-2	Banned
74	苯基汞及其化合物 Phenylmercury and its compounds	62-38-4 103-27-5 13302-00-6 13864-38-5 26545-49-3	<100ppm
75	含磷脫脂劑和皮膜液於金屬外殼前處理 Phosphorous detergent or/and phosphorous passivation agent used for metal surface pretreatment		No Intentionally added
76	硫化氫 Hydrogen sulfide	7783-06-4	Banned
77	三-(1-丙啶基)氧化磷 Tris-(aziridinyl) - Phosphineoxide (TEPA)	545-55-1	Banned
78	特定有機磷的化合物 Certain Organic Phosphorus Compounds	25155-23-1 68333-79-9 78-51-3 115-86-6 756-79-6 78-38-6 57583-54-7 61840-22-0 2781-11-5 26444-49-5 115-88-8 78-42-2 1806-54-8 78-40-0 512-56-1 Several	Banned
79	三(2,3-二溴丙基)磷酸酯(TDBPP)	126-72-7	Banned
80	環己烷 Cyclohexane	110-82-7	Banned
81	環十二烷 Cyclododecane	294-62-2	<1000ppm
82	氘代雙(2 甲氧基乙基)醚 二乙二醇二甲醚 Bis(2-methoxyethyl) ether	111-96-6	Banned
83	N,N-二甲基乙醯胺 N,N-Dimethyl acetamid(DMAC)	127-19-5	Banned
84	N-亞硝基二甲胺 N-Nitroso dimethyl amine (NDMA)	62-75-9	Banned
85	2-[(2-胺基乙基) 胺基]乙醇 2-[(2-aminoethyl)amino]-ethanol	111-41-1	Banned
86	丙烯醯胺 Acrylamide	79-06-1	No Intentionally added
87	N-Phenyl-2-Naphthalenamine (N-Phenyl-beta-Naphthylamine)	135-88-6	Banned
88	甲基氯仿 Methyl chloroform	74552-83-3	Banned
89	特定阻燃劑 Flame retardants(R40,R45, R46, R50,R51, R52, R60, R61)		Banned
90	二苯基甲烷二異氰酸酯包含特定異構物 Methylenebisphenyl diisocyanate (MDI)	26447-40-5 5873-54-1 2536-05-2	No Intentionally added

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		101-68-8	
91	烷基酚 Alkylphenols		Banned
92	N-甲基苯酚 Phenol, methyl Phenol, 2-methyl Phenol, 3-methyl Phenol, 4-methyl	95-48-7 106-44-5 108-39-4 1319-77-3	No Intentionally added
93	N-甲基吡咯烷酮 N-methylpyrrolidone(NMP)	872-50-4	No Intentionally added
94	N-乙基吡咯烷酮 (NEP) 1-ethylpyrrolidin-2-one	2687-91-4	No Intentionally added
95	4-(1,1,3,3-四甲基丁基)苯酚 4-(1,1,3,3-TETRAMETHYLBUTYL)PHENOL	140-66-9	Banned
96	甲醛 Formaldehyde	50-00-0	Banned
97	甲醛與苯胺的低聚反應產物; Formaldehyde, oligomeric reaction products with aniline (technical MDA);	25214-70-4	Banned
98	富馬酸二甲酯 Dimethyl Fumarate (DMF)	624-49-7	Banned
99	乙二醇甲醚及其醋酸酯 2-Methoxyethyl acetate/ 乙二醇乙醚及其醋酸酯 Ethylene glycol monoethyl ether acetate 乙二醇四醚及其醋酸酯 Tetraethylene glycol dimethyl ether	111-15-9 110-49-6 110-80-5 109-86-4 143-24-8	Banned
100	麥角二乙胺 2-benzotriazol-2-yl-4,6-ditert-butyl-phenol	50-37-3	Banned
101	壬基酚 Nonylphenols (NP) and Nonylphenol Ethoxylates (NPE)	表 I NP & NPE list	Banned
102	偶氮染料、芳基胺及苯胺 Azo Dyes, Arylamines, and Anilines	表 B Azo List	Banned
103	二苯胺與苯乙烯和 2,4,4-三甲基戊烯的反應產物 Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene(BNST)	68921-45-9	Banned
104	2-萘胺及其鹽 2-Naphthylamine and its salts	91-59-8 553-00-4 612-52-2	Banned
105	二鄰甲苯胍 di-o-tolylguanidine	97-39-2	Banned
106	乙基乙二醇醚及其醋酸酯及其化合物 Ethylene based glycol ethers and acetate compounds		Banned
107	2-(2-丁氧基乙氧基)乙醇 Butyldiglycol	112-34-5	Banned
108	二乙二醇單甲醚 2-(2-methoxyethoxy)ethanol	111-77-3	Banned
109	乙二醇二甲醚 1,2-dimethoxyethane	110-71-4	No Intentionally added
110	乙二醇單丁醚 2-Butoxyethanol	111-76-2	Banned
111	氯甲基甲醚 Chloromethyl Methyl Ether	107-30-2	Banned
112	磷酸三(2-氯乙基)酯 Tris(2-chloroethyl) phosphate(TCEP)	115-96-8	Banned
113	聯苯胺及其化合物及其鹽類 Benzidine and its compounds and salts	92-87-5 Several	Banned
114	磷酸三(1,3-二氯異丙基)酯 1,3-Dichloro-2-propanol phosphate (TDCPP)	13674-87-8	Banned
115	磷酸三(2-氯丙基)酯 Tris(2-chloro-1-methylethyl) phosphate (TCPP)	6145-73-9 13674-84-5	Banned
116	磷酸三甲苯酯 Tricresylphosphate(TCP)	1330-78-5 78-30-8	Banned
117	N-(羥甲基)丙烯醯胺 N-Methyloacrylamide	924-42-5	No Intentionally added
118	持久性有機汙染物 Persistent organic pollutants POPs	http://chm.pops.int/TheConvention/ConferenceoftheParties/Meetings/COP10/tabid/8397/Default.aspx	Banned
119	德克隆 Dechlorane Plus (十氯環己烷, 無氯環甲烷 TM)	135821-03-3 13560-89-9 135821-74-8	Banned

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	(1,6,7,8,9,14,15,16,17,18-十二氯五環) [12.2.1.16,9.02,13.05,10] 十八碳-7,15-二烯)) 1,6,7,8,9,14,15,16,17,17,18,18-Dodecachloropentacyclo[12.2.1.16,9.02,13.05,10]octadeca-7,15-diene ("Dechlorane Plus"™)		
120	天然橡膠 natural rubber 乳膠 natural latex	9003-31-0 9006-04-6	Banned
121	正己烷 n-Hexane / Hexane, branched and linear	110-54-3 92112-69-1	Banned
122	己二酸二辛酯 Di(2-sthylhexyl) adipate(DEHA)	103-23-1	Banned
123	羥乙基乙二胺 Hydroxyethyl ethylenediamine		Banned
124	二甲基甲醯胺 N,N-Dimethylformamide	68-12-2	Banned
125	2-(2H-苯並三唑-2-基)-4,6-二 (1,1-二甲基乙基)苯酚 (UV-320) Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl)	3846-71-7	Banned
126	Tris(2ethylhexyl) Trimellitate (TEHTM)Also: Trioctyl trimellitate (TOTM)" 三(2 乙基己基 偏苯三甲酸酯(亦稱：偏苯三甲酸三辛酯 (TOTM)	3319-31-1	No Intentionally added
127	甲乙酮肟; 2-丁酮肟 2-Butanone oxime	96-29-7	1000ppm
128	正丁基縮水甘油醚 n-Butyl glycidyl ether	2426-08-6	Banned
129	所有合成麝香 All synthetic musks	8001-04-5 81-14-1 3391-83-1	Banned
130	含氯有機溶劑 Chlorinated Organic Solvents	表 C Chlorinated Organic Solvents List	Banned
131	溴化有機溶劑 Brominated Organic Solvents	109-65-9 106-94-5 75-26-3 75-27-4 74-83-9 74-96-4 124-48-1	清洗劑、脫脂劑、脫模劑：Banned 製程中所有其他化學品：No Intentionally added Cleaning agents, degreasers, and demolder solutions：Banned No intentional use for all other manufacturing process chemicals
132	低分子矽氧烷及含有矽氧烷的矽橡膠、矽樹脂、矽脂、矽油 Low molecular siloxane, and silicone rubber, silicone resin, silicone grease, silicone oil containing Low molecular siloxane	-	No Intentionally added
133	二甲苯 (含異構體) Xylene (including isomers)	1330-20-7 95-47-6 108-38-3 106-42-3	Banned
134	正庚烷 Heptane	142-82-5	Banned
135	乙醇胺	141-43-5	No Intentionally added
136	磷及其化合物 Phosphorus (P) and its compounds		Reportable
137	紅磷 Red phosphorus	7723-14-0	Banned
138	黃磷 Yellow Phosphorus	12185-10-3	Banned
139	磷化氫 Phosphine	7803-51-2	No Intentionally added
140	磷系添加型阻燃劑 Phosphorus additive flame retardants	表 D Phosphorus additive flame retardants List	有機材料 organic material：Banned Other<1000 ppm
141	磷化銦 Indium phosphide	22398-80-7	Reportable Expect future restrictions
142	銦及其化合物 Indium and its compounds (In)	7440-74-6	Solder<1000ppm
143	硫 Sulfur	7704-34-9	No Intentionally added
144	硫丹硫酸酯 Endosulfan sulfate	1031-07-8	Banned
145	胺磺酸鎳 Nickel sulfamate 硫酸鎳 Nickel sulphate 六水合硫酸鎳 Nickel(II) sulfate hexahydrate 七水合硫酸鎳 Nickel(II) sulfate heptahydrate	13770-89-3 7786-81-4 10101-97-0 10101-98-1	Reportable 禁止與皮膚接觸 No contact with skin
146	碳酸鉛 Lead carbonates;	598-63-0 1319-46-6	Banned

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	三鉛-二碳酸根-氫氧化鉛 Lead(II) carbonate basic 硫酸鉛 lead sulfates 鉛的硫酸鹽 sulfuric acid, lead salt	7446-14-2 15739-80-7	
147	四乙基鉛 Tetraethyllead	78-00-2	Banned
148	四甲基鉛 Tetramethyl lead	75-74-1	Banned
149	異氰酸鹽 Isocyanates 甲苯二異氰酸酯 Toluene diisocyanate	3173-72-6 26471-62-5 584-84-9 822-06-0 4098-71-9 5124-30-1 101-68-8 9016-87-0 9019-85-6 9017-01-0 26747-90-0 26603-40-7 91-08-7 584-84-9 624-83-9 Several	No Intentionally added
150	無機銨鹽 Inorganic ammonium salts	-	No Intentionally added
151	甲醇 Methanol	67-56-1	Banned
152	鉻酸五鋅八氫氧化物 Pentazinc chromate octahydroxide	49663-84-5	Banned
153	石棉及石棉化合物 Asbestos	1332-21-4 77536-68-6 12172-73-5 77536-67-5 77536-66-4 12001-28-4 12001-29-5 132207-32-0 12001-28-4 17499-08-0 67733-21-9 12510-42-8 14567-73-8 132207-33-1 13768-00-8 17068-78-9 77536-66-4 12172-67-7 Several	Banned
154	雙酚 A Bisphenol A	80-05-7	Banned
155	雙酚化學品 Bisphenol Chemicals	表 K Bisphenol Chemicals List	Contact with skin : Banned Other<50ppm
156	特定苯並氮唑 Specific benzotriazole	3846-71-7	Banned
157	2-(2H-苯並三唑-2-基)-4,6-二叔戊基苯酚 (UV-328) 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328)	25973-55-1	Banned
158	2,4 二硝基甲苯 2,4-Dinitrotoluene	121-14-2	Banned
159	苯二胺類 N,N'-ditolyl-p-phenylenediamine, N-tolyl-N'-xylyl-p-phenylenediamine, or N,N'-dixylyl-p-phenylene diamine 特定胺類 specified Amines N-p-phenylenediamine	27417-40-9 28726-30-9 70290-05-0 15017-02-4 620-91-7 101-72-4 Several	Banned
160	苯 Benzene	71-43-2 531-85-1	Banned
161	4-硝基聯苯及其鹽類 4-Nitrobiphenyl and its salt	92-93-3 836-30-6	Banned
162	苯乙炔化二苯胺;二苯胺衍生物 Diphenylamine, Substituted(SDPA)	表 E SDPA List	Banned
163	三氯甲苯 Benzotrichloride	98-07-7	Banned
164	4,4'-亞甲雙(2-氯苯胺) 或稱 2,2'-二氯-4,4'-亞甲基二苯胺 2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	Banned

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165	4,4-二氨基二苯 4,4'-Diaminodiphenylmethane(MDA) 3,3-二氯-4,4'-二胺基苯化甲烷 3,3-Dichloro-4,4'-Diaminodiphenylmethane	101-77-9	Banned
166	二甲苯麝香 musk xylene 酮麝香 ketone musk	81-15-2 81-14-1 541-91-3	Banned
167	多環芳香烴(PAHs) Polycyclic Aromatic Hydrocarbons (PAHs)	表 F PAHs List	Banned
168	Anthracene(蒽) 氨基苯甲酸鹽	120-12-7	Banned
169	苯並芘 Benzo (a) pyrene	217-59-4 50-32-8	Banned
170	單鹵芳香族化合物 Halogenated aromatic substances for mono- halogenated aromatic substances		Banned
171	多鹵芳香族化合物 Halogenated aromatic substances for poly-halogenated aromatic substances		Banned
172	1,2,4-三氯苯 1,2,4-Trichlorobenzene	120-82-1 12002-48-1	Banned
173	2-乙基己基-四溴苯甲酸 2-Ethylhexyl-2,3,4,5- tetrabromobenzoate (TBB)	183658-27-7	<1000ppm
174	鹵化苯化合物 Halogenated Benzene		Banned
175	辛基苯酚 Octylphenol	27193-28-8	Banned
176	苯酚 Phenol	108-95-2	Banned
177	4-氨基聯苯及其鹽類 (對-胺基聯苯) 4-Aminodiphenyl and its salts	92-67-1	Banned
178	滅蟻靈 Mirex	2385-85-5	Banned
179	阿特靈/艾氏劑 Aldrin	309-00-2	Banned
180	甲苯 Toluene	108-88-3	Banned
181	乙苯 ethylbenzene	100-41-4	No Intentionally added
182	乙醛 acetaldehyde	75-07-0	No Intentionally added
183	十氯酮 Chlordecone	143-50-0	Banned
184	滴滴涕 Chlorophenothane (DDT) 甲氧滴滴涕 Methoxychlor	50-29-3 72-43-5	Banned
185	地特靈 Dieldrin	60-57-1	Banned
186	戴奧辛 Dioxins 呋喃 Furans	290-67-5 110-00-9	Banned
187	安特靈 Endrin	72-20-8	Banned
188	三氯殺醇 Dicofol	115-32-2	Banned
189	毒殺芬 Toxaphene	8001-35-2	Banned
190	氯丹類 Chlordanes	3734-48-3 5103-74-2 5103-71-9 27304-13-8 39765-80-5 5103-73-1 12789-03-6 143-50-0 5566-34-7 56534-03-3 56641-38-4 57-74-9 6058-23-7 Several	Banned
191	二惡英類 Dioxins		Banned
192	安殺番 Endosulfan α-Endosulfan β-Endosulfan	115-29-7 959-98-8 33213-65-9	Banned
193	飛佈達/七氯 heptachlor	76-44-8	Banned
194	界面活性劑 Surfactants (DTDMAC, DODMAC/DSDMAC and DHTDMAC)	68783-78-8 107-64-2 61789-80-8	Banned

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195	木餾油.焦煤油.瀝青油以及 蒽類物質 Creosote, coal tar, tar oils and anthracene substances	122384-78-5 65996-85-2 84650-04-4 65996-91-0 8001-58-9 91995-42-5 92061-94-4 8021-39-4 90640-80-5 90640-84-9 90640-86-1 61789-28-4 91995-52-7 37337-13-6 8001-58-9 Several	Banned
196	放射性物質 Radioactive substances	表 G 放射性物質 Radioactive Substances List	Banned
197	臭氧層破壞物質(ODS, Ozone Depleting Substance)	表 H ODS substances List https://eur-lex.europa.eu/eli/reg/2009/1005/2017-04-19 https://eur-lex.europa.eu/legal-content/en/ALL/?uri=CELEX%3A32009R1005	No Intentionally added
198	氟化溫室氣體 Fluorinated Greenhouse Gases (GHG)	表 J 氟化溫室氣體 https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0517&qid=1464165712114&from=EN	No Intentionally added
199	海龍 Halons		Banned
200	內分泌干擾物質 (EDC) Endocrine Disrupting Chemicals	128-37-0 137-30-4 12122-67-7 137-26-8 137-42-8 100-02-7 108-46-3 25013-16-5 611-99-4 15087-24-8	Banned
201	奈米材料 Nanomaterials	Several	Reportable
202	國際癌病研究機構定義的致癌物質 Carcinogenic substances (Group1 and group2A & 2B defined by IARC(The International Agency for Research on Cancer)	https://monographs.iarc.fr/agents-classified-by-the-iarc/	依照 Carcinogenic substances 要求執行 According to Carcinogenic substances requirements
203	抗菌/殺生物劑物質 Antimicrobial & Biocidal Substance Biocidal coatings/Biocidal additives,selected EU Regulation 528/2012	Several https://echa.europa.eu/regulations/biocidalproducts-regulation/understanding-bpr	依照 EU528/2012 要求執行 According to EU528/2012 requirements
204	加州 65 提案 California Proposition 65	http://oehha.ca.gov/prop65/prop65_list/Newlist.html	依照 California Proposition 65 要求執行 According to California Proposition 65 requirements
205	全球汽車申報物質清單 GADSL (Global Automotive Declarable Substance List)	https://www.gadsl.org/	依照 GADSL 要求執行 According to GADSL requirements
206	歐盟高關注物質候選清單 REACH Candidate List of SVHCs	Check the ECHA website for the updated list at http://echa.europa.eu/candidate-list-table	依照 EU REACH 要求執行 According to EU REACH requirements
207	REACH 危險物質附錄十七 REACH Dangerous Substances ANNEX XVII	Check the ECHA website for the individual restrictions at https://echa.europa.eu/substances-restricted-under-reach	依照 REACH 1907/2006 要求執行 According to REACH 1907/2006 requirements
208	REACH 附錄十四 授權物質清單 REACH Annex XIV Substances in candidate list for authorization of EU REACH regulation	https://www.echa.europa.eu/authorisation-list	依照 REACH XIV 要求執行 According to REACH XIV requirements
209	加拿大特定禁止有害物質(SOR/2012-285)規範之管控物質 Current Regulations Prohibition of Certain Toxic Substances Regulations, 2012 (SOR/2012-285)		依照 SOR/2012-285 要求執行 According to SOR/2012-285 requirements



210	Washington State's List of Chemicals of High Concern to Children (CHCC)	https://ecology.wa.gov/Regulations-Permits/Reporting-requirements/Reporting-for-Childrens-Safe-Products-Act/Chemicals-of-high-concern-to-children	<100ppm
211	雷斯法案與歐盟木材法規 Lacey Act and EU Timber Regulation		依照 Lacey Act and EU Timber Regulation 要求執行 According to Lacey Act and EU Timber Regulation requirements
212	揮發性有機化合物 Volatile Organic Compound(VOC)	GB30981-2020 GB33372-2020 GB38507-2020 GB38508-2020	依照 GB VOC 要求執行 According to GB VOC requirements
213	氯化苄 Benzyl chloride	100-44-7	Banned
214	乙二醇 Ethylene glycol	107-21-1	Banned
215	氫氧化鉻酸鉍 hydroxyoctaoxidizincatedichromate	11103-86-9	製造過程：禁止使用 Manufacturing processes : Banned All applications:1000 ppm

5.5 針對包裝材料禁用物質 Controlled Substances of Packaging Materials

編號	化學物質 Chemical	CAS No.	濃度限制(ppm)
1	(Pb、Cd、Hg、Cr6+) 包裝及包裝廢棄物指令(Packaging and Packaging Waste, PPW) · Directive 94/62/EC		(Pb+Cd+Hg+Cr6+) <50ppm Cd<N.D., Hg<N.D.
2	聚溴聯苯醚(PBBs) Polybrominated Biphenyls		<1000ppm
3	多溴聯苯醚(PBDEs) Polybrominated diphenylethers		<500ppm
4	多氯代二苯醚 PolyChlorinated DiphenylEthers (PCDEs)		Banned
5	多溴化三聯苯 PolyBrominated Terphenyls (PBTs)		Banned
6	鄰苯二甲酸二異丁酯 Diisobutyl phthalate(DIBP)	84-69-5	DIBP+DEHP+DBP+BBP < 1000ppm
7	鄰苯二甲酸二(2-乙基己基酯)(DEHP) Bis(2-ethylhexyl)phthalate	117-81-7	DIBP+DEHP+DBP+BBP < 1000ppm
8	鄰苯二甲酸二丁酯(DBP) Dibutyl phthalate	84-74-2	DIBP+DEHP+DBP+BBP < 1000ppm
9	鄰苯二甲酸甲苯基丁酯(BBP) Benzyl butyl phthalate	85-68-7	DIBP+DEHP+DBP+BBP < 1000ppm
10	REACH Dangerous Substances ANNEX XVII 危險物質附錄十七		依照 REACH 1907/2006 要求執行 According to REACH 1907/2006 requirements
11	聚氯乙烯及其混合物 Polyvinyl chloride (PVC) and its blends		Banned
12	發泡聚苯乙烯 Expanded polystyrene(EPS) foam		Packing for product be shipped to South Korea or specified in the product specifications.: Banned : Other : Reportable
13	臭氧層破壞物質 ODS (CFCs.HCFCs.HBFCs.四氯化碳等) Ozone Depleting Substances (CFCs, HCFCs, HBFCs, carbon tetrachloride, etc.)		Banned
14	甲醛 Formaldehyde	50-00-0	Banned
15	全氟辛烷磺酸 perfluorooctane sulfonates (PFOS)		Banned
16	全氟辛烷酸 Perfluorooctanoic acid (PFOA)	335-67-1	Banned
17	氯元素 Elemental chlorine		Banned : As a bleaching agent in paper-based (作為紙基漂白劑)
18	硫酸鈷 Cobalt sulfate		<1000ppm
19	全氟/多氟烷基物質 Per/Poly fluoro alkyl substances, PFAS		No Intentionally added

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20	法國礦物油 Mineral Oil 飽和烴礦物油(Mineral Oil Saturated Hydrocarbons, MOSH) 芳香烴礦物油(Mineral Oil Aromatic Hydrocarbons, MOAH)		No Intentionally added
21	氯化亞鈷 / 二氯化鈷 Cobalt dichloride	7646-79-9 7791-13-1	Banned
22	二甲苯 Xylene	1330-20-7	棧板Pallet : 釋放量<30mg/m ³ Releasing content<30mg/m ³

6. 無鹵 Halogen Free(HF)

溴及溴化合物 Bromine(Br) and its compounds	7726-95-6 Several	Br<900ppm	管制文件 2025.01.13 文管中心發行
氯及氯化物 Chlorine(Cl) and its compounds	7782-50-5 Several	Cl<900ppm	
溴(Bromine)+氯(Chlorine)		<1500ppm	

7. 揮發性有機化合物 VOC 含量限制 Content Limits for Volatile Organic Compounds

中國國家標準化管理委員會於 2020 年 3 月 4 日公佈規範，其中四項：工業防護塗料，油墨，黏著劑，清洗劑，凡於中國生產、使用及銷售至中國地區之材料必需符合標準要求。VOC 報告有效期限為 1 年。

On March 4, 2020, the Standardization Management Committee has announced the limits of volatile organic compounds for four types of products: protective coatings, inks, adhesives, cleaning agents. All protective coatings, inks, adhesives, cleaning agents that are produced, sold and used in China, they must be Meet the standard requirements. The effective period of VOC test report is one year.

標準編號	標準名稱	實施日期
GB 38507-2020	油墨中可揮發性有機化合物(VOCs)含量的限值 Limits of volatile organic compounds (VOCs) in printing ink	2021-04-01
GB 30981-2020	工業防護塗料中有害物質限量 Limit of harmful substances of industrial protective coatings	2020-12-01
GB 38508-2020	清洗劑揮發性有機化合物含量限值 Limits for volatile organic compounds content in cleaning agents	2020-12-01
GB 33372-2020	膠粘劑揮發性有機化合物限量 Limit of volatile organic compounds content in adhesives	2020-12-01

詳細標準內容請參照公告網址：

<http://std.sacinfo.org.cn/gnoc/queryInfo?id=DBFEEDF05290B415CFBBEAA40EA24D78>

8. 製程限制 Process restrictions

針對製造過程中化學品的要求，評估，管理職業健康與安全危害，參考：[UTS-WI-005]危害性化學品管理辦法
According to the requirements of chemicals in the manufacturing process, assess and manage occupational health and safety hazards, refer to: [UTS-WI-005] Measures for the Management of Hazardous Chemicals

消耗臭氧層物質 Ozone Depleting Substances：遵照法規禁止或逐步淘汰，參考下列官方網址。

To prohibit or phase out in accordance with laws and regulations, refer to the official website below.

<https://eur-lex.europa.eu/eli/reg/2009/1005/2017-04-19>

氟化溫室氣體 Fluorinated Greenhouse Gases：遵照法規禁止或逐步淘汰，參考下列官方網址。

To prohibit or phase out in accordance with laws and regulations, refer to the official website below.

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0517&qid=1464165712114&from=EN>

9. 排外 Exemption

在技術或科學上,無法以其它物質取代之 RoHS 有害物質之管制對象,係參考歐盟 2011/65/EU Annex III 及其修訂指令(EU)2015/863 RoHS 排外款條。

汽車產品係參考 ELV 指令 2000/53/EC 附錄 II 的豁免要求

When the hazardous substances controlled by RoHS cannot be substituted via current technology or science, refer to 2011/65/EU Annex III and its amending directive (EU) 2015/863 RoHS Exemption.

Automotive materials refer to ELV Directive 2000/53/EC Annex II

http://ec.europa.eu/environment/waste/rohs_eee/index_en.htm

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32017L2096>

補充說明 Additional information :

物料如含有鉛,需依照 EU RoHS 與 ELV 豁免要求填寫對應的豁免條款於成分表內,舉例如下:

If the material contains lead and Comply with EU RoHS or ELV Exemption(s) please fill in RoHS Exemption Number(s) on the MCD, for example:

商用材料請參考 EU RoHS 2011/65/EU Annex III

For commercial materials, please refer to EU RoHS 2011/65/EU Annex III

RoHS 7(a) : 高熔點類之鉛錫可含鉛 (如鉛為基底的合金,其鉛含量大於 85%)

RoHS 7(a) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

RoHS 7(c)-I : 鉛用於電器及電子元件中之玻璃或陶瓷 (介電陶瓷電容除外)。例如:壓電元件或者玻璃/陶瓷複合材料

RoHS 7(c)-I : Electrical and electronic components containing lead in a glass or ceramic other than dielectric ceramic in capacitors, e.g. piezoelectronic devices, or in a glass or ceramic matrix compound

車用材料請參考 ELV 指令 2000/53/EC 附錄 II 的豁免要求:

For automotive materials, please refer to the exemption requirements of Appendix II of the ELV Directive 2000/53/EC:

ELV 8(e) : 高熔點鉛錫中的鉛(例如鉛含量≥85%合金中的鉛)

ELV 8(e) : Lead in high melting temperature type solders (i.e. lead-based alloys containing 85 % by weight or more lead)

ELV 10(a) : 具有含鉛玻璃或陶瓷複合材料的電氣和電子元件。

ELV 10(a) : Electrical and electronic components which contain lead in a glass or ceramic, in a glass or ceramic matrix compound, in a glass-ceramic material, or in a glass-ceramic matrix compound.

10. HSF 相關資料蒐集 Collection of HSF related files

新開發材料應於一個月內完成 HSF 相關資料蒐集,包含:

New developed materials should complete the collection of HSF related files within one month, include:

- ICP Report : 報告有效期限為一年。

ICP Report : The report is valid for one year.

- 成分表:當成分組成無變更時,持續有效。

Material Declaration Data Sheet : It will continue to be effective until the ingredient composition be changed.

- 供應商環境政策保證書:須簽回最新版本保證書。

Supplier's Environmental Protection Guarantee : Must sign back the latest version.



11. 廠商管理 Supplier management

11.1 關於供應商應檢附資料規定： The supplier provision information:

■ 供應商環保政策保證書

Supplier's Environmental Protection Guarantee

- ◆ 當「乾坤科技 HSF 要求管制標準」變更時，採購應傳達供應商按照最新規範及回簽保證書，如法規更新時，依照法規最新要求執行。

The purchasing unit shall communicate the supplier provide warranty with authorization signature and stamp when Cynotec HSF Management Standard are changed. If the regulations are updated, follow the latest requirements of the regulations.

- ◆ 於保證書中列出所提供材料之品名與 Cynotec 料號。

The names of the materials provided and their corresponding CYNTEC part numbers should be listed in the warranty.

- ◆ 確認符合最新 QA-WI-005 乾坤科技 HSF 要求管制標準，如無法符合須立即通知 CYNTEC。

Make sure meet the latest version of QA-WI-005 Cynotec HSF Management Standard and control substance are not contained. Immediately notify CYNTEC if it contains controlled substances.

- ◆ 供應商有責任提供認證的實驗室出具的報告並承擔相關費用，以證明均質材料中的下列物質具有合規性。

It is supplier's responsibility to provide test reports at its expense from certified labs as proof of compliance for the following substances in homogeneous materials.

11.2 有害物質測試項目要求 The requirements for hazardous substance testing items

供應商需對各類材料進行有害物質測試，並提供合規報告，測試項目如下：

Suppliers shall test all kinds of materials for hazardous substances and provide compliance reports. The test items are as follows:

材料類別 Material types	測試項目 Test items
所有材料 All materials	鎘 Cadmium (Cd)
	六價鉻 Hexavalent Chromium (Cr6+)
	鉛 Lead (Pb)
	汞 Mercury (Hg)
金屬和陶瓷除外的所有材料 All materials except metals and ceramics	多溴聯苯 Polybrominated biphenyl (PBBs)
	多溴聯苯醚 Polybrominated diphenyl ether (PBDEs)
	鄰苯二甲酸二(2-乙基己基酯)Diethylhexyl phthalate (DEHP)
	鄰苯二甲酸丁基苄 Benzyl butyl phthalate (BBP)
	鄰苯二甲酸二丁酯 Dibutyl phthalate (DBP)
	鄰苯二甲酸二異丁酯 Diisobutyl phthalate(DIBP)
金屬和陶瓷除外的所有材料 All materials except metals and ceramics	氟 Fluorine (F)
	溴 Bromine (Br)
	氯 Chlorine (Cl)
包裝材料 Packaging materials	RoHS(Cd + Cr(VI) + Hg + Pb)

11.3 當客戶額外指定時需提供如下物質測試報告

If required by customers specially, the 3rd party test report of the hazardous substances below should be provided.

材料類別 Material types	測試項目 Test items
玻璃 Glass	砷 Arsenic (As)
油墨、顏料、皮革、紡織品及塗料 Inks, Paints, Leather, Textiles and Coatings	PFOS
	PFOA
金屬和陶瓷 metals and ceramics	鈹 Beryllium(Be)
所有材料 All materials	銻 Antimony(Sb)
包裝材料 Packaging materials	溴 Bromine (Br) + 氯 Chlorine (Cl)

材料類別 Material types	測試項目 Test items
清洗劑/脫脂、脫模劑 cleaner/degreaser/demolding solutions	含氯有機溶劑 Chlorinated organic solvent, 正己烷 n-Hexane, 苯 Benzene, 甲苯 Toluene, 溴化有機溶劑 Brominated Organic Solvents N-甲基吡咯烷酮(NMP) N-Methylpyrrolidone



11.4 測試的材料必須是均質等級，不接受非均質等級的測試報告。

Materials must be homogeneous. Test reports that are not at a homogeneous level are not acceptable.

均質材料：全部為單一組成之材料，或包含多種材料組合，但無法以機械動作如旋開、分解、切割、壓碎、磨碎以及研磨程式，分開或分離為不同材料之材料。該定義與 2011/65/EU 指令一致，該指令系針對電氣和電子設備中的特定有害物質設定的使用限制。

Homogeneous material: One material of uniform composition throughout or a material, consisting of a combination of materials, that cannot be disjointed, disaggregated, or separated into different materials by mechanical actions such as unscrewing, cutting, crushing, grinding, and abrasive processes. The definition is consistent with Directive 2011/65/EU on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment.

11.5 測試樣品要求 (Requirement for sample)

不接受表面處理前 (如液體、金屬化合物等)材料測試，須提供表面處理後鍍層與底材的均質測試報告。

黏著劑、油墨、油漆等材料：供應商需提供固態樣品報告，非液態。所有報告需為材料呈現在產品上的狀態。

Test report for surface treatment liquid or raw material to plate is not accepted. Only accept homogeneous report for plated layer and bottom material. **Adhesives, inks, paints, and other materials: suppliers are required to provide solid-state sample reports**, not liquid. The sample should be tested with a status finally on the product.

11.6 已認證材料需定期更新有害物質報告，有效期限兩年，採購應於 ICP 報告過期前一個月向供應商索要最新報告，如客戶有額外需求依客戶要求執行。但如果經變更，供應商必須通知 Cyntec 或 Cyntec 合作製造商，並送交新的測試報告。如果零件的測試資料或合規證明出現疑慮，Cyntec 或 Cyntec 合作製造商得按個案要求更新測試報告，費用由供應商承擔。

The qualified materials should be regularly updated HSF reports and the effective period of Reports is Two year. Purchasing unit should ask supplier to provide new ICP reports one month in advance. If the customer has additional requirements, it will be implemented according to the customer's request. If the

component part number or constituent materials change, it is the supplier's responsibility to notify Cyntec or Cyntec's manufacturing partners and submit new test reports. Cyntec or Cyntec's manufacturing partners may request renewed test reports on a case-by-case basis, at the supplier's expense, if there are concerns regarding the validity of the test data or compliance of the parts.

11.7 報告要求：

須由國家或國際認證的實驗室出具測試報告。實驗室須取得 ISO/IEC 17025 或等同之國家標準的認證，並將相關的檢驗、測試或校正服務納入其認證範圍(證書)；校正證書或測試報告須有國家認可機構的標章，或須有證據顯示客戶接受該外部實驗室。

Report requirements: The test report must be issued by a nationally or internationally certified laboratory.

the laboratory shall be accredited to ISO/IEC 17025 or national equivalent and include the relevant inspection, test, or calibration service in the scope of the accreditation (certificate); the certificate of calibration or test report shall include the mark of a national accreditation body; or - there shall be evidence that the external laboratory is acceptable to Cyntec.

11.8 測試方法 Test Method:

物質(Substances)	測試方法(Test Method)
鎘(Cd)	IEC 62321
鉛(Pb)	IEC 62321
汞(Hg)	IEC 62321
六價鉻(Cr(VI))	IEC 62321
多溴聯苯 (PBB) / 多溴聯苯醚 (PBDE)	IEC 62321
四項 Phthalates (DBP, BBP, DEHP, DIDP)	IEC 62321
氯(Cl) 溴(Br) 氟(F)	BS EN 14582 (前處理法為燃彈法(氧彈法)(the pretreatment method: Bomb Combustion method) US EPA SW-846 5050/9056 ASTM D 7359-14a, DIN 53474:2017-12, or IEC62321-3-2, followed by IC testing
PFOS PFOA	EN 17681-1: 2022 & EN 17681-2: 2022 LC-MS-MS methods that can achieve an MDL of 25 ppb
鈹 Beryllium (Be)	US EPA 3050B US EPA 3052 ICP-AES in addition to ICP-MS ICP-OES in addition to ICP-MS
砷 Arsenic (As)	Total acid digestion followed by ICP-MS、ICP-OES、ICP-AES
銻 Antimony (Sb)	參照檢測單位建議方法 Refer to the method suggested by the test institute
REACH 高度關切物質 (SVHC)	參照檢測單位建議方法 Refer to the method suggested by the test institute
溴化有機溶劑(Brominated Organic Solvents)	Solvent extraction, analyzed by GC-MS or HPLC-MS; or EN 14582 for total bromine
含氯有機溶劑(Chlorinated Organic Solvents)	Solvent extraction, analyzed by GC-MS or HPLC-MS; or EN 14582 for total chlorine
正己烷(n-Hexane)	Solvent extraction, analyzed by GC-MS or HPLC-MS
苯(Benzene)	Solvent extraction, analyzed by GC-MS or HPLC-MS
甲苯(Toluene)	Solvent extraction, analyzed by GC-MS or HPLC-MS
N-甲基吡咯烷酮(N-Methylpyrrolidone; NMP)	Solvent extraction, analyzed by GC-MS or HPLC-MS

11.9 成分信息 Material composition and ingredient information.

- 供應商需完整揭露所提供給 Cyntec 的零件和材料的組成成分,禁止提供預估的或部分的材料組成。
Suppliers shall provide the entire chemical composition of the parts and materials used in Cyntec products, and the chemical composition must not be estimated or partial.
- 由兩種以上均質材料組成之物料/零組件須提供 MCD(Material Composition Declaration 《QA-WI-005-02》、《QA-WI-005-03》)。For Example：電阻、電容、紙箱、Connector、線材等。
Materials/components composed of two or more homogeneous materials must provide MCD ((Material Composition Declaration 《QA-WI-005-02》, 《QA-WI-005-03》). For Example: Resistors, capacitors, cartons, Connectors, wires, etc.
- 因應國際法規要求 PFAS，金屬及陶瓷除外之材料必須檢測氟，氟>50ppm 須提供氟化物之 CAS NO.PFAS 調查表(Supplementary Fillable Spreadsheet for Confirmed PFAS Materials 《QA-WI-005-04》)。
In accordance with international regulations requiring PFAS, materials other than metals and ceramics must be tested for fluorine. If fluorine is >50ppm, a CAS NO. PFAS questionnaire (Supplementary Fillable Spreadsheet for Confirmed PFAS Materials 《QA-WI-005-04》) for fluoride must be provided.

11.10 國際材料數據系統 IMDS(汽車產品適用) International Material Data System(For automotive products)

- IMDS 為應用於汽車行業的線上材料數據系統，旨在收集、維護、分析和管理的汽車材料資訊，使汽車製造商及其供應鏈體系可有效率地履行歐盟和國際相關標準、法令和規範。
IMDS is an online material data system used in the automotive industry. It aims to collect, maintain, analyze and manage automotive material information, so that automakers and their supply chain systems can efficiently implement relevant EU and international standards, laws and regulations.
- 應通過在國際材料資料系統 (IMDS) 中創建材料資料表來報告元件和材料的完整組成。材料資料表必須按照當時有效的 IMDS 指導委員會的報告要求編制，並依 Cyntec 要求提供 IMDS。國際材料資料系統 (IMDS)：www.mdsystem.com
The complete composition of components and materials shall be reported by creating a material data sheet in the International Material Data System (IMDS). The material data sheet must be compiled according to the reporting requirements of the then effective IMDS Steering Committee, and IMDS should be provided according to Cyntec's requirements. International Material Data System (IMDS):
www.mdsystem.com

12. 相關參考文件 Referenced Documents

SAP&PLM 系統上各項代號規則及其定義(10000-1061)

Symbols, Codes, Markings in SAP & PLM (10000-1061)

HSF 作業管理辦法(QA-PR-020)

HSF Operation Administrative Method (QA-PR-020)

製程流程 HS 鑑別作業辦法(QA-PR-019)

Process Flow HS Identification Operation Method (QA-PR-019)

文件與資料管制程序(QAD-PR-001)

Documents and Data Control Procedure (QAD-PR-001)

乾坤科技供應商環保政策保證書(QA-WI-005-01)

Cyntec Supplier Environmental Policy Guarantee (QA-WI-005-01)

供應商環保政策保證審核單(EN-PR-005-04)

Vendor's Environment Protect Guarantee Verification (EN-PR-005-04)

揮發性有機化合物 VOC 材料含量管制作業辦法 (EN-WI-083)

Working Instruction for Content Limits of Volatile Organic Compound (EN-WI-083)

2002/95/EC : 2003年1月27日歐洲議會與委員會之 2002/95/EC 指令,關於電氣與電子設備中,使用特定有害物質的限制。

2002/95/EC: Directive 2002/95/EC of the European Parliament and of the Council on 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

2011/65/EU : 限制電氣電子設備使用特定有害物質 (「RoHS Recast」)。

2011/65/EU: The restriction of the use of certain hazardous substances in electrical and electronic equipment ("RoHS Recast").

2015/863/EU : 2015年6月4日歐盟委員會發布了新的指令(EU)2015/863, 修訂歐盟指令2011/65 / EU的附件II, 增加4項鄰苯二甲酸酯增加到限制物質清單中。

On 4 June 2015, the EU commission has published a new Directive (EU) 2015/863 to amend Annex II to EU (Directive 2011/65/EU) to add 4 phthalates onto the list of restricted substances.

歐盟新化學品政策(REACH)1907/2006及修正案: 2006年12月18日歐洲議會與委員會法規(EC)1907/2006, 關於化學品之登錄、評估、授權與限制 (REACH)之附件XVII。

REACH 1907/2006 and amendments: Annex XVII of Regulation (EC) No 1907/2006 of the European Parliament and of the Council on 18 December 2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

EN 14582:2016 : 廢棄物特性。鹵素和硫含量。封閉系統中的氧燃燒和測定方法。

EN 14582:2016: Characteristics of wastes. Halogen and sulfur content. Oxygen combustion in closed systems and determination methods.

美國加州65法規

U.S. California Proposition 65 regulation

全球汽車化學物質申報清單GADSL

Global Automotive Declarable Substance List

加拿大特定禁止有害物質(SOR/2012-285)規範之管控物質

Current Regulations Prohibition of Certain Toxic Substances Regulations, 2012 (SOR/2012-285)

Washington State's List of Chemicals of High Concern to Children (CHCC)

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雷斯法案與歐盟木材法規 (16 U.S.C. §§ 3371–3378)

Lacey Act and EU Timber Regulation

中國 RoHS : Administration methods for use of hazardous substance in electrical and electronic products, Ministry of Industry and Information Technology of People's Republic of China, Order#32, January 21, 2016. (電子電機產品有害物質使用管理法·中國工業和資訊化部·第32號令·2016年1月21日。)

台灣 BSMI RoHS : CNS 15663為台灣 BSMI RoHS之技術標準。

Taiwan BSMI RoHS: CNS 15663 is the technique standards of Taiwan BSMI RoHS.

GB 30981-2020 : 工業防護塗料中有害物質限量

GB 30981-2020: Limit of harmful substances of industrial protective coatings

GB 33372-2020 : 膠粘劑揮發性有機化合物限量

GB 33372-2020: Limit of volatile organic compounds content in adhesives

GB 38507-2020 : 油墨中可揮發性有機化合物 (VOCs) 含量的限值

GB 38507-2020: Limits of volatile organic compounds (VOCs) in printing ink

GB 38508-2020 : 清洗劑揮發性有機化合物含量限值

GB 38508-2020: Limits for volatile organic compounds content in cleaning agents

美國有毒物控制法(Toxic Substances Control Act) 第6(h)節的五種PBT化學品·法案EPA-HQ-OPPT-2019-0080

Regulation of Persistent, Bioaccumulative, and Toxic Chemicals under TSCA Section 6(h) EPA-HQ-OPPT-2019-0080

Regulation (EU) 2023/1542 : 2023/8/17 歐盟於官方公報正式頒布電池與廢電池的法規·同時修訂 Directive 2008/98/EC及Regulation (EU) 2019/1020·並廢止原歐盟電池與廢電池指令2006/66/EC。

Regulation (EU) 2023/1542: On August 17, 2023, the EU officially promulgated regulations on batteries and waste batteries in the Official Journal, revised Directive 2008/98/EC and Regulation (EU) 2019/1020, and abolished the original EU battery and waste batteries regulations. Battery Directive 2006/66/EC.

Directive 2000/53/EC on End-of-Life Vehicles : 廢車輛指令(End-of-life Vehicle · ELV)

ANNEX 相關物質清單 Relevant substance lists

表 A 有機錫化合物

Table A Organotin Compounds List

Name	CAS No.	Name	CAS No.
Monobutyltin (MBT) Compounds	Multiple	DPHT	
Monooctyltin (MOT) Compounds	Multiple	TMT	
Dibutyltin (DBT) Compounds	Multiple	TPT	
Dioctyltin (DOT) Compounds	Multiple	TET	
Tetrabutyltin (TeBT)	Multiple	TeET	
Tetraoctyltin (TeOT)	Multiple	TePhT	
Tributyltin (TBT) Compounds	Multiple	Hexamethylditin compounds	
Tricyclohexyltin (TCyT) Compounds	Multiple	Bis[tris(2-methyl-2-phenylpropyl)tin oxide	
Triphenyltin (TPHT) Compounds	Multiple	Bis(2-erhylhexante)tin	
Alkyl tin compounds		Others Organic Tin	
MPhT		DPHT	
DMT			

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表 B 偶氮染料、芳基胺及苯胺

Table B Azo Dyes, Arylamines and Anilines List

Name	CAS No.	Name	CAS No.
4-氨基偶氮苯 4-Aminoazobenzene	60-09-3	2,4-甲代苯二胺 2,4-Diaminotoluene	95-80-7
鄰氨基偶氮甲苯 o-Aminoazotoluene	97-56-3	3,3'-二氯聯苯胺 3,3'-Dichlorobenzidine	91-94-1
2-氨基-4-硝基甲苯 2-Amino-4-nitrotoluene	99-55-8	3,3'-二甲氧基聯苯胺 3,3'-Dimethoxybenzidine	119-90-4
0-氨基苯甲醚 o-Anisidine	90-04-0	3,3'-二甲基聯苯胺 3,3'-Dimethylbenzidine	119-93-7
聯苯胺 Benzidine	92-87-5	3,3'-二甲基-4,4'-二胺基二苯甲烷 3,3'-Dimethyl-4,4'-diaminodiphenylmethane	838-88-0
4,4'-二氨基-3,3'-二氯二苯甲烷 2,2'-dichloro-4,4'-methylenedianiline (MOCA)	101-14-4	2-萘胺 2-Naphthylamine	91-59-8
4-氨基聯苯 4-Biphenylamine	92-67-1	4,4'-二氨基聯苯醚 4,4'-Oxydianiline	101-80-4
4-氯苯胺 4-Chloroaniline	106-47-8	4,4'-硫雙苯胺 4,4'-Thiodianiline	139-65-1
聯苯胺 4-Chloro-2-toluidine	95-69-2	0-甲苯胺 o-Toluidine	95-53-4
5-甲基鄰茴香甲胺 p-Cresidine	120-71-8	2,4,5-三甲苯胺 2,4,5-Trimethylaniline	137-17-7
2,4-二氨基苯甲醚 2,4-Diaminoanisole	615-05-4	2,4-二甲基苯胺 2,4-Xylidine	95-68-1
4,4'-二氨基二苯甲烷 4,4'-Diaminodiphenylmethane	101-77-9	2,6-二甲基苯胺 2,6-Xylidine	87-62-7
1,3-Naphthalenedisulfonic acid, 7-hydroxy-8-[[4'-[(4-hydroxyphenyl)azo][1,1'-biphenyl]-4-yl]azo]-	117-33-9	2,7-Naphthalenedisulfonic acid, 5-amino-3-[[4'-[(7-amino-1-hydroxy-3-sulfo-2naphthalenyl) azo][1,1'-biphenyl]-4-yl]azo]-4-hydroxy-, disodium salt [CI Direct Navy BH]	68214-82-4
1,3,6-Naphthalenetrisulfonic acid, 8-hydroxy-7-[[4'-[(2-hydroxy-1-naphthalenyl)azo][1,1'-biphenyl]-4-yl]azo]-, trillithium salt	65150-87-0	2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4'-[[2-hydroxy-4-[(2methylphenyl) amino]phenyl]azo] [1,1'-biphenyl]-4-yl]azo]-6-(phenylazo)-	72379-45-4
Cuprate(2-), [5-[[4'-[[2,6-dihydroxy-3-[(2-hydroxy-5-sulfophenyl)azo]phenyl] azo][1,1'-biphenyl]-4-yl]azo]-2- hydroxybenzoato(4-)-], disodium salt (C.I. Direct Brown 95)	16071-86-6	Benzoic acid, 5-[[4'-[[2,6-diamino-3-methyl-5-[(4-sulfophenyl)azo]phenyl] azo][1,1'-biphenyl]-4-yl]azo]-2- hydroxy-3-methyl-, disodium salt (C.I. Direct Brown 154)	6360-54-9
Benzoic acid, 3,3'-[(3,7-disulfo-1,5-naphthalenediyl)bis[azo(6- hydroxy-3,1-phenylene)azo[6(or7)- sulfo-4,1-naphthalenediyl]azo[1,1'-biphenyl]-4,4'-diylazo]]bis[6-hydroxy-, hexasodium salt (C.I. Direct Brown 74)	8014-91-3	2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4'-[[4- hydroxy-2-[(2-methylphenyl)amino]phenyl]azo] [1,1'- biphenyl]-4-yl]azo]-6-[(4-sulfophenyl) azo]-, trisodium salt (C.I. Acid Black 94)	6358-80-1
Benzoic acid, 5-[[4'-[[4-[(4-amino-7-sulfo-1-naphthalenyl)azo]-6-sulfo-1-naphthalenyl]azo][1,1'-biphenyl]-4-yl] azo]-2-hydroxy-, trisodium salt (C.I. Direct Brown 27)	6360-29-8	Benzoic acid, 5-[[4'-[[2,4-diamino-5-[(4-sulfophenyl) azo]phenyl]azo][1,1'-biphenyl]-4-yl]azo]-2-hydroxy-, disodium salt (C.I. Direct Brown 1)	3811-71-0
2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-6-[[4'-[(4- hydroxyphenyl)azo][1,1'-biphenyl]-4-yl] azo]-3-[(4- nitrophenyl)azo]-, disodium salt (C.I. Direct Green 6)	4335-09-5	1,3-Naphthalenedisulfonic acid, 7-hydroxy-8-[[4'-[[4-[(4- methylphenyl) sulfonyl]oxy]phenyl]azo][1,1'-biphenyl]-4- yl]azo]-, disodium salt (C.I. Acid Red 85)	3567-65-5

2,7-Naphthalenedisulfonic acid, 4-amino-5-hydroxy-3-[[4'-[(4- hydroxyphenyl)azo][1,1'-biphenyl]-4- yl]azo]-6- (phenylazo)-, disodium salt (C.I. Direct Green 1)	3626-28-6	Benzoic acid, 5-[[4'-[[2,4-dihydroxy-3-[(4-sulfo-phenyl)azo]phenyl]azo][1,1'-biphenyl]-4-yl]azo]-2-hydroxy-, disodium salt (C.I. Direct Brown 6)	2893-80-3
1,3-Naphthalenedisulfonic acid, 8-[[4'-[(4-ethoxyphenyl)azo][1,1'-biphenyl]-4-yl]azo]-7-hydroxy-,disodium salt (C.I. Direct Red 37)	3530-19-6	Benzoic acid, 5-[[4'-[[2,6-diamino-3-methyl-5-[(4-sulfo-phenyl)azo]phenyl]azo][1,1'-biphenyl]-4-yl]azo]-2- hydroxy-, disodium salt (C.I. Direct Brown 1:2)	2586-58-5
2,7-Naphthalenedisulfonic acid, 3,3'-[[1,1'-biphenyl]-4,4'- diylbis(azo)]bis[5-amino-4-hydroxy-, tetrasodium salt (C.I. Direct Blue 6]	2602-46-2	Benzoic acid, 5-[[4'-[(2-amino-8-hydroxy-6-sulfo-1-naphthalenyl)azo][1,1'-biphenyl]-4-yl]azo]-2-hydroxy-, disodium salt (C.I. Direct Red 1)	2429-84-7
2,7-Naphthalenedisulfonic acid, 4-amino-3-[[4'-[(2,4-diamino- 5-methylphenyl)azo][1,1'- biphenyl]-4-yl]azo]-5-hydroxy-6- (phenylazo)-, disodium salt (Direct Black 4)	2429-83-6	Benzoic acid, 5-[[4'-[[2,6-diamino-3-[[8-hydroxy-3,6-disulfo-7- [(4-sulfo-1-naphthalenyl)azo]-2-naphthalenyl]azo]-5- methylphenyl]azo][1,1'-biphenyl]-4-yl]azo]-2-hydroxy-, tetrasodium salt (C.I. Direct Brown 31)	2429-81-4
Benzoic acid, 5-[[4'-[(1-amino-4-sulfo-2-naphthalenyl)azo][1,1'-biphenyl]-4-yl]azo]-2-hydroxy-,disodium salt (C.I. Direct Orange 8)	2429-79-0	Benzoic acid, 5-[[4'-[(7-amino-1-hydroxy-3-sulfo-2-naphthalenyl)azo][1,1'-biphenyl]-4-yl]azo]-2-hydroxy-, disodium salt (C.I. Direct Brown 2)	2429-82-5
2,7-Naphthalenedisulfonic acid, 5-amino-3-[[4'-[(7-amino-1-hydroxy-3-sulfo-2- naphthalenyl)azo][1,1'- biphenyl]-4-yl]azo]-4-hydroxy-, trisodium salt (C.I. Direct Blue 2)	2429-73-4	2,7-Naphthalenedisulfonic acid, 4-amino-3-[[4'-[[2,4-diaminophenyl)azo][1,1'-biphenyl]-4- yl]azo]-5-hydroxy-6-(phenylazo)-, disodium salt (C.I. Direct Black 38)	1937-37-7
1-Naphthalenesulfonic acid, 3,3'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis[4-amino-, disodium salt (C.I. Direct Red 28)	573-58-0	1-Naphthalenesulfonic acid, 8,8'-[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis[7-hydroxy-,disodium salt (C.I. Direct Red 44)	2302-97-8

表 C 含氯有機溶劑

Table C Chlorinated Organic Solvents List

Name	CAS No.	Name	CAS No.
Bromodichloromethane	75-27-4	1,1,1,2-Tetrachloroethane	630-20-6
Carbon tetrachloride	56-23-5	1,1,2,2-Tetrachloroethane	79-34-5
Chloroform	67-66-3	1,1,1-Trichloroethane	71-55-6
Dibromochloromethane	124-48-1	1,1,2-Trichloroethane	79-00-5
Methylene chloride	75-09-2	1,1-Dichloroethylene	75-35-4
Methyl chloride	74-87-3	cis-1,2-Dichloroethylene	156-59-2
Chloroethane	75-00-3	trans-1,2-Dichloroethylene	156-60-5
1,1-Dichloroethane	75-34-3	Tetrachloroethylene	127-18-4
1,2-Dichloroethane	107-06-2	Trichloroethylene	79-01-6
Hexachloroethane	67-72-1	1,2-Dichloroethylene	540-59-0
Pentachloroethane	76-01-7		

表 D 磷系添加型阻燃劑

Table D Phosphorus Additive Flame Retardants List

Name	CAS No.	Name	CAS No.
Triphenyl phosphate	115-86-6	Zinc diethylphosphinate	284685-45-6
Diphenyl octyl phosphate	115-88-8	Isodecyl diphenyl phosphate	29761-21-5
2-Ethylhexyl diphenyl phosphate	1241-94-7	Melamine phosphate	41583-09-9
Resorcinol bis(diphenyl phosphate)	57583-54-7	Tetrakis(hydroxymethyl)phosphonium sulphate	55566-30-8
Tri-n-butyl phosphate	126-73-8	Tri-m-cresyl phosphate	563-04-2
Tricresyl phosphate	1330-78-5	Tris(4-tert-butylphenyl) phosphate	78-33-1
Dodecyl diphenyl phosphate	27460-02-2	Piperazine pyrophosphate	66034-17-1
Cetyl diphenyl phosphate	56827-92-0	Red phosphorous	7723-14-0
Diethyl ethanephosphonate	78-38-6	Tri-o-cresyl phosphate	78-30-8
Trixylyl phosphate	25155-23-1	Tri-p-cresyl phosphate	78-32-0
Aluminum diethylphosphinate	225789-38-8	Triethyl phosphate	78-40-0
Diphenyl cresyl phosphate	26444-49-5	Tris(2-ethylhexyl) phosphate	78-42-2

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Isopropylated triphenyl phosphate	26967-76-0, 72668- 27-0	Tris(2-butoxyethyl) phosphate	78-51-3
Diethyl N,N'-bis(2-hydroxyethyl)aminomethylphosphonate	2781-11-5	several	

表 E 二苯胺衍生物

Table E Diphenylamines, Substituted (SDPA) List

Name	CAS No.	Name	CAS No.
二 鈹 二 苯 胺 (Benzenamine, 4-octyl-N-(4-octylphenyl)-)	101-67-7	二 壬 基 二 苯 胺 (Benzenamine, ar-nonyl-N-(nonylphenyl)-)	36878-20-3
辛 基 化 二 苯 胺 (Benzenamine, 4-octyl-N-phenyl-)	4175-37-5	二 苯 胺 (Benzenamine, N-phenyl-) 與 2,4,4-三 甲 基 戊 烯 (2,4,4-trimethylpentene) 的 反 應 產 物	68411-46-1
4,4'-二 (苯 基 異 丙 基) 二 苯 胺 (Benzenamine, 4-(1-methyl-1-phenylethyl)-N-[4-(1-methyl-1-phenylethyl)phenyl])	10081-67-1	苯 乙 烯 基 化-N-苯 基 苯 胺 (Benzenamine, N-phenyl-, styrenated)	68442-68-2
4,4'-二 第 三 辛 基 二 苯 胺 (Benzenamine, 4-(1,1,3,3-tetramethylbutyl)-N-[4-(1,1,3,3-tetramethylbutyl)phenyl]-)	15721-78-5	2-乙 基-N-(2-乙 基 苯 基)-(三 丙 烯 基) 苯 胺 之 衍 生 物 (Benzenamine, -ethyl-N-(2-ethylphenyl)-, (tripropenyl) derivatives)	68608-77-5
二 辛 基 壬 基 酚 (Benzenamine, 4-nonyl-N-(4-nonylphenyl)-)	24925-59-5	二 苯 胺 (三 丙 烯 基) 衍 生 物 (Benzenamine, N-phenyl-, (tripropenyl)derivatives)	68608-79-7
二 辛 基 二 苯 胺 (Benzenamine, ar-octyl-N-(octylphenyl)-)	26603-23-6	二 苯 胺 (Benzenamine, N-phenyl-) 與 異 丁 烯 (isobutylene) 及 2,4,4-三 甲 基 戊 烯 (2,4,4-trimethylpentene) 的 反 應 產 物	184378-08-3
N-苯-壬基苯胺 (Benzenamine, ar-nonyl-N-phenyl-)	27177-41-9		

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表 F 多環芳香烴

Table F PAHs List

Name	CAS No.	Name	CAS No.
芴 蒽 (Acenaphthene)	83-32-9	苝 (1,2,3-cd) 芘 (Indeno(1,2,3-cd)pyrene)	193-39-5
芴 烯 (Acenaphthylene)	208-96-8	5-甲 基 屈 (5-Methylchrysene)	3697-24-3
蒽 (Anthracene)	120-12-7	萘 (Naphthalene)	91-20-3
苯 並 (a) 蒽 (Benzo(a)anthracene)	56-55-3	菲 (Phenanthrene)	85-01-8
苯 並 (a) 菲 (蒽) (Benzo(a)phenanthrene (chrysene))	218-01-9	芘 (Pyrene)	129-00-0
苯 並 [a] 芘 (Benzo(a)pyrene)	50-32-8	Benzo[b]fluoranthene (BbFA)	205-99-2
苯 並 (b) 芘 (Benzo(b)fluoranthene)	205-99-2	Corannulene	5821-51-2
苯 並 (e) 芘 (Benzo(e)pyrene)	192-97-2	Coronene	191-07-1
苯 並 (g,h,i) 芘 (Benzo(g,h,i)perylene)	191-24-2	Ovalene	190-26-1
苯 並 (j) 芘 (Benzo(j)fluoranthene)	205-82-3	Pentacene	135-48-8
苯 並 (k) 芘 (Benzo(k)fluoranthene)	207-08-9	Tetracene	92-24-0
苯 並 (j,k) 芘 (蒽) (Benzo(j,k)fluorene (Fluoranthene))	206-44-0	Triphenylene	217-59-4
苯 並 (r,s,t) 芘 (Benzo(r,s,t)pentaphene)	189-55-9	Benzo(ghi)fluoranthene	203-12-3
二 苯 並 (a,h) 吡 啶 (Dibenz(a,h)acridine)	226-36-8	Benzo(a)fluorene	238-84-6
二 苯 並 (a,i) 吡 啶 (Dibenz(a,i)acridine)	224-42-0	Benzo(b)fluorene	243-17-4
二 苯 並 (a,h) 蒽 (Dibenzo(a,h)anthracene)	53-70-3	Benzo(c)phenanthrene	195-19-7
二 苯 並 (a,e) 芘 (Dibenzo(a,e)fluoranthene)	5385-75-1	Cyclopental(cd)pyrene	27208-37-3
二 苯 並 (a,e) 芘 (Dibenzo(a,e)pyrene)	192-65-4	Dibenzo(a,e)pyrene	192-64-0
二 苯 並 (a,h) 芘 (Dibenzo(a,h)pyrene)	189-64-0	Dibenzo(a,i)pyrene 189-	189-55-9
二 苯 並 (a,l) 芘 (Dibenzo(a,l)pyrene)	191-30-0	1-methylphenanthrene	832-69-9
7H-二 苯 並 (c,g) 喹 啉 (7H-Dibenzo(c,g)carbazole)	194-59-2	Perylene 198-	198-55-0
芘 (Fluorene)	86-73-7		

表 G 放射性物質

Table G Radioactive Substances List

Name	CAS No.	Name	CAS No.
Uranium	7440-61-6	Thorium-232	7440-29-1
Uranium-238	7440-61-1	Cesium	7440-46-2
Plutonium	7440-07-5	Cesium-137	10045-97-3
Radon	10043-92-2	Strontium	7440-24-6
Americium-241	14596-10-2	Strontium-90	10098-97-2
Americium	7440-35-9	Other radioactive substances	NA

表 H 臭氧層破壞物質

Table H ODS substances List

Name	CAS No.	Name	CAS No.
Dichlorodifluoromethane (CFC-12)	75-71-8	Cyclohexanone	108-94-1
1-Chloro-1,1,2,2,2-pentafluoroethane (CFC-115)	76-15-3	N, N Dimethylformamide	68-12-2
1-Methyl-2-pyrrolidinone	872-50-4	1-Bromopropane	106-94-5
2-Ethoxyethanol	110-80-5	Methylene Chloride	75-09-2
2-Ethoxyethyl acetate	111-15-9	Tetrachloroethylene	127-18-4
2-Butoxy ethanol	111-76-2	Trichloroethylene	79-01-6
1,1,1,3,3,3-Hexachloro-2,2-difluoropropane (CFC-212)	3182-16-1	1,1,3-Trichloro-1,2,2,3,3-pentafluoropropane (CFC-215)	1652-81-9
1,1,1-Trichloroethane (methyl chloroform) and its isomers except 1,1,2-trichloroethane	71-55-6	Dibromopentafluoropropane	431-78-7
1,1,2-Trichloro-1,2,2 trifluoroethane (CFC-113)	76-13-1	Dibromotetrafluoroethane (Halon 2402)	124-73-2
1,1,1-Trichloro-2,2,2 trifluoroethane (CFC-113a)	354-58-5	Dibromotetrafluoropropane	—
1,1,2,2-Tetrachloro-1,2-difluoroethane (CFC-112)	76-12-0	Dibromotrifluoroethane	354-04-1
1,1,1,2-Tetrachloro-2,2-difluoroethane (CFC-112a)	76-11-9	Dibromotrifluoropropane	431-21-0
1,2,2-Trichloropentafluoropropane (CFC-215aa)	1599-41-3	Dichlorodifluoromethane (CFC-12)	75-71-8
1,2,3-Trichloropentafluoropropane (CFC-215ba)	76-17-5	Dichlorohexafluoropropane (CFC-216)	661-97-2
1,1,2-Trichloropentafluoropropane (CFC-215bb)	—	Dichlorotetrafluoroethane (CFC-114)	76-14-2
1,1,3-Trichloropentafluoropropane (CFC-215ca)	—	Heptachlorofluoropropane (CFC-211)	135401-87-5
1,1,1-Trichloropentafluoropropane (CFC-215cb)	4259-43-2	1,1,1,2,2,3,3-Heptachloro-3-fluoropropane (CFC-211aa)	422-78-6
Bromochlorodifluoromethane (Halon 1211)	353-59-3	1,1,1,2,3,3,3-Heptachloro-2-fluoropropane (CFC-211ba)	422-81-1
Bromochloromethane	74-97-5	Hexabromofluoropropane	—
Bromodifluoroethane	420-47-3 357188-74-0	Hexachlorodifluoropropane (CFC-212)	3182-26-1
Bromodifluoromethane	1511-62-2	Monochloroheptafluoropropane (CFC-217)	422-86-6 76-18-6
Bromodifluoropropane	—	Monochloropentafluoroethane (CFC-115)	76-15-3
Bromoethane (ethyl bromide)	74-96-4	Pentabromodifluoropropane	—
Bromofluoroethane	762-49-2	Pentabromofluoropropane	—
Bromofluoromethane	373-52-4	Pentachlorofluoroethane (CFC-111)	354-56-3
Bromofluoropropane	1871-72-3	Pentachlorotrifluoropropane (CFC-213)	2354-06-5 134237-31-3
Bromohexafluoropropane	2252-78-0	Tetrabromodifluoropropane	—
Bromomethane (methyl bromide)	74-83-9	Tetrabromofluoroethane	306-80-9
Bromopentafluoropropane	460-88-8	Tetrabromofluoropropane	—
Bromotetrafluoroethane	124-72-1	Tetrabromotrifluoropropane	—
Bromotetrafluoropropane	679-84-5	Tetrachloromethane (carbon tetrachloride)	56-23-5
Bromotrifluoroethane	421-06-7	Tetrachlorotetrafluoropropane (CFC-214)	29255-31-0
Bromotrifluoromethane (Halon 1301)	75-63-8	1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC-214aa)	2268-46-4
Bromotrifluoropropane	421-46-5	1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC-214cb)	—
Chloromethane (methyl chloride)	74-87-3	Tribromodifluoroethane	—
Chlorotrifluoromethane (CFC-13)	75-72-9	Tribromodifluoropropane	70192-80-2
Dibromodifluoroethane	75-82-1	Tribromofluoroethane	—



Dibromodifluoromethane (Halon 1202)	75-61-6	Tribromofluoropropane	75372-14-4
Dibromodifluoropropane	460-25-3	Tribromotetrafluoropropane	—
Dibromofluoroethane	358-97-4	Tribromotrifluoropropane	—
Dibromofluoromethane	1868-53-7	Trichlorofluoromethane (CFC-11)	75-69-4
Dibromofluoropropane	51584-26-0	Trifluoriodomethane (trifluoromethyl iodide)	2314-97-8
several			

表 I 壬基酚

Table I Nonylphenols (NP) and Nonylphenol Ethoxylates (NPE) List

Name	CAS No.	Name	CAS No.
2-(2-(2-(P-nonylphenoxy) ethoxy)ethoxy)ethanol	7311-27-5	Nonylphenol, branched	90481-04-2
2-(2-(P-nonylphenoxy)ethoxy)ethanol	20427-84-3	Isononylphenol	11066-49-2
2-(P-nonylphenoxy)ethanol	104-35-8	p-Isononylphenol	26543-97-5
Ethanol, 2-[2-(nonylphenoxy)ethoxy]-	27176-93-8	p-(Nonan-2-yl)phenol	17404-66-9
Ethoxynonyl-benzene	28679-13-2	p-(2-Methyloctan-2-yl) phenol	30784-30-6
N-Nonylphenol(Mixed isomers)	25154-52-3	4-(3-Methyloctan-3-yl) phenol	52427-13-1
Nonylphenol	104-40-5	o-Nonylphenol	136-83-4
Nonylphenol Ethoxylate	37340-60-6	o-Isononylphenol	27938-31-4
Nonylphenol hepta(oxyethylene)ethanol	27177-05-5	Phenol, 2-nonyl-, branched	91672-41-2
Nonylphenol nona(oxyethylene)ethanol	27177-08-8	m-Nonylphenol	139-84-4
Nonylphenol polyethylene glycol ether	9016-45-9	Neononylphenol	1196678-78-0
Nonylphenol, industrial	84852-15-3	4-(3,5-Dimethylheptan-3-yl)	186825-36-5
Nonylphenoxy ethanol	27986-36-3	4-(3,6-Dimethylheptan-3-yl)	142732-63-3
Oxirane,methyl-,polymer with oxrane,mono(nonylphenyl)ether	37251-69-7	2-(Nonan-2-yl) phenol	17404-45-4
Phenol, nonyl-, phosphite	26523-78-4	Phenol, 2-tert-nonyl-	89585-68-2
P-nonylphenol polyethylene glycol ether	26027-38-3	Phenol, sec-nonyl-	97372-03-7
Poly(oxy-1,2-ethanediyl)	51938-25-1	Phenol, 4-tert-nonyl-	58865-77-3
Poly(oxy-1,2-ethanediyl)	37205-87-1	Phenol, o-sec-nonyl-	27214-48-8
Poly(oxy-1,2-ethanediyl)	68412-54-4	Phenol, p-sec-nonyl-	27072-91-9
Poly(oxy-1,2-ethanediyl)	127087-87-0	3,6,9,12,15,18,21,24-Octaoxahexacosan-1-ol, 26-(nonylphenoxy)-	26571-11-9
Nonylphenol, branched and liner, ethoxylated	1119449-37-4	Nonylphenol, branched and liner, ethoxylated	27942-27-4
Nonylphenol, branched and liner, ethoxylated	26264-02-8	Nonylphenol, branched and liner, ethoxylated	34166-38-6
Nonylphenol, branched and liner, ethoxylated	20636-48-0	Alkylphenoethoxylates related	14409-72-4
Alkylphenoethoxylates related	156609-10-8		

表 J 氟化溫室氣體

Fluorinated Greenhouse Gases List

包含溴氟烴化合物、氫氟烴化合物

Include Hydrobromofluorocarbons (HBFCs) and Hydrochlorofluorocarbons (HCFCs)

Name	CAS No.	Name	CAS No.
1,1,1-Trichloro-2,2,2-trifluoroethane (CFC-113a)	354-58-5	1,1,1,2,3-Pentachloro-2-fluoropropane (HCFC-231)	421-94-3
1,1,1,2-Tetrachloro-2,2-difluoroethane (CFC-112a)	76-11-9	Dichlorotetrafluoropropane (HCFC-234)	127564-83-4
2-Chloro-1,1,1,2,3,3,3-heptafluoropropane (CFC-217ba)	76-18-6	Tetrachlorofluoropropane (HCFC-241)	134190-49-1
Bromomethane	74-83-9	Chlorotetrafluoropropane (HCFC-244)	134190-50-4
Dibromofluoromethane (HBFC-21 B2)	1868-53-7	Trichlorofluoropropane (HCFC-251)	134190-51-5
Bromodifluoromethane (HBFC-22 B1)	1511-62-2	Dichlorodifluoropropane (HCFC-252)	134190-52-6



Bromofluoromethane (HBFC-31 B1)	373-52-4	3-Chloro-1,1,1-trifluoropropane (HCFC-253fb)	460-35-5
1,2-Dibromo-1,1,2-trifluoroethane (HBFC-123 B2)	354-04-1	1,2-Dichloro-2-fluoropropane (HCFC-261)	420-97-3
1,2-Dibromo-1,1-difluoroethane (HBFC-132 B2)	75-82-1	1-Chloro-2,2-difluoropropane (HCFC-262ca)	420-99-5
1-Bromo-2,2,2-trifluoroethane (HBFC-133a B1)	421-06-7	2-Chloro-2-fluoropropane (HCFC-271b)	420-44-0
1,2-Dibromofluoroethane (HBFC-141 B2)	358-97-4	Bromochloromethane (Halon 1011)	74-97-5
1-Bromo-2-fluoroethane (HBFC-151 B1)	762-49-2	Dibromodifluoromethane (Halon 1202)	75-61-6
Hexabromofluoropropane (HBFC-221 B6)	-	1-Bromopropane (HBC 280 B1)	106-94-5
Pentabromodifluoropropane (HBFC-222 B5)	-	Bromoethane (HBC 160 B1)	74-96-4
Tetrabromotrifluoropropane (HBFC-223 B4)	-	Trifluoriodomethane (FIC 013 I1)	2314-97-8
Dibromopentafluoropropane (HBFC-225 B2)	431-78-7	Chloromethane (HCC 040)	74-87-3
Pentabromofluoropropane (HBFC-231 B5)	-	1,2-Dichloro-1,2-difluoroethane (HCFC-132)	431-06-1
Bromopentafluoropropane (HBFC-235 B1)	460-88-8	1,2-Dichloro-1,1-difluoroethane (HCFC-132b)	1649-08-7
Tetrabromofluoropropane (HBFC-241 B4)	-	2-Chloro-1,1,1-trifluoroethane (HCFC-133a)	75-88-7
Tribromofluoropropane (HBFC-251 B1)	75372-14-4	1,2-Dichloro-1-fluoroethane (HCFC-141)	430-57-9
1-Bromo-2-fluoropropane (HBFC-271 B1)	1871-72-3	1,1-Dichloro-1-fluoroethane (HCFC-141b)	1717-00-6
Dichlorofluoromethane (HCFC-21)	75-43-4	1-Chloro-1,1-difluoroethane (HCFC-142b)	75-68-3
Chlorodifluoromethane (HCFC-22)	75-45-6	1-Chloro-1-fluoroethane (HCFC-151a)	1615-75-4
Chlorofluoromethane (HCFC-31)	593-70-4	Hexachlorofluoropropane (HCFC-221)	29470-94-8
1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121)	354-14-3	1,1,1,3,3-Pentachloro-2,2-difluoropropane (HCFC-222c)	422-49-1
1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a)	354-11-0	1,1,3,3-Tetrachloro-1,2,2-trifluoropropane (HCFC-223ca)	422-52-6
1,2,2-Trichloro-1,1-difluoroethane (HCFC-122)	354-21-2	1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca)	422-54-8
2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123)	306-83-2	3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)	422-56-0
1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a)	354-23-4	1,3-Dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)	507-55-1
2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124)	2837-89-0	2-Chloro-1,1,1,3,3,3-hexafluoropropane (HCFC-226da)	431-87-8
1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a)	354-25-6	1,1,2-Trichloro-2-fluoroethane (HCFC-131)	359-28-4
1,1-Dichloro-1,2,2,2-tetrafluoroethane (CFC-114a)	374-07-2	Tribromodifluoropropane (HBFC-242 B3)	666-25-1
Trichlorodifluoropropane (HCFC-242)	127564-90-3	Dibromotrifluoropropane (HBFC-243 B2)	460-60-6
Dichlorotrifluoropropane (HCFC-243)	116890-51-8	Bromotetrafluoropropane (HBFC-244 B1)	460-67-3
1-Chloro-1,2,2,3,3-pentafluoropropane (HCFC-235ca)	679-99-2	Tetrabromodifluoropropane (HBFC-232 B4)	148875-98-3
1,1,3,3-Tetrachloro-2,2-difluoropropane (HCFC-232ca)	1112-14-7	Tribromotrifluoropropane (HBFC-233 B3)	431-48-1
1,1,3-Trichloro-1,2,2-trifluoropropane (HCFC-233cb)	421-99-8	Dibromotetrafluoropropane (HBFC-234 B2)	460-86-6
Chloro-1,1,2,2,3,3-hexafluoropropane (HCFC-226cb)	422-55-9	1,3-dichloro-1,1,2,2,3,3-hexafluoropropane (CFC-216ca)	662-01-1
Dibromodifluoropropane (HBFC-252 B2)	51584-25-9	Bromohexafluoropropane (HBFC-226 B1)	2252-79-1
3-Bromo-1,1,1-trifluoropropane (HBFC-253 B1)	460-32-2	Tribromotetrafluoropropane (HBFC-224 B3)	666-48-8
1,2-Dibromo-3-fluoropropane (HBFC-261 B2)	453-00-9	2-Bromo-1-1-difluoroethane (HBFC-142 B1)	359-07-9
Bromodifluoropropane (HBFC-271 B1)	461-49-4	Tetrabromofluoroethane (HBFC-121 B4)	353-93-5
Bromotetrafluoroethane (HBFC-124 B1)	354-07-4	Tribromodifluoroethane (HBFC-122 B3)	353-97-9
Tribromofluoroethane (HBFC-131 B3)	172912-75-3		

表 K 雙酚化學品

Bisphenol Chemicals

Name	CAS No.	Name	CAS No.
2,2-bis(2-hydroxy-5-biphenyl)propane [BPBP]	24038-68-4	4,4'-isopropylidenedi-o-cresol [BPC]	79-97-0
4,4'-(1-methylpropylidene)bisphenol [BPB]	77-40-7	4,4'-isopropylidenediphenol [BPA]	80-05-7
4,4'-(1-Phenylethylidene)bisphenol [BPAP]	1571-75-1	4,4'-methylenediphenol [BPF]	620-92-8
4,4'-(1,3-phenylene-bis(1-methylethylidene))bisphenol [BPM]	13595-25-0	4,4'-sulphonyldiphenol [BPS]	80-09-1
4,4'-(1,4-Phenylenediisopropylidene)bisphenol [BPP]	2167-51-3	4,4'-Ethylidenebisphenol [BPE]	2081-08-5
4,4'-(dichlorovinylidene)diphenol [BPC12]	14868-03-2	9,9-Bis(4-hydroxyphenyl)fluorene [BPFL]	3236-71-3
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol [BPAF]	1478-61-1	Biphenyl-4,4'-diol [BP4,4']	92-88-6
4,4'-cyclohexylidenebisphenol [BPZ]	843-55-0	Bis(2-hydroxyphenyl)methane [BIS2]	2467-02-9
4,4'-ihydroxytetraphenylmethane [BPPH]	1844-01-5	p,p'-oxybisphenol [DHDPE]	1965-09-9
2-[(2-hydroxyphenyl)methyl]phenol; 2-[(4-hydroxyphenyl)methyl]phenol; 4-[(4-hydroxyphenyl)methyl]phenol	1333-16-0		

管制文件

2025.01.13

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表 L 氫氟碳化合物 Hydrofluorocarbons(HFCs) List

包含但不限於以下物質 Including but not limited to the following substances

Name	CAS No.	Name	CAS No.
1,1,1,2,2-Pentafluoropropane	1814-88-6	HFC-125	354-33-6
1,1,1,2,2,3,3-Heptafluoropropane	2252-84-8	HFC-125/143a/134a=44/52/4	--
1,1,1,2,2,3-Hexafluoro-propane (HFC-236cb)	677-56-5	HFC-134	359-35-3
1,1,1,2,3,3-Hexafluoropropane (HFC-236ea)	431-63-0	HFC-143	430-66-0
1,1,1,3,3-Pentafluorobutane (HFC-365mfc)	406-58-6	HFC-143a	420-46-2
1,2- Difluoroethane	624-72-6	HFC-152a	75-37-6
Difluoroethane	25497-28-3	HFC-32/125=50/50	--
Hexafluoropropane	27070-61-7	HFC 32/143a=50/50	--
HFC-227ea	431-89-0	HFC-356mff,HFC-356ffa	407-59-0
HFC-23	75-46-7	HFC-41	593-53-3
HFC-236fa	690-39-1	HFC-43-10mee	138495-42-8
HFC-245ca	679-86-7	HFC-134a	811-97-2
HFC-245fa	460-73-1	HFC-23/FC-116=39/61	--
HFC-32	75-10-5	HFC-32/125/134a=23/25/52	--
HFC-32/125/134a=20/40/40	--	HFC-32/125=45/55	--
several			

全氟碳化合物 Perfluorocarbons (PFCs) List

Name	CAS No.	Name	CAS No.
Perfluorohexanesulfonic potassium salt	3871-99-6	Carbon tetrafluoride	75-73-0
Perfluoro-heptanoic Acid (PFHpA)	375-85-9	Perfluoroethane	76-16-4
Perfluorohexane sulphonyl fluoride	423-50-7	Perfluoropropane (Octafluoropropane)	76-19-7
Perfluorohexanesulfonamide	41997-13-1	Perfluorobutane (Decafluorobutane)	355-25-9
Perfluorohexane (Tetradecafluorohexane)	355-42-0	Perfluoropentane (Dodecafluoropentane)	678-26-2
Perfluorocyclobutane	115-25-3	Perfluorohexane-1-sulphonic acid	355-46-4
Perfluoroheptane	335-57-9	Perfluorooctane	307-34-6

表 M 鄰苯二甲酸酯及其鹽類 phthalates List

Name	CAS No.	Name	CAS No.
鄰苯二甲酸二己酯 Di-n-hexyl phthalate (DnHP)	84-75-3	鄰苯二甲酸二(C7-11 支鏈與直鏈)烷基酯 1,2-Benzenedicarboxylic acid, di-C7-11-branched and linear alkyl esters (DHNUP)	68515-42-4
鄰苯二甲酸二異壬酯 Diisononyl phthalate (DINP)	28553-12-0 68515-48-0	鄰苯二甲酸二甲氧乙酯 Bis-(2-methoxyethyl) phthalate (DMEP)	117-82-8
鄰苯二甲酸二異癸酯 Di-isodecyl phthalate (DIDP)	26761-40-0 68515-49-1	鄰苯二甲酸二異戊酯 Di-iso-pentyl phthalate (DIPP)	605-50-5

鄰苯二甲酸二正辛酯 Di-n-Octyl phthalate (DNOP)	117-84-0	支鏈與直鏈的鄰苯二甲酸二戊酯 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear (DPP)	84777-06-0
鄰苯二甲酸二甲酯 Dimethyl phthalate (DMP)	131-11-3	鄰苯二甲酸正戊基異基酯 n-Pentyl-isopentyl phthalate (nPIPP)	776297-69-9
鄰苯二甲酸二乙酯 Diethyl phthalate (DEP)	84-66-2 68515-50-4	Bis(2 propylheptyl) phthalate (DPHP)	53306-54-0
鄰苯二甲酸二戊酯 Di-n-pentyl phthalate (DnPP)	131-18-0	Di-n-undecyl phthalate (DUP)	3648-20-2
鄰苯二甲酸二(C6-8 支鏈)烷基酯,富 1,2-Benzenedicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich(DIHP)	71888-89-6	鄰苯二甲酸二環己酯 Dicyclohexyl phthalate (DCHP)	84-61-7
Diisooctyl phthalate (DIOP)	27554-26-3	鄰苯二甲酸二 (C6 -C10) 烷基酯 1,2-Benzenedicarboxylic acid, di-C6-10-alkyl esters; (癸基 · 己基 · 辛基) 酯與 1 · 2-鄰苯二甲酸的複合物且鄰苯二甲酸二己酯 (EC 號 201-559-5) 含量 ≥0.3% 1,2-Benzenedicarboxylic acid, mixed decyl and hexyl and octyl diesters with ≥ 0.3% of dihexyl phthalate	68515-51-5 68648-93-1
其他鄰苯二甲酸酯 Other Phthalates compounds	-		

