



綠色採購指南

Green Procurement Guidebook

(Version 19.0)

虹光精密工業股份有限公司

Avision Inc.

修訂履歷 / Revision History

| 文件版本 | 改版日期 | 修改項目追蹤 |
|--------------|-----------|---|
| Version 19.0 | 2023/7/18 | <ol style="list-style-type: none"> 增加2項物質至環境管理物質清單C Add two hazardous chemicals to Substances List C |
| Version 18.0 | 2023/3/7 | <ol style="list-style-type: none"> 衝突礦產增加調查鈷及雲母 清單B中的PFAS移至環境管理物質清單D 刪除清單B中PFOS及鹽類 增加清單B禁用物質 <ul style="list-style-type: none"> -雙酚A -全氟羧酸PFCAs及其相關物質 -全氟己烷磺酸 (PFHxS) 及相關物質 -礦物油 增加10項物質至環境管理物質清單C(SVHC第27次&第28次對應) <ol style="list-style-type: none"> 1. Add Cobalt and Mica for the Conflict Minerals Investigation 2. Move PFAS from Substances List B to Substances List D 3. Delete PFOS of the Substances List B 4. Add Banned Substances of List B <ul style="list-style-type: none"> - Bisphenol A -perfluorocarboxylic acids and their salts - Perfluorohexane sulfonic acid(PFHxS) and related substances - Mineral oils 5. Add 10 chemical substances to Substances List C(27th&28th SVHC List) |
| Version 17.0 | 2022/3/30 | <ol style="list-style-type: none"> 增加4項物質至環境管理物質清單C(SVHC第26次對應) 更新RoHS排外指令到期日 增加清單B禁用物質 <ul style="list-style-type: none"> - 全氟辛烷磺酸及其鹽類及其轉化和降解前體 - 全氟壬酸及其鹽類 1. Add 4 chemical substances to Substances List C(26th SVHC List) 2. Update the expiration date of RoHS Directive Exemption 3. Add Banned Substances of List B <ul style="list-style-type: none"> - Perfluorooctane sulfonic acid (PFOS) and its salts and transformation and degradation precursors - Perfluorononanoic acid (PFNA) and its salts |
| Version 16.0 | 2021/7/16 | <ol style="list-style-type: none"> 增加清單B禁用物質 <ul style="list-style-type: none"> -十溴二苯醚 -異丙基化磷酸三苯酯 -五氯苯硫酸 -全氟/多氟烷基物 增加物質清單B中的磷苯二甲酸酯限制濃度 增加8項物質至環境管理物質清單C(SVHC第25次對應) 修改RoHS排外指令到期日 <ol style="list-style-type: none"> 1. Add Banned Substances of List B <ul style="list-style-type: none"> - Deca-BDE - phenol Isopropylated, phosphate (3:1) -Pentachlorothiophenol(PCTP) - perfluoroalkyl and polyfluoroalkyl substances (PFAS) 2. Add Phthalates limit requirement in the Substances List B 3. Add 8 chemical substances to Substances List C(25th SVHC List) 4. Modify the expiration date of RoHS Directive Exemption |
| Version 15.0 | 2021/1/28 | <ol style="list-style-type: none"> 增加2項物質至環境管理物質清單C(SVHC第24次對應) 延長部分RoHS排外項目豁免日期 <ol style="list-style-type: none"> 1. Add 2 chemical substances to Substances List C(24th SVHC List) 2. Prolong specific RoHS exemption expiration date |

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1. 目的 Purpose

本技術標準是為了管理虹光精密股份有限公司(以下簡稱虹光)產品所使用的零部件和元件等中含有的環境管理物質之 (1)禁止使用物質、(2)計畫廢除物質、(3)適用除外項目之物質，以防止其混入虹光電子產品中，同時符合遵守法令、保護地球環境以及減輕對生態系統的影響等目的。

With regard to the “Environment-related Substances to be Controlled (‘Controlled Substances’)” contained in the parts and devices employed in Avision Inc. products, this Standard clarifies (1) banned substances, (2) substances to be phased out, and (3) exempted substances and their uses, in order to realize the following aims and objectives:

- 1) To prevent the above-mentioned substances from being used for Avision Inc. products;
- 2) To comply with related laws and regulations;
- 3) To reduce the influence of the above substances upon the ecosystem; and
- 4) To contribute to the preservation of the global environment.

2. 適用範圍 Scope

本技術標準適用於：虹光以及由虹光委託設計、製造的產品所包含的零部件、材料及其他物品。這些物件均必須符合本技術標準規定的標準/限定值。

Targets are the parts, materials, and other articles that are procured by the Avision Inc., or by third parties to which the Avision Inc. outsources the design and manufacture of its electronics products.

The targets need to satisfy the criteria/threshold levels specified in this Standard.

零部件和材料等的適用範圍:

Target parts and materials:

- 半成品(功能單元、模組、板元件(board assemblies)等的組裝零部件等)
Semi-finished products (e.g. modules, functional units, board assemblies, and other assembly parts)
- 零(部)件(電氣零(部)件、機械零(部)件、半導體器件、印刷線路板、記憶體、包裝零部件和材料)、螺絲...
Parts (electrical parts, mechanical parts, semiconductor devices, PCBs, recording media, packaging components and materials) and screws
- 產品採用的輔助材料(膠帶(adhesive tape)、焊接材料、粘結劑等)之組成材料等
Materials constituting subsidiary parts and materials (e.g. adhesives, adhesive tapes, soldering materials, etc.)
- 印刷品(操作說明書、保證書、產品和零部件相關的補充資訊等)
Printed materials (e.g. instruction manuals, warranty cards, additional product/parts information)

- 修理用零(部)件
Repair parts (The application of some repair parts for products on the market shall be followed the instructions on the separately issued notice.)
- 電池
Batteries

產品的適用範圍:

Scope applicable to products:

- 適用於在虹光銷售的所有商品（部件・材料・副資材・成品）的採購活動。
Avision Inc. products that are designed and manufactured by the Avision Inc. for sale, loan, or distribution
- 虹光設計、生產銷售的成品中使用的部件、材料、副資材
Avision Inc. products being sold and loaned or distributed with the Avision Inc. logos on them, whose design and/or manufacture are outsourced to third parties
- 第三者委託設計、生產的商品中使用的部件、材料、副資材
Third parties' electronics products whose design and/or manufacture are outsourced to the Avision Inc. (except when the parts and materials are specified by the third parties)

3. 定義 Definition

- 1) **環境管理物質:** 包含在零部件和組件等的物質中，由虹光判斷對地球環境和人體存在著顯著影響的物質。
“Environment-related Substances to be Controlled (‘Controlled Substances’): Among the substances contained in parts and devices, “Environment-related Substances to be Controlled (‘Controlled Substances’)” are those which, according to Avision’s judgment, have significant environmental-impact on both humans and the global environment.

- 2) **含有:** 指無論是否有意圖地，通過添加、充填、混入、或者付著的形式，在產品的零部件、元件以及其所使用的材料中殘留的情況。

在加工過程中無意圖地向產品裏混入或者付著後殘留的情況也視為含有。但是，半導體設備等製造中的摻雜物 (Dopant)，即使有意圖的添加，實質上在半導體設備等裏殘存量極少的話，不作為「含有」。

Contained: “Contained” means that a substance remains in parts, devices, or their materials because of addition, filling, blend, or adhesion, whether intended or not. When a substance is unintentionally contained in, or added to a product in a processing process, this situation is also regarded as “Contained.” There are substances called Dopants (Doping Agents) that are intentionally added to manufacture semiconductor devices, etc. They are not treated as “Contained” if present in the devices in a very small amount.

- 3) **有意添加:** 為了達到特定的特性、外觀、和品質，通過有意圖的添加、填充、混入、和付著，使物質殘留在構成產品的零部件、設備以及其所使用的材料中的情況。

Intentionally added: “Intentionally added” means a situation where a substance is contained in the part, device, or its materials because of intentional addition, filling, blend, or adhesion, in order to provide a specific characteristic, appearance, or quality.

- 4) **含有濃度:** 指構成部件、材料等的均質材料中的含有濃度。

Concentration: Concentration refers to the amount of a chemical substance present in a given volume of a homogeneous material that constitutes a part or material.

- 5) **含有基準值:** 指構成部件、材料等的均質材料中的最大允許濃度。

Concentration limit: Concentration limit refers to the maximum concentration of a chemical substance allowed in a homogeneous material that constitutes a part or material.

- 6) **均質材料:** 指不能機械性分離出更多種不同性質材料的材料。例如，噴涂了的鐵部件，鐵和塗膜分別為均質材料。

Homogeneous materials: Homogeneous material means the material, which cannot be separated mechanically to more than one materials of different property. Take for example, if it is a painted steel product, each of the steel and the paint is considered to be a homogeneous material.

- 7) **SVHC:** EU REACH 法規規定的認可對象高度關注物質。

SVHC: SVHC is an acronym for Substances of Very High Concern. These are candidate chemical substances specified in the REACH Regulation.

- 8) **排外項目:** EU RoHS 指令中的排外項目（豁免項目）。在本環境管理物質管理規定中也基本沿用這些豁免項目，按EU-RoHS 規定的排外項目（豁免項目）實施。

Exemptions: The EU RoHS Directive exempts the applications for certain intended purpose. By following the EU RoHS Directive, exemption refers to the applications exempted under the EU RoHS Directive in this Environmental Substances Management.

- 9) **統一調查:** 各國法律法規的管理對象物質追加的時候，對既有商品（部件、材料、副資材、成品）對象，統一要求特定化學物質的含有量調查。

Batch investigation: Batch investigation refers to investigation that Avision requests its suppliers to complete in order to identify concentrations of certain chemical substances contained in existing articles (parts, materials, sub-materials, and products) when chemical substances are newly added to those currently regulated by domestic or overseas laws and regulations.

4. 對供應商的要求 Request to Suppliers

為了推進綠色採購過程，我們期望供應商能配合以下的要求。

In promoting our green procurement program, suppliers are requested for their cooperation



as follows.

- 1) 遵守虹光綠色採購指南中的管理規定。
Compliance with Avision Green Procurement Guidebook specification.
- 2) 期許供應商理解虹光綠色採購指南中的管理規定，並建立和維持特定化學物質管理體制。
Suppliers are expected to understand the Avision Green Procurement Guidebook specification and to establish and maintain a system that ensures proper management of certain chemical substances.
 - 特定化學物質調查、迴避、管理、登錄
Investigation, avoidance, control and registration of certain chemical substances

- 調查 Investigation

- 關於交付給虹光的所有商品（部件、材料、副資材、成品），請按照「虹光綠色採購指南」進行特定化學物質的調查、迴避、管理。
Suppliers are requested to investigate, avoid, and control the use of certain chemical substances in all articles (parts, materials, sub-materials and products) supplied to the Avision Inc. in accordance with Avision Green Procurement Guidebook specification.
- 對於禁止使用的物質進行含有狀況調查，如果含有時請迅速迴避使用，避免混入超過含有基準值物質的管理。
Investigate whether prohibited chemical substances are contained in any articles. If any such chemical substance is detected, immediately take actions to ensure that the content of such chemical substance does not exceed the concentration limit.
- 對於含有管理物質，請確認是否有意含有，如果含有時請調查其含有量並將上述調查的結果報告給敝司。
Investigate whether controlled chemical substances are intentionally added to any articles. If such substances are contained in any articles, determine their content.

- 登錄 Registration

請將上述調查的結果報告於 15 個工作日內回覆給敝司，
Notify Avision of the findings from the above investigation within 15 working days.

新採用時的調查 New parts investigation :

請在敝司提出的「符合性聲明書」與「環境管理物質調查書」中填入調查結果及必要事項，蓋章後提交給敝司。

Please fill in and sign back the 「Declaration of Conformity Letter」 and 「Substances Survey Table」.

統一調查 Batch investigation :

請在郵件發送的「環境管理物質調查書」中填入調查結果和必要事項，蓋章後一起提交回信給敝司。



Enter the findings as well as other required information in the Environment-related Substances Survey Table sent by mail

3) SVHC 重量登錄 Registration of SVHC mass data

如果部件的構成材料中 SVHC 含有量超過 1000ppm，請利用環境管理物質調查書回答部件中含有的 SVHC 重量(g)。

回答相應部件中含有的 SVHC 時，請將構成該部件的所有材料中含有的同一 SVHC 進行合計後回答總重量。

When materials used for a part contain any SVHC chemical substances exceeding 1,000 ppm, provide the mass (g) of the SVHC contained in the part via Environment-related Substances Survey Table. Enter the total mass of the SVHC contained in all of the materials used for the part.

4) 監察對應 Audits

為了確認供應商特定化學物質管理體制，敝司將定期地進行監察。

Regular audits may be conducted in order to verify and assess your management system for certain chemical substances.

5) 對敝司 X-Ray 檢測結果的對應 X-ray fluorescence analysis results

如果 Pb、Cd、Hg、Cr 等物質的檢測結果超出基準值時請迅速調查原因，並提出改善及後續預防措施，同時協助供應合格品。

如果總溴超出基準值時，請交易商協助確認 PBB/PBDE 的含有是否超出基準值。

Whenever concentration levels exceeding the limits specified by Avision for Pb, Cd, Hg, and Cr are detected, we will ask suppliers to immediately investigate the cause, provide improve and prevention method, also the compliant products. When the total concentration of bromines exceeds the limit specified by Avision, we will ask suppliers to verify that the concentration of PBB/PBDE is below the specified limit.

6) 推進環境保護活動 Environmental Initiatives

希望各交易商也能夠積極推進環境保護活動。透過建立環境管理體系，從以下方面持續減少伴隨事業活動的環境負荷，遵守法規及各國法律規範。

- 減少因事業生產所產生的大氣、水質、廢棄物、能源等負荷
 - 實施產品的環境評估，提高納入部件、產品的能源、資源節約和再利用性，迴避及減少特定化學物質的含有、使用
 - 在製造工序中禁用臭氧層破壞物質和法規規定的含氯有機溶劑
- 此外，懇請各交易商也能夠積極推進生物多樣性保護活動。

Suppliers are requested to promote environmental conservation activities with positive attitudes. It is requested particularly to establish an environmental management system in order to ensure legal compliance and to continuously reduce the environmental impact resulting from business activities from the following aspects.

- Reduction of impacts on the atmosphere, water, wastes, energy, etc. which arise from business activities.
- Implementation of the environmental assessment for product in order to improve the energy saving/resource saving/recyclability on the parts/products they supply and to avoid/reduce the inclusion/use of certain chemical substances contained in them
- Abolish chlorine-based organic solvents that deplete ozone and are restricted by law in



a manufacturing process

In addition to the above, suppliers are also requested to actively pursue engagement in the area of biodiversity.

7) 衝突礦產

虹光精密工業股份有限公司不支援、不使用來自武裝衝突、非法採礦與低劣工作環境中採礦而來的金屬，供應商應協助調查其產品中含有金(Au)、鉭(Ta)、錫(Sn)、鎢(W)、鈷(Co)及雲母等礦產，並確認這些礦產的來源為非衝突礦區。

Conflict Minerals

Avision Inc. expects our suppliers to comply with the Electronic Industry Code of Conduct and to only source materials from environmentally and socially responsible suppliers. Avision has taken actions to ensure that our suppliers comply with these expectations.

Please assist to investigation of their products containing gold (Au), tantalum (Ta), tin (Sn), tungsten (W), Cobalt(Co), Mica and other minerals, and confirmed that the mineral source were not obtained from conflict zones.

5. 環境管理物質的管理標準

1) 環境禁用物質清單 A / Banned Environment-related Substances List A

此分類中的化學物質要求規定係參考以下法規

1. 「RoHS」的化學物質／化學物質群，係歐盟的RoHS 指令（DIRECTIVE 2011/65/EU及修訂指令(EU)2015/863）中受法規限制的化學物質／化學物質群。
2. 包裝材料指令 (94/62/EC)
3. 電池指令 (2006/66/EC)

Chemical substances/substance group listed below are restricted by laws and regulations worldwide.

1. 「RoHS」 Chemical substances/substance group, is based on European Union RoHS Directive (DIRECTIVE 2011/65/EU and amending DIRECTIVE (EU) 2015/863) .
2. Packaging Directive (94/62/EC)
3. Battery Directive (2006/66/EC)

以下，列出有關的化學物質／化學物質群以及法規規定基準值。

Below is the list of chemical substances/substance group and content standard values.

| 禁用物質名稱 / Banned Substances | | 限制濃度 |
|----------------------------|--|----------------------------|
| 重金屬 Heavy Metal | 鉛與其鉛化合物(Pb) Lead / Lead Compounds (Pb) | <1000ppm |
| | 鎘與其鎘化合物(Cd) Cadmium / Cadmium Compounds (Cd) | <100ppm |
| | 汞與其汞化合物(Hg) Mercury / Mercury Compounds (Hg) | <1000ppm |
| | 六價鉻與其六價鉻化合物(Cr+6) Hexavalent Chromium/ / Hexavalent | 金屬件:不得檢出 非金屬件: <1000ppm |

| 禁用物質名稱 / Banned Substances | | 限制濃度 |
|--|--|---|
| 電池 Battery | Chromium Compounds (Cr+6) | |
| | 汞與其汞化合物(Hg) Mercury / Mercury Compounds (Hg) | <1ppm |
| | 鎘與其鎘化合物(Cd) Cadmium / Cadmium Compounds (Cd) | <10ppm |
| | 鉛與其鉛化合物(Pb) Lead / Lead Compounds (Pb) | <40ppm |
| 包裝材料 Packaging | Pb+Cd+Hg+Cr ⁺⁶ | <100ppm |
| | DEHP+BBP+DBP+DIBP | <1000ppm |
| 有機溴化合物 Brominate Organic compounds | 聚溴聯苯類/聚溴聯苯醚類(PBBs/PBDEs) Polybrominated Biphenyls (PBBs) Polybrominated Diphenylethers (PBDEs) | <1000ppm 包裝、印刷電路板:禁止含有 In packaging , in printed circuit board (PCB) : must not contained |
| 磷苯二甲酸酯類 Phthalates | 鄰苯二甲酸二(2-乙基己基)酯(DEHP) Bis(2-ethylhexyl) phthalate (DEHP) | <1000ppm |
| | 鄰苯二甲酸丁酯苯甲酯 (BBP) Butyl benzyl phthalate (BBP) | <1000ppm |
| | 鄰苯二甲酸二丁酯 (DBP) Dibutyl phthalate (DBP) | <1000ppm |
| | 鄰苯二甲酸二異丁酯 (DIBP) Diisobutyl phthalate (DIBP) | <1000ppm |

註 1: 有關化學物質／化學物質群的詳細信息，請參照「化學物質／化學物質群的詳細清單」。

Note 1: For more detailed information, please refer to "RoHS" in "Appendix – Detail List of Environment-related Substances."

註 2: 在 EU RoHS 指令 附件III 設定了「豁免項目」。關於豁免項目的具體內容，請參考「RoHS 指令排外條款」。

Note 2: The “exemptions” are specified in Annex III of the EU RoHS Directive. Refer to “6. EU RoHS Directive Exemptions” for the details of the exempted items.

2) 環境禁用物質清單 B / Banned Environment-related Substances List B

此分類中的化學物質要求規定係「RoHS」以外的化學物質／化學物質群，係指各國的法律法規等（歐盟的RoHS 指令除外）所規定的規限使用的化學物質／化學物質群。

Chemical substances/substance group classified as “Prohibited substances excluding RoHS” are to comply with laws and regulations of each country worldwide. (Excluding EU RoHS Directive)

除本清單所列物質外，所有供應給虹光的產品（部件、材料、副資材、成品）亦應符合遵守《美國加州 1986 年安全飲用水及有毒物質法案 – Proposition 65 號》法規所管制的物質。<https://oehha.ca.gov/proposition-65/proposition-65-list>

Except the list below, all articles (parts, materials, sub-materials and products) should also comply with Proposition 65, officially known as the Safe Drinking Water and Toxic Enforcement Act of 1986 regulation.

<https://oehha.ca.gov/proposition-65/proposition-65-list>

| No. | 物質名稱/Substances | CAS No. | 限用濃度/ Content Standard Value |
|-----|---|------------|---|
| 001 | 鉛與其鉛化合物 Lead and it's compounds | - | 披覆熱固性或熱塑性樹脂的纜線電線含有量不得超過 300ppm (註 1) Less than or equal to 0.03% (300 ppm) for cable cords coated with thermosetting or thermoplastic resin (Note 1) |
| 002 | ODSs；臭氧層破壞物質 (蒙特羅議定書的受控物質) ODSs ; Ozone Depleting Substances (Only Class I and II substances regulated by the Montreal Protocol are subject to the regulation) | - | 禁止含有 Must not contained |
| 003 | 石棉類 Asbestos | - | 禁止含有 Must not contained |
| 004 | 生成部分芳香族胺的偶氮染料和顏料(註 2) Azocolourants and Azodyes which form certain aromatic amines (Note 2) | - | 非特意添加 Not intentionally added |
| 005 | PCB；多氯聯苯類 Polychlorinated Biphenyls(PCBs) | - | 禁止含有 Must not contained |
| 006 | PCT；多氯三聯苯類 Polychlorinated Terphenyls(PCTs) | 61788-33-8 | 禁止含有 Must not contained |
| 007 | PCN；聚氯柰 PCN ; Polychlorinated Naphthalenes | - | 禁止含有 Must not contained |
| 008 | 放射性物質 Radioactive Substances | - | 禁止含有 Must not contained |
| 009 | 短鏈氯化石蠟 Short-chain chlorinated paraffins(SCCPs) | 85535-84-8 | 禁止含有 Must not contained |
| 010 | TBT；三丁基錫類/ TPT；三苯基錫類 Tri-substituted organostannic compounds such as Tributyltin (TBT) compounds and Triphenyltin (TPT) compounds | - | 禁止含有 Must not contained |
| 011 | TBTO；三丁基氧化錫 Tributyltin Oxide (TBTO) | 56-35-9 | 禁止含有 Must not contained |
| 012 | DMF；二甲基甲酸胺 Dimethylfumarate (DMF) | 624-49-7 | 禁止含有 Must not contained |
| 013 | 2-(2'-羥基-3',5'-二叔丁基苯基)-苯並三唑 Phenol,2-(2H-benzotriazol-2-yl)-4,6-bis(1,1-dimethylethyl) | 3846-71-7 | 禁止含有 Must not contained |
| 014 | DBT；二丁基錫化合物 Dibutyltin (DBT) compounds | - | 在混合物或均質材料中含量不得超過 0.1 重量% (1000ppm) Less than or equal to 0.1% by weight with tin conversion per homogeneous material or a compound |
| 015 | DOT；二辛基錫化合物 | - | 在均質材料中含量不得超過 0.1 重量% |

| No. | 物質名稱/Substances | CAS No. | 限用濃度/ Content Standard Value |
|-----|--|---|---|
| | Dioctyltin (DOT) compounds | | (1000ppm) Less than or equal to 0.1% by weight (1000ppm) with tin conversion per homogeneous material for target products |
| 016 | 甲醛 Formaldehyde | 50-00-0 | 非有意添加 Not intentionally added |
| 017 | HCB；六氯苯 Hexachlorobenzene (HCB) | 118-74-1 | 禁止含有 Must not contained |
| 018 | PAHs: 多環芳香族化合物 Poly-cyclic Aromatic Hydrocarbon | - | 請參閱註 3 Please refer to Note 3 |
| 019 | PFOA: 全氟辛酸 Perfluorooctanic acid | 335-67-1 3825-26-1 335-95-5 2395-00-8 335-93-3 335-66-0 376-27-2 3108-24-5 | 禁止含有 Must not contained |
| 020 | 鄰苯二甲酸酯類 Phthalates | - | <1000ppm |
| | | | 不得使用於包裝材料 Shall not be used in packaging |
| 021 | 六溴環十二烷 Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified (HBCDD) | 註 4 | 禁止含有 Must not contained |
| 022 | 氟族溫室氣體(HFC, PFC, SF6) Fluorinated greenhouse gases (HFC, PFC, SF6) | - | 非有意添加 Prohibited from intentional use |
| 023 | 二苯胺 Benzenamine, N-phenyl-, Reaction Products with Styrene and 2,4,4-Trimethylpentene (BNST) | 68921-45-9 | 非有意添加 * 橡膠製品除外 (不含橡膠輪胎) Not intentionally added * Rubber products are exempt (but not rubber tires) |
| 024 | 聯苯胺基物質 Benzidine-Based Substances | - | 禁止含有 Must not contained |
| 025 | 2,4,6-三叔丁基苯酚 2,4,6-tri-tert-butylphenol | 732-26-3 | 非有意添加 Not intentionally added |
| 026 | N,N'-聯甲苯-對苯二胺, N-甲苯基 -N'-二甲苯基對苯二胺, N,N'-二甲基 -對苯二胺 N,N'-ditoly-p-phenylenediamine, N-tolyl-N'-xylyl-p-phenylenediamine and N,N'-dixylyl-p-phenylenediamine | - | 非有意添加 Not intentionally added |
| 027 | 三氯丙啶基氧化磷 Tris (1-aziridinyl) phosphine oxide (TEPA) | 545-55-1 | 非有意添加 Not intentionally added |

| No. | 物質名稱/Substances | CAS No. | 限用濃度/ Content Standard Value |
|-----|--|------------|--|
| 028 | 磷酸三(2,3-二溴丙基)酯 Tris-(2,3-Dibromopropyl) phosphate | 126-72-7 | 非有意添加 Not intentionally added |
| 029 | 持續性有機污染物 Persistent Organic Pollutants(POPs) | - | 非有意添加 Not intentionally added |
| 030 | 紅磷 Red phosphorus | 7723-14-0 | 禁止含有 Must not contained |
| 031 | 1,1,2-三氯乙烷 1,1,2-Trichloroethane | 79-00-5 | 非特意添加 Not intentionally added |
| 032 | 苯 Benzene | 71-43-2 | 非特意添加，且在均質材料中含量不得超過0.1重量% (1000ppm) |
| 033 | 二氯甲烷 Methylenechloride | 75-09-2 | 禁止含有 Must not contained |
| 034 | 三氯甲烷 Trichloromethane | 67-66-3 | 禁止含有 Must not contained |
| 035 | 溴丙烷 Bromopropane | 106-94-5 | 禁止含有 Must not contained |
| 036 | 十溴二苯醚 Deca-BDE | 1163-19-5 | 禁止含有 Must not contained |
| 037 | PIP3:1 – phenol Isopropylated, phosphate (3:1) 異丙基化磷酸三苯酯 | 68937-41-7 | 禁止含有 Must not contained |
| 038 | 五氯苯硫酚 Pentachlorothiophenol (PCTP) | 133-49-3 | 禁止含有 Must not contained |
| 039 | 全氟辛烷磺酸及其鹽類及其轉化和降解前體 Perfluorooctane Sulfonic Acid (PFOS) and Its Salts and Transformation and Degradation Precursors | - | 禁止含有 Must not contained |
| 040 | 全氟壬酸及其鹽類 Perfluorononanoic acid (PFNA) and its salts | - | 禁止含有 Must not contained |
| 041 | 雙酚A Bisphenol A | 80-05-7 | external plastics: 300 ppm |
| 042 | C9-C14線性和/或分支全氟羧酸(C9-C14 PFCAs)，和它們的鹽類，和C9-C14 PFCAs相關物質 C9-C14 linear and/or branched perfluorocarboxylic acids (C9-C14 PFCAs), their salts, and C9-C14 PFCAs-related substances | - | 物品或混合物中 C9-C14 PFCAs 及其鹽類的總濃度低於 25 ppb, 或 C9-C14 PFCA 相關物質的總濃度低於 260 ppb。 Concentration in the article or the mixture is below 25 ppb for the sum of C9-C14 PFCAs and their salts or 260 ppb for the sum of C9-C14 PFCA-related substances. |
| 043 | 全氟己烷磺酸(PFHxS)及相關物質 Perfluorohexane sulfonic acid (PFHxS) and related substances | - | PFHxS 含量為 0.0000025% (25 ppb); 或者全氟己烷磺酸前體化合物總和的含量為 0.0001% (1000ppb)。 PFHxS content by mass of 0.0000025% (25 ppb); or a mass content in the sum of PFHxs |

| No. | 物質名稱/Substances | CAS No. | 限用濃度/ Content Standard Value |
|-----|---------------------|---------|---|
| | | | precursor compounds of 0.0001% (1000ppb). |
| 044 | 礦物油 Mineral oils | - | 由 1-2 個芳香環組成的芳烴礦物油(MOAH)和碳原子數為 16-35 的飽和烴礦物油(MOSH)應在 0.1% 以下。 由 3 至 7 個芳環組成的芳香烴礦物油(MOAH) 應為 1ppm 或更少。 The content of mineral oil aromatic hydrocarbons (MOAH) comprising from 1 to 7 aromatic rings and Hydrocarbons saturated with mineral oil (MOSH) containing 16 to 35 carbon atoms must be 0.1% or less. The content of mineral oil aromatic hydrocarbons (MOAH) comprising from 3 to 7 aromatic rings must be 1 ppm or less. |

註 1: 遵守《美國加州 1986 年安全飲用水及有毒物質法案 – Proposition 65 號》的規定，將披覆熱固性或熱塑性樹脂的纜線電線含有基準值定為 300ppm。

並且，如果虹光確認了作為《美國加州 Proposition 65 號提案》對象外（使用在消費者手不接觸的部位）的情況，含有基準值應為 0.1% (1000ppm) 以下。

Note 1: Content standard value of lead/lead compounds

In order to comply with the regulation, Proposition 65, the content standard value for cable cords coated with thermosetting or thermoplastic resin shall be 300 ppm.

In case Avision Inc. confirms items which are not applied to Proposition 65 (not touchable to consumers), the content standard value shall be less than or equal to 0.1% (1000ppm).

註 2: 有害芳族胺一覽

Note 2: Restriction of Certain Azocolourants and Azodyes

| 特定胺名稱 | Chemical substance name | CAS* Numbers |
|---|------------------------------|--------------|
| 4-氨基聯苯 | Biphenyl-4-ylamine | 92-67-1 |
| 聯苯胺 | Benzidine | 92-87-5 |
| 4-氯鄰甲苯胺; 4-氯-2-甲基苯胺 | 4-Chloro-o-toluidine | 95-69-2 |
| 2-萘胺 | 2-Naphthylamine | 91-59-8 |
| 鄰氨基偶氮甲苯 | o-Aminoazotoluene | 97-56-3 |
| 2-氨基-4-硝基甲苯; 5-硝基鄰甲苯胺 | 5-Nitro-o-toluidine | 99-55-8 |
| 4-氯苯胺 | 4-Chloroaniline | 106-47-8 |
| 2,4-二氨基苯甲醚 | 4-Methoxy-m-phenylenediamine | 615-05-4 |
| 4,4'-亞甲基二苯胺; 4,4'-二氨基二苯甲烷 | 4,4'-Methylenedianiline | 101-77-9 |
| 3,3'-二氯聯苯胺 | 3,3'-dichlorobenzidine | 91-94-1 |
| 3,3'-二甲氧基聯苯胺 | 3,3'-Dimethoxybenzidine | 119-90-4 |
| 3,3'-二甲基聯苯胺 | 3,3'-Dimethylbenzidine | 119-93-7 |
| 3,3'-二甲基-4,4'-二氨基二苯甲烷; 4,4'-二氨基-3,3'-二甲 | 4,4'-Methylenedi-o-toluidine | 838-88-0 |
| 基二苯基甲烷 | 6-Methoxy-m-toluidine | 120-71-8 |

| 特定胺名稱 | Chemical substance name | CAS* Numbers |
|-------------------------|--------------------------------------|--------------|
| 5-甲基鄰茴香甲胺; 2-甲氧基-5-甲基苯胺 | 4,4'-Methylene-bis-(2-chloroaniline) | 101-14-4 |
| 4,4'-二氨基-3,3'-二氯二苯甲烷 | 4,4'-Oxydianiline | 101-80-4 |
| 4,4'-二氨基聯苯醚 | 4,4'-Thiodianiline | 139-65-1 |
| 4,4'-二氨基二苯硫醚 | o-Toluidine | 95-53-4 |
| 鄰甲苯胺 | 4-Methyl-m-phenylenediamine | 95-80-7 |
| 2,4-二氨基甲苯; 4-甲基-間-苯二胺 | 2,4,5-Trimethylaniline | 137-17-7 |
| 2,4,5-三甲基苯胺 | o-Anisidine | 90-04-0 |
| 鄰甲氧基苯胺 | 4-Amino azobenzene | 60-09-3 |

「【偶氮染料清單】中包含的染料」所指的化學物質：

The substances listed below are classified in the “aromatic amine”:

| 化學物質名（英文） | CAS No. |
|---|---|
| A mixture of: disodium(6-(4-anisidino)-3-sulfonat o-2-(3,5-dinitro-2-oxidophenylazo) -1-naphthalato)(1-(5-chloro-2-oxido phenylazo)-2-naphthalato) chromate(1-); Trisodium bis(6-(4-anisidino)-3-sulfonato-2 -(3,5-dinitro-2-oxidophenylazo)-1-naphthalato)chromate(1-) | Not allocated Component 1: CAS-No:118685-33-9 <chem>C39H23ClCr-N7O12S.2Na</chem> Component 2: <chem>C46H30CrN10-O20S2.3Na</chem> |

註 3 /Note 3: PAHs: 多環芳香族化合物 Poly-cyclic Aromatic Hydrocarbon

| | Category 1 | Category 2 | Category 3 |
|-----------------------|---|--|--|
| | Materials with food contact or materials designated to be put in the mouth and toys designed for kids < 36 months 與食物接觸之材料或三歲以下孩童會放入口中之物品與玩具 | Materials with skin contact for more than 30 seconds and toys which do not fall in Category 1 塑料，經常性與皮膚接觸的部件，接觸時間會超過30秒的部件及category 1未規範之玩具 | Materials with skin contact for maximal 30 seconds or with no skin contact 塑料，偶爾性接觸的部件，即與皮膚接觸時間少於30秒的部件，或與皮膚沒有接觸的部件 |
| 要求 A Requirement A | not detectable (<0.2 mg/kg) | 1mg/kg | 20 mg/kg |
| 要求 B Requirement B | not detectable (<0.2 mg/kg) | 10 mg/kg | 200 mg/kg |

| Sum of the 18 PAH(EPA) | | | | |
|------------------------|-----------------------|----------------------|------|----------|
| 要求 A Requirement A | 要求 B Requirement B | Compound | Name | CAS No. |
| | ○ | Naphthalene | Nap | 91-20-3 |
| | ○ | Acenaphthylene | AcPy | 208-96-8 |
| | ○ | Acenaphthene | Acp | 83-32-9 |
| | ○ | Fluorene | Flu | 86-73-7 |
| | ○ | Phenanthrene | PA | 85-01-8 |
| | ○ | Anthracene | Ant | 120-12-7 |
| | ○ | Fluoranthene | FL | 206-44-0 |
| | ○ | Indeno【c,d】pyrene | IND | 193-39-5 |
| | ○ | Pyrene | Pyr | 129-00-0 |
| ○ | ○ | Benzo【j】fluoranthene | BjFA | 205-82-3 |

| | | | | |
|---|---|------------------------|-------|----------|
| ○ | ○ | Chrysene | CHR | 218-01-9 |
| ○ | ○ | Benzo【a】anthracene | BaA | 56-55-3 |
| ○ | ○ | Benzo【b】fluoranthene | BbF | 205-99-2 |
| ○ | ○ | Benzo【k】fluoranthene | BkF | 207-08-9 |
| ○ | ○ | Benzo【a】pyrene | BaP | 50-32-8 |
| ○ | ○ | Dibenzo【a,h】anthracene | DBA | 53-70-3 |
| ○ | ○ | Benzo【g,h,i】perylene | BghiP | 191-24-2 |
| ○ | ○ | 2Benzo【e】pyrene | BeP | 192-97-2 |

註 4：六溴環十二烷 (HBCDD) 的 CAS No.如下所示。 25637-99-4, 3194-55-6, 4736-49-6, 65701-47-5, 134237-50-6, 134237-51-7, 134237-52-8, 138257-17-7, 138257-18-8, 138257-19-9, 169102-57-2, 678970-15-5, 678970-16-6, 678970-17-7

Note 4: CAS No. of Hexabromocyclododecane (HBCDD) is as shown below. 25637-99-4, 3194-55-6, 4736-49-6, 65701-47-5, 134237-50-6, 134237-51-7, 134237-52-8, 138257-17-7, 138257-18-8, 138257-19-9, 169102-57-2, 678970-15-5, 678970-16-6, 678970-17-7

3) 環境管理物質清單 C / Environment-related Substances List C

雖然以下化學物質/化學物質群目前仍在很多領域使用，虹光將其作為將來有限制使用傾向的化學物質/化學物質群，定義在環境管理物質清單 C，對其在納入商品（部件、材料、副資材、成品）裡的含有量進行管理。

Although the following chemical substances/substance groups are currently used in many fields, Avision consider there is a possibility that these chemical substances be regulated in future. Therefore, they are specified as “Environment-related Substances List C”, to control inclusion of all articles (parts, materials, sub-materials and products), which supplied to the Avision Inc.

本清單由歐盟 REACH 法規 (REGULATION (EC) No 1907/2006 的『Substances of Very High Concern』(SVHC) 所規定的化學物質/化學物質群所組成，以下，列出有關 SVHC 的化學物質/化學物質群及含有基準值，在您提供的商品（部件、材料、副資材、成品）中，如果您供應的產品含有表列化學物質/化學物質群超過 0.1% (1000ppm)，請掌握並回報其含有濃度。

This list are according to REACH regulation of the EU (REGULATION (EC) No 1907/2006) Candidate List of 『Substances of Very High Concern』 (SVHC).

Below is the list of chemical substances/substance group of “SVHC” and their content standard values (answer standard).

In addition, in case content density amount of these substances/substance group exceed 0.1% by weight (1000ppm), SVHC mass is required to register.

除本清單所列物質外，所有供應給虹光的產品（部件、材料、副資材、成品）亦應同時符合遵守 REACH 法規的相關規定，例如附錄十四(授權)、附錄十七(限制)

Moreover, except SVHC list, all articles (parts, materials, sub-materials and products) should also comply with REACH regulations, exc. Annex XIV (Authorization), Annex XVII (Restriction)

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|----|-----|--|---------------|---|
| R1 | 1 | Anthracene | 蒽 | 120-12-7 |
| R1 | 2 | 4,4'-Diaminodiphenylmethane (MDA) | 4,4' 二氨基二苯基甲烷 | 101-77-9 |
| R1 | 3 | Dibutyl phthalate (DBP) | 鄰苯二甲酸二丁酯 | 84-74-2 |
| R1 | 4 | Cobalt dichloride | 氯化鈷 | 7646-79-9 |
| R1 | 5 | Diarsenic pentaoxide | 五氧化二砷 | 1303-28-2 |
| R1 | 6 | Diarsenic trioxide | 三氧化二砷 | 1327-53-3 |
| R1 | 7 | Sodium dichromate | 重鉻酸鈉・二倍結晶水 | 7789-12-0 and 10588-01-9 |
| R1 | 8 | 5-tert-butyl-2,4,6-trinitro-m-xylene (musk xylene) | 二甲苯麝香 | 81-15-2 |
| R1 | 9 | Bis (2-ethylhexyl)phthalate (DEHP) | 鄰苯二甲酸二(乙基己基)酯 | 117-81-7 |
| R1 | 10 | Hexabromocyclododecane (HBCDD) and all major diastereoisomers identified | 六溴環十二烷 | 134237-50-6 134237-51-7 134237-52-8 |
| R1 | 11 | Alkanes, C10-13, chloro (Short Chain Chlorinated Paraffins) | 短鏈氯化石蠟 | 85535-84-8 |
| R1 | 12 | Bis(tributyltin)oxide (TBTO) | 氧化雙三丁基錫 | 56-35-9 |
| R1 | 13 | Lead hydrogen arsenate | 砷酸氫鉛 | 7784-40-9 |
| R1 | 14 | Triethyl arsenate | 三乙基砷酸酯 | 15606-95-8 |
| R1 | 15 | Benzyl butyl phthalate (BBP) | 鄰苯二甲酸丁酯苯甲酯 | 85-68-7 |
| R2 | 16 | Anthracene oil | 蒽油 | 90640-80-5 |
| R2 | 17 | Anthracene oil, anthracene paste, distn. Lights | 蒽油、蒽糊、輕油 | 91995-17-4 |
| R2 | 18 | Anthracene oil, anthracene paste, anthracene fraction | 蒽油、蒽糊、蒽餾分 | 91995-15-2 |
| R2 | 19 | Anthracene oil, anthracene-low | 蒽油、含蒽少量 | 90640-82-7 |
| R2 | 20 | Anthracene oil, anthracene paste | 蒽油、蒽糊 | 90640-81-6 |
| R2 | 21 | Coal tar pitch, high temperature | 煤焦油瀝青 (高溫) | 65996-93-2 |
| R2 | 22 | Acrylamide | 丙烯醯胺 | 1979/6/1 |
| R2 | 23 | Aluminosilicate, Refractory Ceramic Fibres | 矽酸鋁, 耐火陶瓷纖維 | - |
| R2 | 24 | Zirconia Aluminosilicate, Refractory Ceramic Fibres | 鋯矽酸鋁, 耐火陶瓷纖維 | - |
| R2 | 25 | 2,4-Dinitrotoluene | 2,4-二硝基甲苯 | 121-14-2 |
| R2 | 26 | Diisobutyl phthalate (DIBP) | 鄰苯二甲酸二異丁酯 | 84-69-5 |

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|----|-----|---|------------------------------------|--------------------------------------|
| R2 | 27 | Lead chromate | 鉻酸鉛 | 7758-97-6 |
| R2 | 28 | Lead chromate molybdate sulphate red (C.I. Pigment Red 104) | 紅色鉑鉻酸鉛硫酸鹽 (C.I. 紅色 104) | 12656-85-8 |
| R2 | 29 | Lead sulfochromate yellow (C.I. Pigment Yellow 34) | 黃色硫化鉻酸鉛 (C.I. 黃色 34) | 1344-37-2 |
| R2 | 30 | Tris(2-chloroethyl)phosphate (TCEP) | 三 2-(氯乙基)磷酸酯 | 115-96-8 |
| R3 | 31 | Trichloroethylene | 三氯乙烯 | 79-01-6 |
| R3 | 32 | Boric acid | 硼酸 | 10043-35-3 11113-50-1 |
| R3 | 33 | Disodium tetraborate, anhydrous | 四硼酸鈉, 無水 | 1303-96-4 1330-43-4 12179-04-3 |
| R3 | 34 | Tetraboron disodium heptaoxide, hydrate | 四硼酸鈉, 水合物 | 12267-73-1 |
| R3 | 35 | Sodium chromate | 鉻酸鈉 | 7775-11-3 |
| R3 | 36 | Potassium chromate | 鉻酸鉀 | 7789-00-6 |
| R3 | 37 | Ammonium dichromate | 重鉻酸銨 | 7789-09-5 |
| R3 | 38 | Potassium dichromate | 重鉻酸鉀 | 7778-50-9 |
| R4 | 39 | Cobalt(II) sulphate | 硫酸鈷 (二價) | 10124-43-3 |
| R4 | 40 | Cobalt(II) dinitrate | 硝酸鈷 (二價) | 10141-05-6 |
| R4 | 41 | Cobalt(II) carbonate | 碳酸鈷 (二價) | 513-79-1 |
| R4 | 42 | Cobalt(II) diacetate | 醋酸鈷 (二價) | 71-48-7 |
| R4 | 43 | 2-Methoxyethanol | 乙二醇單甲醚 | 109-86-4 |
| R4 | 44 | 2-Ethoxyethanol | 乙二醇單乙醚 | 110-80-5 |
| R4 | 45 | Chromium trioxide | 三氧化鉻 | 1333-82-0 |
| R4 | 46 | Chromic acid / Dichromic acid | 鉻酸 / 重鉻酸 | 7738-94-5 13530-68-2 |
| R5 | 47 | 2-ethoxyethyl acetate | 乙二醇乙醚乙酸酯 | 111-15-9 |
| R5 | 48 | strontium chromate | 鉻酸锶 | 7789/6/2 |
| R5 | 49 | 1,2-Benzene dicarboxylic acid, di-C7-11-branched and li near alkyl esters | 鄰苯二甲酸二(C7-11 支鏈與直鏈)烷基酯 (DHNUP) | 68515-42-4 |
| R5 | 50 | Hydrazine | 聯氨 | 7803-57-8 302-01-2 |
| R5 | 51 | 1-methyl-2-pyrrolidone | N-甲基吡咯烷酮 | 872-50-4 |
| R5 | 52 | 1,2,3-trichloropropane | 1,2,3-三氯丙烷 | 96-18-4 |
| R5 | 53 | 1,2-Benzene dicarboxylic acid, di-C6-8-branched alkyl esters, C7-rich | 鄰苯二甲酸二(C6-8 支鏈與直鏈)烷基酯, 富 C7 (DIHP) | 71888-89-6 |
| R6 | 54 | Dichromium tris(chromate) | 鉻酸鉻 | 24613-89-6 |
| R6 | 55 | Potassium hydroxyoctaoxodizincatedi-chromate | 氫氧化鉻酸鋅鉀 | 11103-86-9 |
| R6 | 56 | Pentazinc chromate octahydroxide | C.I.顏料黃 36 | 49663-84-5 |
| R6 | 57 | Aluminosilicate Refractory Ceramic Fibres (RCF) | 矽酸鋁, 耐火陶瓷纖維** | - |
| R6 | 58 | Zirconia Aluminosilicate Refractory Ceramic Fibres (Zr-RCF) | 氧化鋯矽酸, 耐火陶瓷纖維** | - |
| R6 | 59 | Formaldehyde, oligomeric reaction products with | 甲醛和苯胺聚合物 | 25214-70-4 |

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|----|-----|---|--|------------|
| | | aniline (technical MDA) | | |
| R6 | 60 | Bis(2-methoxyethyl) phthalate | 鄰苯二甲酸二甲氧乙酯 | 117-82-8 |
| R6 | 61 | 2-Methoxyaniline; o-Anisidine | 鄰甲氧基苯胺 | 90-04-0 |
| R6 | 62 | 4-(1,1,3,3-tetramethylbutyl)phenol, (4-tert-Octylphenol) | 對特辛基苯酚 | 140-66-9 |
| R6 | 63 | 1,2-Dichloroethane | 1,2-二氯乙烷 | 107-06-2 |
| R6 | 64 | Bis(2-methoxyethyl) ether | 二甘醇二甲醚 | 111-96-6 |
| R6 | 65 | Arsenic acid | 砷酸 | 7778-39-4 |
| R6 | 66 | Calcium arsenate | 砷酸鈣 | 7778-44-1 |
| R6 | 67 | Trilead diarsenate | 砷酸鉛 | 3687-31-8 |
| R6 | 68 | N,N-dimethylacetamide (DMAC) | N,N-二甲基乙醯胺 | 127-19-5 |
| R6 | 69 | 2,2'-dichloro-4,4'-methylenedianiline (MOCA) | 4,4'-二氨基-3,3'-二氯二苯甲烷, | 101-14-4 |
| R6 | 70 | Phenolphthalein | 酚酞 | 1977/9/8 |
| R6 | 71 | Lead azide Lead diazide | 疊氮化鉛 | 13424-46-9 |
| R6 | 72 | Lead styphnate | 收斂酸鉛 | 15245-44-0 |
| R6 | 73 | Lead dipicrate | 苦味酸鉛 | 6477-64-1 |
| R7 | 74 | 1,2-bis(2-methoxyethoxy)ethane (TEGDME; triglyme) | 三乙二醇二甲醚 | 112-49-2 |
| R7 | 75 | 1,2-dimethoxyethane; ethylene glycol dimethyl ether (EGDME) | 乙二醇二甲醚 | 110-71-4 |
| R7 | 76 | Diboron trioxide | 三氧化二硼 | 1303-86-2 |
| R7 | 77 | Formamide | 甲醯胺 | 75-12-7 |
| R7 | 78 | Lead(II) bis(methanesulfonate) | 甲基磺酸鉛 | 17570-76-2 |
| R7 | 79 | 1,3,5-tris(oxiranylmethyl)-1,3,5-triazine-2,4,6(1H,3H,5H)-trione (TGIC) | 異氰尿酸三縮水甘油酯 | 2451-62-9 |
| R7 | 80 | 1,3,5-tris[(2S and 2R)-2,3-epoxypropyl]-1,3,5-triazine-2,4,6-(1H,3H,5H)-trione (β -TGIC) | β 型異氰尿酸三縮水甘油酯 | 59653-74-6 |
| R7 | 81 | 4,4'-bis(dimethylamino)benzophenone (Michler's ketone) | 4,4'-二(N,N-二甲胺基)二苯甲酮 | 90-94-8 |
| R7 | 82 | N,N,N',N'-tetramethyl-4,4'-methylenedianiline (Michler's base) | 4,4'-亞甲基雙(N,N-二甲苯胺) | 101-61-1 |
| R7 | 83 | [4-[[4-anilino-1-naphthyl][4-(dimethylamino)phenyl]methylene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Blue 26) [with \geq 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | [4-[[4-苯胺基-1-萘基][4-(二甲基胺基)苯基]亞甲基]環己-2,5-二烯-1-亞基]二甲基氯化銨 (C.I. 鹼性藍 26) | 2580-56-5 |
| R7 | 84 | [4-[4,4'-bis(dimethylamino)benzhydrylidene]cyclohexa-2,5-dien-1-ylidene]dimethylammonium chloride (C.I. Basic Violet 3) [with \geq 0.1% of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | [4-[4,4'-雙(二甲基胺基)二苯亞甲基]環己-2,5-二烯-1-亞基]二甲基氯化銨 (C.I. 鹼性紫 3) | 548-62-9 |
| R7 | 85 | 4,4'-bis(dimethylamino)-4''-(methylamino)trityl alcohol [with \geq 0.1% of Michler's ketone (EC No. | (4,4'-雙(二甲基胺基)-4''-(甲基胺基)三苯 | 561-41-1 |

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|----|-----|---|--|---|
| | | 202-027-5) or Michler's base (EC No. 202-959-2)] | 甲基醇) | |
| R7 | 86 | α,α -Bis[4-(dimethylamino)phenyl]-4-(phenylamino)naphthalene-1-methanol (C.I. Solvent Blue 4) [with $\geq 0.1\%$ of Michler's ketone (EC No. 202-027-5) or Michler's base (EC No. 202-959-2)] | α,α -雙[4-(二甲基胺基)苯基]-4-(苯基胺基)-1-萘甲醇 (C.I. 溶劑藍 4) | 6786-83-0 |
| R8 | 87 | Pyrochlore, antimony lead yellow | 顏料黃 41 | 8012-00-8 |
| R8 | 88 | 6-methoxy-m-toluidine (p-cresidine) | 2-甲氧基-5-甲基苯胺 | 120-71-8 |
| R8 | 89 | Henicosafluoroundecanoic acid | 全氟十一烷酸 | 2058-94-8 |
| R8 | 90 | Hexahydromethylphthalic anhydride [1], Hexahydro-4-methylphthalic anhydride [2], Hexahydro-1-methylphthalic anhydride [3], Hexahydro-3-methylphthalic anhydride [4] [<i>The individual isomers [2], [3] and [4] (including their cis- and trans- stereo isomeric forms) and all possible combinations of the isomers [1] are covered by this entry</i>] | 甲基六氫鄰苯二甲酸酐; 甲基六氫苯酐 4-甲基六氫苯酐 | 25550-51-0, 19438-60-9, 48122-14-1, 57110-29-9 |
| R8 | 91 | Cyclohexane-1,2-dicarboxylic anhydride [1], cis-cyclohexane-1,2-dicarboxylic anhydride [2], trans-cyclohexane-1,2-dicarboxylic anhydride [3] [<i>The individual cis- [2] and trans- [3] isomer substances and all possible combinations of the cis- and trans-isomers [1] are covered by this entry</i>] | 六氫鄰苯二甲酸酐 | 85-42-7, 13149-00-3, 14166-21-3 |
| R8 | 92 | Dibutyltin dichloride (DBT) | 二丁基二氯化錫 (DBT) | 683-18-1 |
| R8 | 93 | Lead bis(tetrafluoroborate) | 氟硼酸鉛 | 13814-96-5 |
| R8 | 94 | Lead dinitrate | 硝酸鉛 | 10099-74-8 |
| R8 | 95 | Silicic acid, lead salt | 矽酸鉛 | 11120-22-2 |
| R8 | 96 | 4-Aminoazobenzene | 4-胺基偶氮苯 | 60-09-3 |
| R8 | 97 | Lead titanium zirconium oxide | 鈦酸鉛鋯 | 12626-81-2 |
| R8 | 98 | Lead monoxide (lead oxide) | 一氧化鉛 | 1317-36-8 |
| R8 | 99 | o-Toluidine | 鄰甲基苯胺 | 95-53-4 |
| R8 | 100 | 3-ethyl-2-methyl-2-(3-methylbutyl)-1,3-oxazolidine | 3-乙基-2-甲基-2-(3-甲基丁基)噁唑烷 | 143860-04-2 |
| R8 | 101 | Silicic acid ($H_2Si_2O_5$), barium salt (1:1), lead-doped [with lead (Pb) content above the applicable generic concentration limit for 'toxicity for reproduction' Repr. 1A (CLP) or category 1 (DSD); the substance is a member of the group entry of lead compounds, with index number 082-001-00-6 in Regulation (EC) No 1272/2008] | 摻雜鉛的矽酸鋯 | 68784-75-8 |
| R8 | 102 | Trilead bis(carbonate)dihydroxide | 鹼式碳酸鉛 | 1319-46-6 |
| R8 | 103 | Furan | 呋喃 | 110-00-9 |
| R8 | 104 | N,N-dimethylformamide | N,N-二甲基甲醯胺 | 68-12-2 |
| R8 | 105 | 4-(1,1,3,3-tetramethylbutyl)phenol, ethoxylated [<i>covering well-defined substances and UVCB substances, polymers and homologues</i>] | 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 | - |

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|----|-----|--|---|-------------|
| R8 | 106 | 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] | 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 | - |
| R8 | 107 | 4,4'-methylenedi-o-toluidine | 4,4'-二氨基-3,3'-二甲基二苯甲烷 | 838-88-0 |
| R8 | 108 | Diethyl sulphate | 硫酸二乙酯 | 64-67-5 |
| R8 | 109 | Dimethyl sulphate | 硫酸二甲酯 | 77-78-1 |
| R8 | 110 | Lead oxide sulfate | 鹼式硫酸鉛 | 12036-76-9 |
| R8 | 111 | Lead titanium trioxide | 鈦酸鉛 | 12060-00-3 |
| R8 | 112 | Acetic acid, lead salt, basic | 鹼式乙酸鉛 | 51404-69-4 |
| R8 | 113 | [Phthalato(2-)]dioxotriolead | 二鹽基鄰苯二甲酸鉛 | 69011-06-9 |
| R8 | 114 | Bis(pentabromophenyl) ether (decabromodiphenyl ether; DecaBDE) | 十溴聯苯醚 | 1163-19-5 |
| R8 | 115 | N-methylacetamide | N-甲基乙酰胺 | 79-16-3 |
| R8 | 116 | Dinoseb (6-sec-butyl-2,4-dinitrophenol) | 地樂酚 | 88-85-7 |
| R8 | 117 | 1,2-Diethoxyethane | 乙二醇二乙醚 | 629-14-1 |
| R8 | 118 | Tetralead trioxide sulphate | 三鹼式硫酸鉛 | 12202-17-4 |
| R8 | 119 | N-pentyl-isopentylphthalate | 鄰苯二甲酸正戊基異戊基酯 | 776297-69-9 |
| R8 | 120 | Dioxobis(stearato)trilead | 雙(十八酸基)二氧化三鉛 | 12578-12-0 |
| R8 | 121 | Tetraethyllead | 四乙基鉛 | 78-00-2 |
| R8 | 122 | Pentalead tetraoxide sulphate | 氧化鉛與硫酸鉛的複合物 | 12065-90-6 |
| R8 | 123 | Pentacosfluorotridecanoic acid | 全氟十三酸 | 72629-94-8 |
| R8 | 124 | Tricosfluorododecanoic acid | 全氟十二烷酸 | 307-55-1 |
| R8 | 125 | Heptacosfluorotetradecanoic acid | 全氟代十四酸 | 376-06-7 |
| R8 | 126 | 1-bromopropane (n-propyl bromide) | 1-溴丙烷 | 106-94-5 |
| R8 | 127 | Methoxyacetic acid | 甲氧基乙酸 | 625-45-6 |
| R8 | 128 | 4-methyl-m-phenylenediamine (toluene-2,4-diamine) | 2,4-二氨基甲苯 | 95-80-7 |
| R8 | 129 | Methyloxirane (Propylene oxide) | 1,2-環氧丙烷 | 75-56-9 |
| R8 | 130 | Trilead dioxide phosphonate | 磷酸氧化鉛 | 12141-20-7 |
| R8 | 131 | o-aminoazotoluene | 鄰氨基偶氮甲苯 | 97-56-3 |
| R8 | 132 | 1,2-Benzenedicarboxylic acid, dipentylester, branched and linear | 1, 2-苯二羧二戊酯 (支鏈和直鏈) | 84777-06-0 |
| R8 | 133 | 4,4'-oxydianiline and its salts | 4,4'-二氨基二苯醚 | 101-80-4 |
| R8 | 134 | Orange lead (lead tetroxide) | 四氧化三鉛 | 1314-41-6 |
| R8 | 135 | Biphenyl-4-ylamine | 4-氨基聯苯 | 92-67-1 |
| R8 | 136 | Diisopentylphthalate | 鄰苯二甲酸二異戊酯 | 605-50-5 |
| R8 | 137 | Fatty acids, C16-18, lead salts | C16-18-脂肪酸鉛鹽 | 91031-62-8 |

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|-----|-----|--|---|---------------------------|
| R8 | 138 | Diazene-1,2-dicarboxamide (C,C'-azodi(formamide)) | 偶氮二甲醯胺 | 123-77-3 |
| R8 | 139 | Sulfurous acid, lead salt, dibasic | 亞硫酸鉛 (II) | 62229-08-7 |
| R8 | 140 | Lead cyanamidate | 氨基氰鉛鹽 | 20837-86-9 |
| R9 | 141 | Cadmium | 鎘 | 7440-43-9 |
| R9 | 142 | Cadmium oxide | 氧化鎘 | 1306-19-0 |
| R9 | 143 | Ammonium pentadecafluorooctanoate (APFO) | 全氟辛酸銨 (APFO) | 3825-26-1 |
| R9 | 144 | Pentadecafluorooctanoic acid (PFOA) | 全氟辛酸 (PFOA) | 335-67-1 |
| R9 | 145 | Dipentyl phthalate (DPP) | 鄰苯二甲酸二戊酯 (DPP) | 131-18-0 |
| R9 | 146 | 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] | 分支或線性的乙氧化壬基酚，包括含有 9 個碳烷基鍵的所有獨立的同分異構體和所有含有線性或分支 9 個碳烷基鍵的 UVCB 物質 | - |
| R10 | 147 | Cadmium sulphide | 硫化鎘 | 1306-23-6 |
| R10 | 148 | Dihexyl phthalate | 鄰苯二甲酸二己酯 | 84-75-3 |
| R10 | 149 | Disodium 3,3'--[[1,1'-biphenyl]-4,4'-diylbis(azo)]bis(4-amino naphthalene-1-sulphonate) (C.I. Direct Red 28) | C.I. 直接紅 28 | 573-58-0 |
| R10 | 150 | 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) | C.I. 直接黑 38 | 1937-37-7 |
| R10 | 151 | Imidazolidine-2-thione; 2-imidazoline-2-thiol | 亞乙基硫脲 | 96-45-7 |
| R10 | 152 | Lead di(acetate) | 醋酸鉛 | 301-04-2 |
| R10 | 153 | Trixylyl phosphate | 磷酸三(二甲苯)酯 | 25155-23-1 |
| R11 | 154 | 1,2-Benzenedicarboxylic acid, dihexyl ester, branched and linear | 鄰苯二甲酸二己酯 (支鏈和直鏈) | 68515-50-4 |
| R11 | 155 | Sodium perborate; perboric acid, sodium salt | 過硼酸鈉 | - |
| R11 | 156 | Sodium peroxometaborate | 過氧偏硼酸鈉 | 7632/4/4 |
| R11 | 157 | Cadmium chloride | 氯化鎘 | 10108-64-2 |
| R12 | 158 | Cadmium fluoride | 氟化鎘 | 7790-79-6 |
| R12 | 159 | Cadmium sulphate | 硫酸鎘 | 10124-36-4, 31119-53-6 |
| R12 | 160 | 2-benzotriazol-2-yl-4,6-di-tert-butylphenol (UV-320) | 2-[2-羥基-3',5'-二-叔-丁基苯基]-苯並三唑 (紫外線吸收劑 320) | 3846-71-7 |
| R12 | 161 | 2-(2H-benzotriazol-2-yl)-4,6-ditertpentylphenol (UV-328) | 2-(2'-羥基-3',5'-二-叔-戊基苯基)-苯並三唑 (紫外線吸收劑 328) | 25973-55-1 |
| R12 | 162 | 2-ethylhexyl 10-ethyl-4,4-diethyl-7-oxo-8-oxa-3,5-dithia-4-stann | 二正辛基-雙 (2-乙基己基) | 15571-58-1 |

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|-----|-----|---|---|-------------------------------------|
| | | atetradecanoate (DOTE) | 毓基乙酸酯) 錫 | |
| R12 | 163 | reaction mass of 2-ethylhexyl 10-ethyl-4,4-dioctyl-7-oxo-8-oxa-3,5-dithia-4-stann atetradecanoate 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) | 二正辛基-双 (2-乙基己基毓基乙酸酯) 錫和單辛基-三(2-乙基己基毓基乙酸酯) 錫的反應物 | - |
| R13 | 164 | 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 | 鄰苯二甲酸二(C6-C6)烷基酯：(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含量≥0.3% | 68515-51-5 68648-93-1 |
| R13 | 165 | 5-sec-butyl-2-(2,4-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [1], 5-sec-butyl-2-(4,6-dimethylcyclohex-3-en-1-yl)-5-methyl-1,3-dioxane [2] [covering any of the individual stereoisomers of [1] and [2] or any combination thereof] | 5-仲丁基-2-(2,4-二甲基環丁-3-烯-1-基)-5-甲基-1,3-二惡烷[1]，5-仲丁基-2-(4,6-二甲基環己-3-烯-1-基)-5-甲基-1,3-二惡烷[2] [覆蓋任何[1]和[2]或者其任意組合的單獨的異構體(卡拉花醛及其同分易構物)] | - |
| R14 | 166 | Nitrobenzene | 硝基苯 | 98-95-3 |
| R14 | 167 | 2,4-di-tert-butyl-6-(5-chlorobenzotriazol-2-yl)phenol (UV-327) | 2-(5-氯-2H-苯並三唑-2-基)-4,6-二(1,1-二甲基乙基)苯酚 (紫外線吸收劑327) | 3864-99-1 |
| R14 | 168 | 2-(2H-benzotriazol-2-yl)-4-(tert-butyl)-6-(sec-butyl)phenol (UV-350) | 2-(2'-羥基-3'-仲丁基-5'-叔丁基苯基)苯並三唑 (紫外線吸收劑350) | 36437-37-3 |
| R14 | 169 | 1,3-propanesultone | 1,3-丙磺酸內酯 | 1120-71-4 |
| R14 | 170 | Perfluorononan-1-oic acid and its sodium and ammonium salts | 全氟壬酸及其鈉鹽和銨鹽 | 375-95-1 21049-39-8 4149-60-4 |
| R15 | 171 | Benzo[def]chrysene (Benzo[a]pyrene) | 苯並[def]屈(苯並[a]芘) | 50-32-8 |
| R16 | 172 | 4,4'-isopropylidenediphenol (bisphenol A; BPA) | 雙酚A | 80-05-7 |
| R16 | 173 | 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] | 支鏈或直鏈的4-庚基酚與其UVCB物質 | - |
| R16 | 174 | Nonadecafluorodecanoic acid (PFDA) and its sodium and ammonium salts | 十九氟癸酸及其鈉鹽與銨鹽 | 335-76-2 |
| R16 | 175 | p-(1,1-dimethylpropyl)phenol | 對-(1,1-二甲基丙基)酚 | 80-46-6 |
| R17 | 176 | Perfluorohexane-1-sulphonic acid and its salts (PFHxS) | 全氟己基磺酸及其鹽類 | 355-46-4 |

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|-----|-----|--|---|------------------------|
| R18 | 177 | Chrysene | 屈 | 218-01-9 |
| R18 | 178 | Benz[a]anthracene | 苯並[a]蒽 | 56-55-3 |
| R18 | 179 | Cadmium nitrate | 硝酸鎘 | 10325-94-7 |
| R18 | 180 | Cadmium hydroxide | 氫氧化鎘 | 21041-95-2 |
| R18 | 181 | Cadmium carbonate | 碳酸鎘 | 513-78-0 |
| R18 | 182 | Dechlorane Plus I | 德克隆 | - |
| R18 | 183 | Reaction products of 1,3,4-thiadiazolidine-2,5-dithione, formaldehyde and 4-heptylphenol, branched and linear (RP-HP) [with ≥0.1% w/w 4-heptylphenol, branched and linear] | 1,3,4-噻唑烷-2,5-二硫酮，甲醛及4-庚基苯酚支鏈及直鏈反應物, (RP-HP) [含≥0.1% w/w 支鏈及直鏈4-庚基苯酚] | - |
| R19 | 184 | Octamethylcyclotetrasiloxane (D4) | 八甲基環四矽氧烷 | 556-67-2 |
| R19 | 185 | Decamethylcyclopentasiloxane (D5) | 十甲基環五矽氧烷 | 541-02-6 |
| R19 | 186 | Dodecamethylcyclohexasiloxane (D6) | 十二甲基環六矽氧烷 | 208-762-8 |
| R19 | 187 | Lead | 鉛 | 7439-92-1 |
| R19 | 188 | Disodium octaborate | 八硼酸二鈉 | 12008-41-2 |
| R19 | 189 | Benzo[ghi]perylene | 苯并[g,h,I]芘 | 191-24-2 |
| R19 | 190 | Ethylenediamine (EDA) | 乙二胺 | 107-15-3 |
| R19 | 191 | Terphenyl hydrogenated | 氫化三聯苯 | 61788-32-7 |
| R19 | 192 | Benzene-1,2,4-tricarboxylic acid 1,2-anhydride (trimellitic anhydride; TMA) | 偏苯三酸酐 | 552-30-7 |
| R19 | 193 | Dicyclohexyl phthalate (DCHP) | 鄰苯二甲酸二環己酯 | 84-61-7 |
| R20 | 194 | 1,7,7-trimethyl-3-(phenylmethylene) phospha[2.2.1]heptan-2-one (3-benzylidene camphor) | 1,7,7-三甲基-3-(苯亞甲基)雙環[2.2.1]庚烷-2-酮 (3-苯亞甲基樟腦) | 15087-24-8 |
| R20 | 195 | 2,2-bis(4'-hydroxyphenyl)-4-methylpentane | 2,2-雙(4'-羥基苯基)-4-甲基戊烷 | 6807-17-6 |
| R20 | 196 | Benzo[k]fluoranthene | 苯并[k]荧蒽 | 207-08-9 |
| R20 | 197 | Fluoranthene | 荧蒽 | 206-44-0 93951-69-0 |
| R20 | 198 | Phenanthrene | 菲 | 85-01-8 |
| R20 | 199 | Pyrene | 芘 | 129-00-0 1718-52-1 |
| R21 | 200 | 2-methoxyethyl acetate | 2-甲氧基乙酸乙酯 | 110-49-6 |
| R21 | 201 | Tris (4-nonylphenyl, branched and linear) phosphate (TNPP) with ≥ 0.1% w/w of 4-nonylphenol, branched and linear (4-NP) | 三(4-壬基苯基, 支鏈和直鏈)亞磷酸酯(TNPP) (4-壬基酚 4-NP, 支鏈和直鏈濃度≥ 0.1% 重量比) | - |
| R21 | 202 | 2,3,3,3-tetrafluoro-2-(heptafluoropropoxy) propionic acid, its salts and its acyl halides (covering any of their individual isomers and combinations thereof) | 2,3,3,3-四氟-2-(七氟丙基)丙酸, 即其鹽類與鹵化醯類 (包括它們各自的異構物及其組合) | - |

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|-----|-----|---|---|---|
| R21 | 203 | 4-tert-butylphenol | 4-叔丁基苯酚 | 98-54-4 |
| R22 | 204 | 2-benzyl-2-dimethylamino-4'-morpholinobutyrophenone | 2-苄基-2-二甲基氨基-1-(4-嗎啉苯基)丁酮 | 119313-12-1 |
| R22 | 205 | 2-methyl-1-(4-methylthiophenyl)-2-morpholino propan-1-one | 2-甲基-1-[4-(甲基硫代)苯基]-2-(4-嗎啉基)-1-丙酮 | 71868-10-5 |
| R22 | 206 | Diisohexyl phthalate | 二異己基鄰苯二甲酸酯 | 71850-09-4 |
| R22 | 207 | Perfluorobutane sulfonic acid (PFBS) and its salts | 全氟丁烷磺酸及其鹽類 | - |
| R23 | 208 | 1-vinylimidazole | 1-乙烯基咪唑 | 1072-63-5 |
| R23 | 209 | 2-methylimidazole | 2-甲基咪唑 | 693-98-1 |
| R23 | 210 | Butyl 4-hydroxybenzoate | 4-羟基苯甲酸丁酯 | 94-26-8 |
| R23 | 211 | Dibutylbis(pentane-2,4-dionato-O,O')tin | 二正丁基雙(乙醯丙酮基)錫 | 22673-19-4 |
| R24 | 212 | Bis(2-(2-methoxyethoxy) ethyl) ether | 雙(2-(2-甲氧基乙氧基)乙基)醚 | 143-24-8 |
| R24 | 213 | Dioctyltin dilaurate, stannane, dioctyl-, bis(coco acyloxy) derivs., and any other stannane, dioctyl-, bis(fatty acyloxy) derivs. Wherein C12 is the predominant carbon number of the fatty acyloxy moiety | 二月桂酸二辛基錫，錫烷，二辛基-，雙(椰油醯氧基)衍生物，以及任何其他錫烷，二辛基-，雙(脂肪醯氧基)衍生物。其中C12為脂肪醯氧基部分的主要碳原子數 | - |
| R25 | 214 | 1,4-dioxane | 1,4-二氧陸園 | 123-91-1 |
| R25 | 215 | 2,2-bis(bromomethyl)propane1,3-diol (BMP) 2,2-dimethylpropan-1-ol,tribromo derivative/3-bromo-2,2-bis(bromomethyl)-1-propanol (TBNPA) 2,3-dibromo-1-propanol (2,3-DBPA) | 2,2-雙(溴甲基)-1,3-丙二醇 3-溴-2,2-雙(溴甲基)-1-丙醇 2,3-二溴-1-丙醇 | 3296-90-0 36483-57-5 1522-92-5 96-13-9 |
| R25 | 216 | 2-(4-tert-butylbenzyl)propionaldehyde and its individual stereoisomers 2-(4-tert-butylbenzyl)propionaldehyde (2S)-3-(4-tert-butylphenyl)-2-methylpropanal (2R)-3-(4-tert-butylphenyl)-2-methylpropanal | 2-(4-叔丁基苄基)丙醛及其個別立體異構物 | 80-54-6 75166-30-2 75166-31-3 |
| R25 | 217 | 4,4'-(1-methylpropylidene)bisphenol; (bisphenol B) | 雙酚 B | 77-40-7 |
| R25 | 218 | Glutaral | 戊二醛 | 111-30-8 |
| R25 | 219 | Medium-chain chlorinated paraffins (MCCP) [UVCB substances consisting of more than or equal to 80% linear chloroalkanes with carbon chain lengths within the range from C14 to C17] Alkanes, C14-17, chloro Tetradecane, chloro derivs. Alkanes, C14-16, chloro di-, tri- and tetrachlorotetradecane | 中鏈氯化石蠟[UVCB 物質包含大於或等於 80% 的直鏈氯代烷烴，碳鏈長度在 C14 至 C17 範圍內] | 85535-85-9 198840-65-2 1372804-76-6 - |
| R25 | 220 | Orthoboric acid, sodium salt (group) Boric acid, sodium salt Orthoboric acid, sodium salt boric acid (H3BO3), sodium salt,hydrate Boric acid (H3BO3), sodium salt (1:1) Boric acid (H3BO3), disodium salt Trisodium orthoborate | 硼酸鈉鹽(群組) | 1333-73-9 13840-56-7 25747-83-5 14890-53-0 22454-04-2 14312-40-4 |

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|-----|-----|---|---|---|
| R25 | 221 | Phenol, alkylation products (mainly in para position) with C12-rich branched or linear alkyl chains from oligomerisation, covering any individual isomers and/ or combinations thereof (PDDP) phenol, (tetrapropenyl) derivatives Phenol, 4-isododecyl Phenol, dodecyl-, branched Phenol, 4-isododecyl Phenol, tetrapropylene phenol, 4-dodecyl-, branched | 經由低聚合反應烷基化的苯酚產物(主要在對位位置)帶有12個碳的支鏈或直鏈，並涵蓋各種同分異構物及/或其各種組合 | 74499-35-7 27147-75-7 121158-58-5 27459-10-5 57427-55-1 210555-94-5 |
| R26 | 222 | (±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one covering any of the individual isomers and/or combinations thereof (4-MBC) (±)-1,7,7-trimethyl-3-[(4-methylphenyl)methylene]bicyclo[2.2.1]heptan-2-one CAS No.: 36861-47-9 (3E)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one CAS No.: 1782069-81-1 (1R,3E,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one CAS No.: 95342-41-9 (1S,3E,4R)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one CAS No.: 852541-30-1 (1R,3Z,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one CAS No.: 852541-21-0 (1R,4S)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one CAS No.: 741687-98-9 (1S,3Z,4R)-1,7,7-trimethyl-3-(4-methylbenzylidene)bicyclo[2.2.1]heptan-2-one CAS No.: 852541-25-4 | (±)-1,7,7-三甲基-3-[(4-甲基苯基)亞甲基]二環[2.2.1]庚烷2-酮，包括任何獨立異構物及/或其組合 (4-MBC) | 36861-47-9; 1782069-81-1; 95342-41-9; 852541-30-1; 852541-21-0; 741687-98-9; 852541-25-4; |
| R26 | 223 | 6,6'-di-tert-butyl-2,2'-methylenedi-p-cresol | 6,6' 雙-三級-丁基-2,2' -亞甲基雙對甲酚 | 119-47-1 |

| 版本 | No. | Substances Name | 中文名稱 | CAS No. |
|-----|-----|--|--|-------------|
| R26 | 224 | S-(tricyclo(5.2.1.0'2,6)deca-3-en-8(or 9)-yl O-(isopropyl or isobutyl or 2-ethylhexyl) O-(isopropyl or isobutyl or 2-ethylhexyl) phosphorodithioate | 硫代磷酸 S-(三環 [5.2.1.0'2,6]-3-癸烯 -8(或 9)-基酯 O-(異丙酯或 異丁酯 或 2-乙基己 酯)O-(異丙酯或 異丁酯或 2-乙基己酯) | 255881-94-8 |
| R26 | 225 | tris(2-methoxyethoxy)vinylsilane | 三(2-甲氧基乙氧基)乙烯基 矽烷 | 1067-53-4 |
| R27 | 226 | N-(hydroxymethyl)acrylamide | N-(羥甲基)丙烯醯胺 | 924-42-5 |
| R28 | 227 | 1,1'-[ethane-1,2-diylbisoxo]bis[2,4,6-t ribromobenzene] | 1,2-二(2,4,6-三溴苯氧 基) 乙烷 | 37853-59-1 |
| R28 | 228 | 2,2',6,6'-tetrabromo-4,4'-isopropylidene-diphenol | 四溴雙酚 A | 79-94-7 |
| R28 | 229 | 4,4'-sulphonyldiphenol | 雙酚 S | 80-09-1 |
| R28 | 230 | Barium diboron tetraoxide | 偏硼酸鋇 | 13701-59-2 |
| R28 | 231 | Bis(2-ethylhexyl) tetrabromophthalate covering any of the individual isomers and/or combinations thereof | 3,4,5,6-四溴-1,2-苯二 羥酸 雙(2-乙基己基) 酯, 包括包 括任何單 獨的異構體和/ 或其組合 | - |
| R28 | 232 | Isobutyl 4-hydroxybenzoate | 4-羥基苯甲酸 2-甲基 丙 酯 | 4247-02-3 |
| R28 | 233 | Melamine | 三聚氰胺 | 108-78-1 |
| R28 | 234 | Perfluoroheptanoic acid and its salts | 全氟庚酸及其鹽 | - |
| R28 | 235 | reaction mass of 2,2,3,3,5,5,6,6-octafluoro-4-(1,1,1,2,3 ,3,3-heptaflu oropropan-2-yl)morpholine and 2,2,3,3,5,5,6,6-octafluoro-4-(heptaflu oropropyl)morpholine | 2,2,3,3,5,5,6,6-八氟 -4-(1,1,1,2,3,3,3-七氟 丙烷 -2-基)嗎啉和 2,2,3,3,5,5,5,6,6-八氟 烷 -4-(七氟丙基)嗎啉 的反應 物料 | - |
| R29 | 236 | Diphenyl(2,4,6-trimethylbenzoyl) phosphine oxide | 二苯基(2,4,6-三甲基苯甲 醯基)氧化膦 | 75980-60-8 |
| R29 | 237 | Bis(4-chlorophenyl) sulphone | 雙(4-氯苯基)砜 | 80-07-9 |

- R1: 第一次 SVHC / The first list of SVHC
R2: 第二次 SVHC / The second list of SVHC
R3: 第三次 SVHC / R3: The third list of SVHC
R4: 第四次 SVHC / R4: The fourth list of SVHC
R5: 第五次 SVHC / R5: The fifth list of SVHC
R6: 第六次 SVHC / R6: The sixth list of SVHC
R7: 第七次 SVHC / R7: The seventh list of SVHC
R8: 第八次 SVHC / R8: The eighth list of SVHC
R9: 第九次 SVHC / R9: The ninth list of SVHC
R10: 第十次 SVHC / R10: The tenth list of SVHC
R11: 第十一次 SVHC / R11: The eleventh list of SVHC
R12: 第十二次 SVHC / R12: The twelfth list of SVHC
R13: 第十三次 SVHC / R13: The thirteenth list of SVHC
R14: 第十四次 SVHC / R14: The fourteenth list of SVHC
R15: 第十五次 SVHC / R15: The fifteenth list of SVHC
R16: 第十六次 SVHC / R16: The sixteenth list of SVHC
R17: 第十七次 SVHC / R17: The seventeenth list of SVHC
R18: 第十八次 SVHC / R18: The eighteenth list of SVHC
R19: 第十九次 SVHC / R19: The nineteenth list of SVHC
R20: 第二十次 SVHC / R20: The twentieth list of SVHC
R21: 第二十一次 SVHC / R21: The twenty-first list of SVHC
R22: 第二十二次 SVHC / R22: The twenty-second list of SVHC
R23: 第二十三次 SVHC / R23: The twenty-third list of SVHC
R24: 第二十四次 SVHC / R24: The twenty-fourth list of SVHC
R25: 第二十五次 SVHC / R25: The twenty-fifth list of SVHC
R26: 第二十六次 SVHC / R26: The twenty-sixth list of SVHC
R27: 第二十七次 SVHC / R27: The twenty-seventh list of SVHC
R28: 第二十八次 SVHC / R28: The twenty-eighth list of SVHC
R29: 第二十九次 SVHC / R29: The twenty-ninth list of SVHC

備註

Note:

- 關於矽酸鋁，耐火陶瓷纖維(A1-RCF) 及氧化鋯矽酸，耐火陶瓷纖維 (ZrA1-RCF) 2012年6月18日歐盟當局發表公告，因第二次 SVHC 公布的 A1-RCF 及 ZrA1-RCF 包含在第六次 SVHC 公布的 A1-RCF 及 ZrA1-RCF，將前者合併於後者。

: How to treat No. 0022 Aluminosilicate Refractory Ceramic Fibres (2nd SVHC list) and No. 0023 Zirconia Aluminosilicate Refractory Ceramic Fibres (2nd SVHC list).

The European Chemical Agency officially announced on June 18, 2012 that Aluminosilicate Refractory Ceramic Fibres (AI-RCF) and Zirconia Aluminosilicate Refractory Ceramic Fibres (ZrAl-RCF) listed on the 2nd SVHC list are, respectively, included in AI-RCF and ZrAl-RCF listed on the 6th SVHC list; therefore, the former ones were to be consolidated with the latter ones.

Based on this announcement, the Avision Inc. will no longer require a response regarding these two chemical substances (Aluminosilicate Refractory Ceramic Fibres (2nd SVHC list) and Zirconia Aluminosilicate Refractory Ceramic Fibres (2nd SVHC list)).

2. REACH : <http://echa.europa.eu/> and <https://echa.europa.eu/candidate-list-table>
 附錄十四 (Annex XIV): List of substances included in Annex XIV of REACH ("Authorisation List")
<https://echa.europa.eu/authorisation-list>
 附錄十七 (Annex XVII): List of substances included in Annex XVII of REACH ("Restricted List")
<https://echa.europa.eu/substances-restricted-under-reach>

4) 環境管理物質清單 D / Environment-related Substances List D

下列物質沒有限制使用，各管理物質來源于法規或行業標準，如果有意使用此清單中的化學物質/化學物質群，請掌握並回覆其含有之濃度。

The following substances are not currently restricted in any application. Each substance is based on law and regulation requirement or industrial standards.

Below is the list of Environment-related Substances List D.

| No. | 物質 | Substances | CAS No. | Remarks |
|-----|--|---|------------|--|
| 001 | 銻/銻化合物 | Antimony/ Antimony Compounds | - | |
| 002 | 砷/砷化合物 | Arsenic/ Arsenic Compounds | - | |
| 003 | 鍍/鍍化合物 | Beryllium/ Beryllium Compounds | - | Beryllium Oxide:1000ppm |
| 004 | 鎳及其化合物 | Nickel/Nickel Compounds | - | |
| 005 | 硒/硒化合物 | Selenium/ Selenium Compounds | - | |
| 006 | 高氯酸鹽化合物 | Perchlorate Compounds | - | |
| 007 | 四溴雙酚 A | Tetrabromobishphenol A (TBBPA) | 79-94-7 | |
| 008 | 中鏈氯化石蠟(C=14~17) | MCCP's Alkanes, 14 – 17 Chloro | 85535-85-9 | 限制使用在塑膠外殼 Restricted from use in plastics casings |
| 009 | 磷化銦 | Indium Phosphide (InP) | 22398-80-7 | |
| 010 | 鹵化材料 (例如溴化阻燃劑(BFR), 氯化阻燃劑(CFR), 增塑劑和聚氯乙烯(PVC)) | Halogenated Materials (e.g. Brominated Flame Retardants (BFRs), Chlorinated Flame Retardants (CFRs), plasticizers, and Polyvinylchloride (PVC)) | - | 超過 25g 塑膠零件 :禁止含有 plastic parts heavier than 25 grams : must not contained |
| 011 | 全氟/多氟烷基物 | Perfluoroalkyl and polyfluoroalkyl substances (PFAS) | - | 不得使用於包裝材料 Shall not be used in packaging |

附加文件 / Appendix - 化學物質/化學物質群的詳細清單 / Detail List of Environment-related Substances

1) 環境禁用物質清單 A / Banned Environment-related Substances List A

鉛及鉛化合物 / Lead and Lead Compounds

| 中文名稱 | Substances | CAS 號碼 |
|--------------------------|--|-------------------------|
| 鉛 | Lead | 7349-92-1 |
| 硫酸鉛 (二價), 硫酸鉛 | Lead (II) sulfate, Lead Sulfate, Sulphuric acid, Lead silt | 7446-14-2 15739-80-7 |
| 碳酸鉛 | Lead (II) carbonate | 598-63-0 |
| 鉻酸鉛 | Lead (II) chromate | 7758-97-6 |
| 鉬鉻酸鉛硫酸鹽 (C.I. 顏料紅 104) | Lead chromate molybdate sulfate red (C.I. Pigment Red 104) | 12656-85-8 |
| 羥基碳酸鉛 | Lead hydroxidcarbonate | 1319-46-6 |
| 醋酸鉛(二價) | Lead (II) acetate | 301-04-2 |
| 三水醋酸亞鉛 (二價) | Lead(II)acetate, tryhydrate | 6080-56-4 |
| 磷酸鉛 (二價) | Lead(II) phosphate | 7446-27-7 |
| 硒化鉛 | Lead Selenide | 12069-00-0 |
| 二氧化鉛, 氧化鉛, 氧化鉛(IV), 過氧化鉛 | Lead (IV) oxide | 1309-60-0 |
| 四氧化三鉛, 四氧化三鉛(二價,四價) | Lead (II,IV) oxide | 1314-41-6 |
| 硫化鉛 (二價) | Lead (II) sulfide | 1314-87-0 |
| 氧化鉛(二價) | Lead (II) oxide | 1317-36-8 |
| 城式碳酸鉛 | Lead (II) carbonate basic | 1319-46-6 |
| 氫氧碳化鉛 | Lead hydroxycarbonate | 1344-36-1 |
| 磷酸鉛 (二價) | Lead (II) phosphate | 7446-27-2 |
| 鉛鉻黃 (C.I. 顏料黃 34) | Lead chromate, chrome yellow | 1344-37-2 |
| 鈦酸鉛 | Lead Titanate | 12060-00-3 |
| 硫酸鉛 | Lead oxide sulfate | 12202-17-4 |
| 硬脂酸鉛 | Lead Stearate | 1072-35-1 |
| 其他鉛化合物以及合金 | Other lead compounds | - |

鎘及鎘化合物 / Cadmium and Cadmium Compounds

| 中文名稱 | Substances | CAS 號碼 |
|--------|-------------------------|------------|
| 鎘 | Cadmium | 7440-43-9 |
| 氧化鎘 | Cadmium oxide | 1306-19-0 |
| 硫化鎘 | Cadmium sulfide | 1306-23-6 |
| 氯化鎘 | Cadmium chloride | 10108-64-2 |
| 硫酸鎘 | Cadmium sulfate | 10124-36-4 |
| 其他鎘化合物 | Other cadmium compounds | |

汞及汞化合物 / Mercury and Mercury Compounds

| 中文名稱 | Substances | CAS 號碼 |
|--------------|-------------------------|------------|
| 汞 | Mercury | 7439-97-6 |
| 氯化汞 | Mercury chloride | 33631-63-9 |
| 氯化汞 (二價) | Mercury (II) chloride | 7487-94-7 |
| 硫酸汞 | Mercury sulfate | 7783-35-9 |
| 硝酸汞 (二價) | Mercury (II) nitrate | 10045-94-0 |
| 氧化汞, 氧化汞(二價) | Mercury (II) oxide | 21908-53-2 |
| 硫化汞 | Mercury sulfide | 1344-48-5 |
| 其他汞化合物 | Other mercury compounds | - |

六價鉻及六價鉻化合物 / Hexavalent Chromium and Hexavalent Chromium Compounds

| 中文名稱 | Substances | CAS 號碼 |
|------------------------|--|------------|
| 氧化鉻 | Chromium(VI)oxide; Chromium trioxide | 1333-82-0 |
| 鉻酸鋇 | Barium chromate | 10294-40-3 |
| 鉻酸鈣 | Calcium chromate | 13765-19-0 |
| 鉻酸鉛 | Lead (II) chromate | 7758-97-6 |
| 鉬鉻酸鉛硫酸鹽 (C.I. 顏料紅 104) | Lead chromate molybdate sulfate red (C.I. Pigment Red 104) | 12656-85-8 |
| 鉛鉻黃 (C.I. 顏料黃 34) | Lead chromate, chrome yellow | 1344-37-2 |
| 鉻酸鈉 | Sodium chromate | 7775-11-3 |
| 重鉻酸鈉 | Sodium dichromate; Sodium bichromate | 10588-01-9 |
| 鉻酸锶 | Strontium chromate | 7789-06-2 |
| 重鉻酸鉀 | Potassium dichromate ;potassium bichromate | 7778-50-9 |
| 鉻酸鉀 | Potassium chromate | 7789-00-6 |
| 鉻酸鋅 | Zinc chromate | 13530-65-9 |
| 其他六價鉻化合物 | Other hexavalent Chromium compounds | - |

多溴聯苯 (PBB 類) / Polybrominated Biphenyls (PBBs)

| 中文名稱 | Substances | CAS 號碼 |
|-----------|--------------------------|------------|
| 多溴聯苯類 | Polybrominated Biphenyls | 59536-65-1 |
| 二溴聯苯及其醚類 | Dibromobiphenyl | 92-86-4 |
| 2-溴聯苯及其醚類 | 2-Bromobiphenyl | 2052/7/5 |
| 3-溴聯苯及其醚類 | 3-Bromobiphenyl | 2113-57-7 |
| 4-溴聯苯及其醚類 | 4-Bromobiphenyl | 92-66-0 |
| 三溴聯苯 | Tribromobiphenyl | 59080-34-1 |
| 四溴聯苯及其醚類 | Tetrabromobiphenyl | 40088-45-7 |
| 五溴聯苯 | Pentabromobiphenyl | 56307-79-0 |
| 六溴聯苯及其醚類 | Hexabromobiphenyl | 59080-40-9 |

| 中文名稱 | Substances | CAS 號碼 |
|---------------|--------------------------|------------|
| 六溴聯苯及其醚類 | Hexabromo-1,1'-biphenyl | 36355-01-8 |
| 六溴聯苯及其醚類 FF-1 | Firemaster FF-1 | 67774-32-7 |
| 七溴聯苯 | Heptabromobiphenyl | 35194-78-6 |
| 八溴聯苯及其醚類 | Octabromobiphenyl | 61288-13-9 |
| 九溴-1, 1'-聯苯 | Nonabromo-1, 1'-biphenyl | 27753-52-2 |
| 十溴聯苯及其醚類 | Decabromobiphenyl | 13654-09-6 |

多溴二苯醚類(PBDE 類) / Polybrominated Diphenylethers (PBDEs)

| 中文名稱 | Substances | CAS 號碼 |
|--|---|---|
| 溴聯苯醚 | Bromobiphenyl ether | 101-55-3 |
| 二溴聯苯醚 | Dibromobiphenyl ether | 2050-47-7 |
| 三溴聯苯醚 | Tribromobiphenyl ether | 49690-94-0 |
| 四溴聯苯醚 | Tetrabromobiphenyl ether | 40088-47-9 |
| 五溴聯苯醚 (注:市場銷售的 PeBDPO 是包含各種溴化聯苯環氧化的複雜反應混合物) | Pentabromobiphenyl ether (note:Commercially available PeBDPO is a complex reaction mixture containing a variety of brominated diphenyloxides.) | 32534-81-9 (用於商用標牌 PeBDPO 的 CAS No.) |
| 六溴聯苯醚 | Hexabromobiphenyl ether | 36483-60-0 |
| 七溴聯苯醚 | Heptabromobiphenyl ether | 68928-80-3 |
| 八溴聯苯醚 | Octabromobiphenyl ether | 32536-52-0 |
| 九溴聯苯醚 | Nonabromobiphenyl ether | 63936-56-1 |
| 十溴聯苯醚 | Decabromobiphenyl ether | 1163-19-5 |

2) 環境禁用物質清單 B / Banned Environment-related Substances List B

● 002 ODSs ; 臭氧層破壞物質 (蒙特羅議定書的受控物質) / Ozone Depleting Substances (The controlled substances in Montreal Protocol)

| 蒙特羅議定書 附件 A 第 I 類 / Montreal Protocol Annex A Group I | | | |
|---|---|--|---------------------------------|
| 化學式 | 中文名稱 | Substances | CAS 號碼 |
| CFC13 | 三氯氟甲烷 (CFC-11) | Trichlorofluoromethane (CFC-11) | 75-69-4 |
| CF2Cl2 | 二氯二氟甲烷 (CFC12) | Dichlorodifluoromethane (CFC-12) | 75-71-8 |
| C2F3Cl3 | 三氯三氟乙烷 (CFC113) 1,1,2 三氯-1,2,2 三氟乙烷 (CFC-113) 1,1,1-三氯-2,2,2-三氟乙烷 (CFC-113) | Trichlorotrifluoroethane (CFC-113) 1,1,2-Trichloro-1,2,2-trifluoroethane (CFC-113) 1,1,1-Trichloro-2,2,2-trifluoroethane (CFC-113) | 354-58-5 76-13-1 354-58-5 |
| C2F4Cl2 | 二氯四氟乙烷 (CFC114) | Dichlorotetrafluoroethane (CFC-114) | 76-14-2 |
| C2F5Cl | 一氯五氟乙烷 (CFC115) | Monochloropentafluoroethane (CFC-115) | 76-15-3 |

蒙特羅議定書 附件 A 第 II 類 / Montreal Protocol Annex A Group II

| 化學式 | 中文名稱 | Substances | CAS 號碼 |
|---------|--------------------|---|----------|
| CF2BrCl | 溴氯二氟甲烷 (Halon1211) | Bromochlorodifluoromethane (halon-1211) | 353-59-3 |
| CF3Br | 溴三氟甲烷 (Halon1301) | Bromotrifluoromethane (halon-1301) | 75-63-8 |
| C2F4Br2 | 二溴四氟乙烷 (Halon2402) | Dibromotetrafluoroethane (halon-2402) | 124-73-2 |

蒙特羅議定書 附件 B 第 I 類 / Montreal Protocol Annex B Group I

| 化學式 | 中文名稱 | Substances | CAS 號碼 |
|---------|---|--|--|
| CF3Cl | 三氯氟甲烷 (CFC13) | Chlorotrifluoromethane (CFC-13) | 75-72-9 |
| C2FC15 | 一氟五氯乙烷 (CFC111) | Pentachlorofluoroethane (CFC-111) | 354-56-3 |
| C2F2Cl4 | 四氣二氟乙烷 (CFC112) 1,1,2,2,- 四氣-1,2-二氟乙烷 (CFC-112) 1,1,1,2,- 四氣-2,2-二氟乙烷 (CFC-112a) | Tetrachlorodifluoroethane (CFC-112) 1,1,2,2-Tetrachloro-1,2-difluoroethane (CFC-112) 1,1,1,2-Tetrachloro-2,2-difluoroethane (CFC-112a) | 76-12-0 76-12-0 76-11-9 |
| C3FC17 | 七氣氟丙烷 (CFC211) 1,1,1,2,2,3,3-七氣-3-氟丙烷 (CFC-211aa) 1,1,1,2,3,3,3-七氣-2-氟丙烷 (CFC-211ba) | Hexachlorofluoropropane (CFC-211) 1,1,1,2,2,3,3-Hexachloro-3-fluoropropane (CFC-211aa) 1,1,1,2,3,3-Hexachloro-2-fluoropropane (CFC-211ba) | 422-78-6 422-78-6 422-81-1 |
| C3F2Cl6 | 六氣二氟丙烷 (CFC212) | Hexachlorodifluoropropane (CFC-212) | 3182-26-1 |
| C3F3Cl5 | 五氣三氟丙烷 (CFC213) | Pentachlorotrifluoropropane (CFC-213) | 2354-06-5 134237-31-3 |
| C3F4Cl4 | 四氣四氟丙烷 (CFC214) 1,2,2,3-四氣-1,1,1,3-四氣丙烷 (CFC-214aa) 1,1,1,3-四氣-2,2,3,3-四氣丙烷 (CFC-214cb) | Tetrachlorotetrafluoropropane (CFC-214) 1,2,2,3-Tetrachloro-1,1,3,3-tetrafluoropropane (CFC-214aa) 1,1,1,3-Tetrachloro-2,2,3,3-tetrafluoropropane (CFC-214cb) | 29255-31-0 2268-46-4 - |
| C3F5Cl3 | 三氣五氟丙烷 (CFC215) 1,2,2-三氣五氟丙烷 (CFC-215aa) 1,2,3-三氣五氟丙烷 (CFC-215ba) 1,1,2-三氣五氟丙烷 (CFC-215bb) 1,1,3-三氣五氟丙烷 (CFC-215ca) 1,1,1-三氣五氟丙烷 (CFC-215cb) | Trichloropentafluoropropane 1,2,2-Trichloropentafluoropropane 1,2,3-Trichloropentafluoropropane 1,1,2-Trichloropentafluoropropane 1,1,3-Trichloropentafluoropropane 1,1,1-Trichloropentafluoropropane | 1599-41-3 1599-41-3 76-17-5 - - 4259-43-2 |
| C3F6Cl2 | 二氣六氟丙烷 (CFC216) | Dichlorohexafluoropropane (CFC-216) | 661-97-2 |
| C3F7Cl | 一氣七氟丙烷 (CFC217) | Monochloroheptafluoropropane (CFC-217) | 422-86-6 |

蒙特羅議定書 附件 B 第 II 類 / Montreal Protocol Annex B Group II

| 化學式 | 中文名稱 | Substances | CAS 號碼 |
|------|-------------|---|---------|
| CCl4 | 四氯化碳 (四氣甲烷) | Carbon Tetrachloride (Tetrachloromethane) | 56-23-5 |

蒙特羅議定書 附件 B 第 III 類 / Montreal Protocol Annex B Group III

| 化學式 | 中文名稱 | Substances | CAS 號碼 |
|---------|--|---|---------|
| C2H3Cl3 | 1,1,1,-三氣乙烷 (三氣乙烷) 及其異構體，但 1,1,2-三氣乙烷除外 | 1,1,1-Trichloroethane (methyl chloroform) Except 1,1,2-trichloroethane | 71-55-6 |

蒙特羅議定書 附件 C 第 I 類 / Montreal Protocol Annex C Group I

| 化學式 | 中文名稱 | Substances | CAS 號碼 |
|----------|---|---|--|
| CHFC12 | 二氣氟甲烷 (HCFC21) | Dichlorofluoromethane (HCFC-21) | 75-43-4 |
| CHF2Cl | 氯二氣甲烷 (HCFC22) | Chlorodifluoromethane (HCFC-22) | 75-45-6 |
| CH2FC1 | 氯氟甲烷 (HCFC31) | Chlorofluoromethane (HCFC-31) | 593-70-4 |
| C2HFC14 | 四氣氟乙烷 (HCFC121) 1,1,2,2-四氣-1-氟乙烷 (HCFC-121) 1,1,1,2-四氣-2-氟乙烷 (HCFC121a) | Tetrachlorofluoroethane (HCFC-121) 1,1,2,2-Tetrachloro-1-fluoroethane (HCFC-121) 1,1,1,2-Tetrachloro-2-fluoroethane (HCFC-121a) | 134237-32-4 354-14-3 354-11-0 |
| C2HF2Cl3 | 三氣二氟乙烷 (HCFC122) 1,2,2-三氣-1,1-二氟乙烷 (HCFC-122) 1,1,2-三氣-1,2-二氟乙烷 (HCFC-122a) 1,1,1-三氣-2,2-二氟乙烷 (HCFC-122b) | Trichlorodifluoroethane (HCFC-122) 1,2,2-Trichloro-1,1-difluoroethane (HCFC-122) 1,1,2-Trichloro-1,2-difluoroethane (HCFC-122a) 1,1,1-Trichloro-2,2-difluoroethane (HCFC-122b) | 41834-16-6 354-21-2 354-15-4 354-12-1 |
| C2HF3Cl2 | 二氣三氟乙烷 (HCFC123) 1,1-二氣-2,2,2-三氣乙烷 (HCFC-123) 1,2-二氣-1,1,2-三氣乙烷 (HCFC-123a) 二氣-1,1,2-三氣乙烷 1,1-二氣-1,2,2-三氣乙烷 (HCFC-123b) | Dichlorotrifluoroethane (HCFC-123) 2,2-Dichloro-1,1,1-trifluoroethane (HCFC-123) 1,2-Dichloro-1,1,2-trifluoroethane (HCFC-123a) Dichloro-1,1,2-trifluoroethane 1,1-dichloro-1,2,2-trifluoroethane (HCFC-123b) | 34077-87-7 306-83-2 354-23-4 90454-18-5 812-04-4 |
| C2HF4Cl1 | 氯四氣乙烷 (HCFC124) 2-氯-1,1,1,2-四氣乙烷 (HCFC-124) 1-氯-1,1,2,2-四氣乙烷 (HCFC-124a) | Chlorotetrafluoroethane (HCFC-124) 2-Chloro-1,1,1,2-tetrafluoroethane (HCFC-124) 1-Chloro-1,1,2,2-tetrafluoroethane (HCFC-124a) | 63938-10-3 2837-89-0 354-25-6 |

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|-----------|--|---|--|
| C2H2FCI3 | 三氯氟乙烷 (HCFC131) 1,1,2-三氯-2-氟乙烷 (HCFC-131) 1,1,2-三氯-1-氟乙烷 (HCFC-131a) 1,1,1-三氯-2-氟乙烷 (HCFC131b) | Trichlorofluoroethane (HCFC131) 1,1,2-Trichloro-2-fluoroethane (HCFC-131) 1,1,2-Trichloro-1-fluoroethane (HCFC-131a) 1,1,1-Trichloro-2-fluoroethane (HCFC-131b) | 27154-33-2 (134237-34-6) 359-28-4 811-95-0 2366-36-1 |
| C2H2F2Cl2 | 二氯二氟乙烷 (HCFC132) 1,2-二氯-1,2-二氟乙烷 (HCFC-132) 1,1-二氯-2,2-二氟乙烷 (HCFC-132a) 1,2-二氯-1,1-二氟乙烷 (HCFC 132b) 1,1-二氯-1,2-二氟乙烷 (HCFC 132c) | Dichlorodifluoroethane (HCFC-132) 1,2-Dichloro-1,2-difluoroethane (HCFC-132) 1,1-Dichloro-2,2-difluoroethane (CFC-132a) 1,2-Dichloro-1,1-difluoroethane (HCFC 132b) 1,1-Dichloro-1,2-difluoroethane (HCFC 132c) | 25915-78-0 431-06-1 471-43-2 1649-08-7 1842-05-3 |
| C2H2F3Cl1 | 氯三氟乙烷 (HCFC133) 1-氯-1,2,2-三氟乙烷 (HCFC-133) 2-氯--1,1,1-三氟乙烷 (HCFC-133a) 1-氯--1,1,2-三氟乙烷 (HCFC-133b) | Chlorotrifluoroethane (HCFC-133) 1-Chloro-1,2,2-trifluoroethane (HCFC-133) 2-Chloro-1,1,1-trifluoroethane (HCFC-133a) 1-Chloro-1,1,2-trifluoroethane (HCFC-133b) | 1330-45-6 431-07-2 1330-45-6 75-88-7 421-04-5 |
| C2H3FCI2 | 二氯氟乙烷 (HCFC141) 1,2-二氯-1-氟乙烷 (HCFC-141) 1,1-二氯-2-氟乙烷 (HCFC-141a) 1,1-二氯-1-氟乙烷 (HCFC-141b) | Dichlorofluoroethane (HCFC-141) 1,2-Dichloro-1-fluoroethane (HCFC-141) 1,1-Dichloro-2-fluoroethane (HCFC-141a) 1,1-Dichloro-1-fluoroethane (HCFC-141b) | 1717-00-6 (25167-88-8) 430-57-9 430-53-5 1717-00-6 |
| C2H3F2Cl1 | 氯二氟乙烷 (HCFC142) 2-氯-1,1-二氟乙烷 (HCFC-142) 1,-氯-1,2-二氟乙烷 (HCFC142a) 1-氯-1,1-二氟乙烷 (HCFC-142b) | Chlorodifluoroethane 2-Chloro-1,1-difluoroethane 1-Chloro-1,2-difluoroethane 2-Chloro-1,1-difluoroethane | 25497-29-4 338-65-8 338-64-7 75-68-3 |
| C2H4FCI1 | 氯氟乙烷 (HCFC-151) 1-氯-2-氟乙烷 (HCFC-151) 1-氯-1-氟乙烷 (HCFC-151a) | Chlorofluoroethane (HCFC-151) 1-Chloro-2-fluoroethane (HCFC-151) 1-Chloro-1-fluoroethane (HCFC-151a) | 110587-14-9 762-50-5 1615-75-4 |
| C3HFC16 | 六氟氟丙烷 (HCFC221) 1,1,1,2,2,3-六氟-3-氟丙烷 (HCFC-221ab) | Hexachlorofluoropropane 1,1,1,2,2,3-Hexachloro-3-fluoropropane | 134237-35-7 422-26-4 |
| C3HF2Cl5 | 五氟二氟丙烷 (HCFC222) 1,1,1,3,3-五氟-2,2-二氟丙烷 (HCFC-222ca) 1,2,2,3,3-五氟-1,1-二氟丙烷 (HCFC-222aa) | Pentachlorodifluoropropane (HCFC-222) 1,1,1,3,3-Pentachloro-2,2-difluoropropane (HCFC-222ca) 1,2,2,3,3-Pentachloro-1,1-difluoropropane (HCFC-222aa) | 134237-36-8 422-49-1 422-30-0 |
| C3HF3Cl4 | 四氟三氟丙烷 (HCFC223) 1,1,3,3-四氟-1,2,2-三氟丙烷 (HCFC-223ca) 1,1,1,3-四氟-2,2,3-三氟丙烷 (HCFC-223cb) | Tetrachlorotrifluoropropane 1,1,3,3-Tetrachloro-1,2,2-trifluoropropane 1,1,1,3-Tetrachloro-2,2,3-trifluoropropane | 134237-37-9 422-52-6 422-50-4 |
| C3HF4Cl3 | 三氟四氟丙烷 (HCFC224) 1,3,3-三氟-1,1,2,2-四氟丙烷 (HCFC-224ca) 1,1,3-三氟-1,2,2,3-四氟丙烷 (HCFC-224cb) 1,1,1-三氟-2,2,3,3-四氟丙烷 (HCFC-224cc) | Trichlorotetrafluoropropane (HCFC-224) 1,3,3-Trichloro-1,1,2,2-tetrafluoropropane (HCFC-224ca) 1,1,3-Trichloro-1,2,2,3-tetrafluoropropane (HCFC-224cb) 1,1,1-Trichloro-2,2,3,3-tetrafluoropropane (HCFC-224cc) | 134237-38-0 422-54-8 422-53-7 422-51-5 |
| C3HF5Cl2 | 二氯五氟丙烷 (HCFC225) 2,2-二氯-1,1,1,3,3-五氟丙烷 (HCFC-225aa) 2,3-二氯-1,1,1,2,3-五氟丙烷 (HCFC-225ba) 1,2-二氯-1,1,2,3,3-五氟丙烷 (HCFC-225bb) 3,3-二氯-1,1,1,2,2-五氟丙烷 (HCFC-225ca) 1,3-二氯-1,1,2,2,3-五氟丙烷 (HCFC-225cb) 1,1-二氯-1,2,2,3,3-五氟丙烷 (HCFC-225cc) 1,2-二氯-1,1,3,3,3-五氟丙烷 (HCFC-225da) 1,3-二氯-1,1,2,3,3-五氟丙烷 (HCFC-225ea) 1,1-二氯-1,2,3,3,3-五氟丙烷 (HCFC-225eb) | Dichloropentafluoropropane (HCFC-225) 2,2-Dichloro-1,1,1,3,3-pentafluoropropane (HCFC-225aa) 2,3-Dichloro-1,1,1,2,3-pentafluoropropane (HCFC-225ba) 1,2-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225bb) 3,3-Dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca) 1,3-Dichloro-1,1,1,2,2,3-pentafluoropropane (HCFC-225cb) 1,1-Dichloro-1,2,2,3,3-pentafluoropropane (HCFC-225cc) 1,2-Dichloro-1,1,3,3,3-pentafluoropropane (HCFC-225da) 1,3-Dichloro-1,1,2,3,3-pentafluoropropane (HCFC-225ea) 1,1-Dichloro-1,2,3,3,3-pentafluoropropane (HCFC-225eb) | 127564-92-5 128903-21-9 422-48-0 422-44-6 422-56-0 507-55-1 13474-88-9 431-86-7 136013-79-1 111512-56-2 |
| C3HF6Cl1 | 氯六氟丙烷 (HCFC226) 2-氯六-1,1,1,3,3,3-氟丙烷 (HCFC-226da) | Chlorohexafluoropropane (HCFC226) 2-Chloro-1,1,1,3,3,3-hexafluoropropane (HCFC226da) | 134308-72-8 431-87-8 |
| C3H2FCI5 | 五氟氟丙烷 (HCFC231) 1,1,1,2,3-五氟-2-氟丙烷 (HCFC-231bb) | Pentachlorofluoropropane (HCFC-231) 1,1,1,2,3-Pentachloro-2-fluoropropane (HCFC-231bb) | 134190-48-0 421-94-3 |
| C3H2F2Cl4 | 四氟二氟丙烷 (HCFC232) 1,1,1,3-四氟-3,3-二氟丙烷 (HCFC-232fc) | Tetrachlorodifluoropropane (HCFC-232) 1,1,1,3-Tetrachloro-3,3-difluoropropane (HCFC-232fc) | 134237-39-1 460-89-9 |
| C3H2F3Cl3 | 三氟三氟丙烷 (HCFC233) 1,1,1-三氟-3,3,3-三氟丙烷 (HCFC-233fb) | Trichlorotrifluoropropane (HCFC-233) 1,1,1-Trichloro-3,3,3-trifluoropropane (HCFC-233fb) | 134237-40-4 7125-83-9 |

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| C3H2F4Cl2 | 二氯四氟丙烷 (HCFC234) 1,2-二氯-1,2,3,3-四氟丙烷 (HCFC-234db) | Dichlorotetrafluoropropane (HCFC-234) 1,2-Dichloro-1,2,3,3-tetrafluoropropane (HCFC-234db) | 127564-83-4 425-94-5 |
| C3H2F5Cl1 | 氯五氟丙烷 (HCFC235) 1-氯五-1,1,3,3,3-氟丙烷 (HCFC-235fa) | Chloropentafluoropropane (HCFC-235) 1-Chloro-1,1,3,3,3-pentafluoropropane (HCFC-235fa) | 134237-41-5 460-92-4 |
| C3H3FC14 | 四氯氟丙烷 (HCFC241) 1,1,2,3-四氯-1-氟丙烷 (HCFC-241db) | Tetrachlorofluoropropane (HCFC-241) 1,1,2,3-Tetrachloro-1-fluoropropane (HCFC-241) | 134190-49-1 666-27-3 |
| C3H3F2Cl3 | 三氯二氟丙烷 (HCFC242) 1,3,3-三氯-1,1-二氟丙烷 (HCFC-242fa) | Trichlorodifluoropropane (HCFC-242) 1,3,3-Trichloro-1,1-difluoropropane (HCFC-242) | 134237-42-6 460-63-9 |
| C3H3F3Cl2 | 二氯三氟丙烷 (HCFC243) 1,1-二氯-1,2,2-三氟丙烷 (HCFC-243cc) 2,3-二氯-1,1,1-三氟丙烷 (HCFC-243db) 3,3-二氯-1,1,1-三氟丙烷 (HCFC-243fa) | Dichlorotrifluoropropane (HCFC-243) 1,1-dichloro-1,2,2-trifluoropropane (HCFC-243cc) 2,3-dichloro-1,1,1-trifluoropropane (HCFC-243db) 3,3-Dichloro-1,1,1-trifluoropropane (HCFC-243fa) | 134237-43-7 7125-99-7 338-75-0 460-69-5 |
| C3H3F4Cl1 | 氯四氟丙烷 (HCFC244) 3-氯-4-1,1,2,2-氟丙烷 (HCFC-244ca) 1-氯-4-1,1,2,2-氟丙烷 (HCFC-244cc) | Chlorotetrafluoropropane (HCFC-244) 3-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244ca) 1-Chloro-1,1,2,2-tetrafluoropropane (HCFC-244cc) | 134190-50-4 679-85-6 421-75-0 |
| C3H4FC13 | 三氯氟丙烷 (HCFC251) 1,1,3-三氯-1-氟丙烷 (HCFC-251fb) 1,1,2-三氯-1-氟丙烷 (HCFC-251dc) | Trichlorofluoropropane (HCFC-251) 1,1,3-Trichloro-1-fluoropropane (HCFC-251 fb) 1,1,2-Trichloro-1-fluoropropane (HCFC-251 dc) | 134190-51-5 818-99-5 421-41-0 |
| C3H4F2Cl2 | 二氯二氟丙烷 (HCFC252) 1,3-二氯-1,1-二氟丙烷 (HCFC-252fb) | Dichlorodifluoropropane (HCFC-252) 1,3-Dichloro-1,1-difluoropropane (HCFC-252 fb) | 134190-52-6 819-00-1 |
| C3H4F3Cl1 | 氯三氟丙烷 (HCFC253) 3-氯-1,1,1-三氟丙烷 (HCFC253fb) | Chlorotrifluoropropane (HCFC-253) 3-Chloro-1,1,1-trifluoropropane (HCFC-253 fb) | 134237-44-8 460-35-5 |
| C3H5FC12 | 氯三氟丙烷 (HCFC261) 1,1-氯-3-1-氟丙烷 (HCFC-261fc) 1,2-氯-3-2-氟丙烷 (HCFC-261ba) | Dichlorofluoropropane (HCFC-261) 1,1-Dichloro-1-fluoropropane (HCFC-261 fc) 1,2-Dichloro-2-fluoropropane (HCFC-261 ba) | 134237-45-9 7799-56-6 420-97-3 |
| C3H5F2Cl1 | 二氯氟丙烷 (HCFC-262) 1-二氯-2,2-氟丙烷 (HCFC-262ca) 2-二氯-1,3-氟丙烷 (HCFC-262da) 1-二氯-1,1-氟丙烷 (HCFC-262fc) | Chlorodifluoropropane (HCFC-262) 1-Chloro-2,2-difluoropropane (HCFC-262 ca) 2-Chloro-1,3-difluoropropane (HCFC-262 da) 1-Chloro-1,1-difluoropropane (HCFC-262 fc) | 134190-53-7 420-99-5 102738-79-4 421-02-3 |
| C3H6FC1 | 氯二氟丙烷 (HCFC-271) 2-氯-2-氟丙烷 (HCFC-271ba) 1-氯-1-氟丙烷 (HCFC-271fb) | Chlorofluoropropane (HCFC- 271) 2-Chloro-2-fluoropropane (HCFC- 271 ba) 1-Chloro-1-fluoropropane (HCFC- 271 fb) | 134190-54-8 420-44-0 430-55-7 |

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| 化學式 | 中文名稱 | Substances | CAS 號碼 |
|-----------|-----------------------|--|-----------|
| CHFBr2 | 二溴氟甲烷 (HBFC-21 B2) | Dibromofluoromethane (HBFC-21 B2) | 1868-53-7 |
| CHF2Br | 溴二氟甲烷及异构体 (HBFC-22B1) | Bromodifluoromethane (HBFC-22B1) | 1511-62-2 |
| CH2FBr | 溴氟甲烷 (HBFC-31B1) | Bromodifluoromethane (HBFC-31B1) | 373-52-4 |
| C2HFBr4 | 四溴氟乙烷 (HBFC-121 B4) | Tetrabromofluoroethane (HBFC-121 B4) | 306-80-9 |
| C2HF2Br3 | 三溴二氟乙烷 (HBFC-122 B3) | Tribromodifluoroethane (HBFC-122 B3) | - |
| C2HF3Br2 | 二溴三氟乙烷 (HBFC-123 B2) | Dibromotrifluoroethane (HBFC-123 B2) | 354-04-1 |
| C2HF4Br | 溴四氟乙烷 (HBFC-124B1) | Bromotetrafluoroethane (HBFC-124B1) | 124-72-1 |
| C2H2FBr3 | 三溴氟乙烷 (HBFC-131 B3) | Tribromofluoroethane (HBFC-131 B3) | - |
| C2H2F2Br2 | 二溴二氟乙烷 (HBFC-132 B2) | Dibromodifluoroethane (HBFC-132 B2) | 75-82-1 |
| C2H2F3Br | 溴三氟乙烷 (HBFC-133) | Bromotrifluoroethane (HBFC-133B1) | 421-06-7 |
| C2H3FBr2 | 二溴氟乙烷 (HBFC-141 B2) | Dibromofluoroethane (HBFC-141 B2) | 358-97-4 |
| C2H3F2Br | 溴二氟乙烷 (HBFC-142B1) | Bromodifluoroethane (HBFC-142B1) | 420-47-3 |
| C2H4FBr | 溴氟乙烷 (HBFC-151B1) | Bromofluoroethane (HBFC-151B1) | 762-49-2 |
| C3HFBr6 | 六溴氟丙烷 (HBFC-221B6) | Hexabromofluoropropane (HBFC-221 B6) | - |
| C3HF2Br5 | 五溴二氟丙烷 (HBFC-222 B5) | Pentabromodifluoropropane (HBFC-222 B5) | - |
| C3HF3Br4 | 四溴三氟丙烷 (HBFC-223 B4) | Tetrabromotrifluoropropane (HBFC-223 B4) | - |

| | | | |
|-----------|----------------------|--|------------|
| C3HF4Br3 | 三溴四氟丙烷 (HBFC-224 B3) | Tribromotetrafluoropropane (HBFC-224 B3) | - |
| C3HF5Br2 | 二溴五氟丙烷 (HBFC-225 B2) | Dibromopentafluoropropane (HBFC-225 B2) | 431-78-7 |
| C3HF6Br | 溴六氟丙烷 (HBFC-226) | Bromohexafluoropropane (HBFC-226B1) | 2252-78-0 |
| C3H2FBr5 | 五溴氟丙烷 (HBFC-231 B5) | Pentabromofluoropropane (HBFC-231 B5) | - |
| C3H2F2Br4 | 四溴二氟丙烷 (HBFC-232 B4) | Tetrabromodifluoropropane (HBFC-232 B4) | - |
| C3H2F3Br3 | 三溴三氟丙烷 (HBFC-233 B3) | Tribromotrifluoropropane (HBFC-233 B3) | - |
| C3H2F4Br2 | 二溴四氟丙烷 (HBFC-234 B2) | Dibromotetrafluoropropane (HBFC-234 B2) | - |
| C3H2F5Br | 溴五氟丙烷 (HBFC-235B1) | Bromopentafluoropropane (HBFC-235B1) | 460-88-8 |
| C3H3FBr4 | 四溴氟丙烷 (HBFC-241 B4) | Tetrabromofluoropropane (HBFC-241 B4) | - |
| C3H3F2Br3 | 三溴二氟丙烷 (HBFC-242 B3) | Tribromodifluoropropane (HBFC-242 B3) | 70192-80-2 |
| C3H3F3Br2 | 二溴三氟丙烷 (HBFC-243 B2) | Dibromotrifluoropropane (HBFC-243 B2) | 431-21-0 |
| C3H3F4Br | 溴四氟丙烷 (HBFC-244) | Bromotetrafluoropropane (HBFC-244B1) | 679-84-5 |
| C3H4FBr3 | 三溴氟丙烷 (HBFC-251 B3) | Tribromofluoropropane (HBFC-251 B3) | 75372-14-4 |
| C3H4F2Br2 | 二溴二氟丙烷 (HBFC-252 B2) | Dibromodifluoropropane (HBFC-252 B2) | 460-25-3 |
| C3H4F3Br | 溴三氟丙烷 (HBFC-253B1) | Bromotrifluoropropane (HBFC-253B1) | 421-46-5 |
| C3H5FBr2 | 二溴氟丙烷 (HBFC-261 B2) | Dibromofluoropropane (HBFC-261 B2) | 51584-26-0 |
| C3H5F2Br | 溴二氟丙烷 (HBFC-262) | Bromodifluoropropane (HBFC-262B1) | - |
| C3H6FBr | 溴氟丙烷 (HBFC-271B1) | Bromofluoropropane (HBFC-271B1) | 1871-72-3 |

蒙特羅議定書 附件 C 第 III 類 / Montreal Protocol Annex C Group III

| 化學式 | 中文名稱 | Substances | CAS 號碼 |
|---------|-------------------|---------------------------------|---------|
| CH2BrCl | 溴氯甲烷 (halon-1011) | Bromochloromethane (halon-1011) | 74-97-5 |

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| | | | |
|-------|-----|---------------|---------|
| CH3Br | 溴甲烷 | Methylbromide | 74-83-9 |
|-------|-----|---------------|---------|

● 003 石棉類 / Asbestos

| 中文名稱 | Substances | CAS 號碼 |
|------|---------------|------------|
| 石棉 | Asbestos | 1332-21-4 |
| 陽起石 | Actinolite | 77536-66-4 |
| 鐵石棉 | Amosite | 12172-73-5 |
| 直閃石 | Anthophyllite | 77536-67-5 |
| 溫石棉 | Chrysotile | 12001-29-5 |
| 藍石棉 | Crocidolite | 12001-28-4 |
| 透閃石 | Tremolite | 77536-68-6 |

● 005 多氯聯苯類 / Polychlorinated Biphenyls (PCBs)

| 中文名稱 | Substances | CAS 號碼 |
|-----------------------------------|--|------------|
| 多氯聯苯類 | Polychlorinated Biphenyls | 1336-36-3 |
| 多氯聯苯 (Aroclor) | Aroclor | 12767-79-2 |
| 氯二苯基 (多氯聯苯 1260) | Chlorodiphenyl (Aroclor 1260) | 11096-82-5 |
| Kanechlor 500 | Kanechlor 500 | 27323-18-8 |
| 多氯聯苯 1254 | Aroclor 1254 | 11097-69-1 |
| 甲基四氯二苯基甲烷 (Ugilec 141) | Monomethyl-tetrachloro-diphenyl methane (Ugilec 141) | 76253-60-6 |
| 甲基二氯二苯基甲烷 (Ugilec 121, Ugilec 21) | Monomethyl-dichloro-diphenyl methane (Ugilec 121, Ugilec 21) | 81161-70-8 |
| 甲基二溴二苯基甲烷 (DBBT) | Monomethyl-dibromo-diphenyl methane (DBBT) | 99688-47-8 |

● 007 PCN ; 聚氯奈/ Polychlorinated Naphthalenes

| 中文名稱 | Substances | CAS 號碼 |
|---------|------------------------------------|-----------------------|
| 聚氯化萘 | Polychlorinated Naphthalene | 70776-03-3 |
| ,2-二氯萘 | | |
| 1,3-二氯萘 | | 2050-69-3. 2198-75-6. |
| 1,4-二氯萘 | | 1825-31-6. 1825-30-5 |
| 1,5-二氯萘 | 1,2-Dichloronaphthalene | 2050-72-8 |
| 1,6-二氯萘 | 1,3-Dichloronaphthalene | 2050-73-9 |
| 1,7-二氯萘 | 1,5-Dichloronaphthalene | 2050-74-0 |
| 1,8-二氯萘 | 1,6-Dichloronaphthalene | 2050-75-1 |
| 2,3-二氯萘 | 1,7-Dichloronaphthalene | 2065-70-5 |
| 2,6-二氯萘 | 1,8-Dichloronaphthalene | 2198-77-8 |
| 2,7-二氯萘 | 2,3-Dichloronaphthalene | 28699-88-9 |
| 二氯萘 | 2,6-Dichloronaphthalene | |
| 其他多氯化萘 | Dichloronaphthalene | |
| | Other polychlorinated Naphthalenes | - |

● 008 放射性物質 / Radioactive Substances

| 中文名稱 | Substances | CAS 號碼 |
|---------|------------------------------|------------|
| 鈾 | Uranium | 7440-61-1 |
| 鉸 | Plutonium | 7440-07-5 |
| 氡 | Radon | 10043-92-2 |
| 鑄 | Americium | 7440-35-9 |
| 釔 | Thorium | 7440-29-1 |
| 銫 | Cesium | 7440-46-2 |
| 鈦 | Strontium | 7440-24-6 |
| 其他放射性物質 | Other radioactive substances | - |

● 010 TBT ; 三丁基錫類/ TPT ; 三苯基錫類 Tri-substituted organostannic compounds such as Tributyltin (TBT) compounds and Triphenyltin (TPT) compounds

| TBT ; 三丁基錫化合物 / Tributyltin (TBT) compounds | | |
|---|--|------------|
| 中文名稱 | Substances | CAS 號碼 |
| 三丁基錫甲基丙烯酸鹽 | Tributyltin methacrylate | 2155-70-6 |
| 雙(三丁基錫)富馬酸鹽 | Bis(tributyltin) fumarate | 6454-35-9 |
| 三丁基錫氟化物 | Tributyltin fluoride | 1983-10-4 |
| 雙(三丁基錫)2,3-二溴丁二酸鹽 | Bis(tributyltin)2,3-Dibromosuccinate | 31732-71-5 |
| 三丁基錫乙酸鹽 | Tributyltin acetate | 56-36-0 |
| 雙(三丁基錫)苯二甲酸鹽 | Bis(tributyltin) phthalate | 4782-29-0 |
| 烷基=丙烯酸酯樹脂 , 甲基=異丁烯酸鹽 , 及三丁基錫=異丁烯酸鹽的共聚物 (烷基; C=8) | Copolymer of alkyl acrylate,methyl Methacrylate and tributyltin methacrylate (alkyl; C=8) | - |
| 三丁基錫=磺酸鹽 | Tributyltin sulfamate | 6517-25-5 |
| 三丁基氯化錫 | Tributyltin chloride | 1461-22-9 |
| 三丁基錫 =環戊烷羧酸鹽和類似化合物 (三丁基錫萘酸鹽) 的混合物 | Mixture of tributyl tin cyclopentanecarboxylate and its analogs (tributyl tin naphthenate) | - |

| | | |
|--|---|---|
| 三丁基錫=1,2,3,4,4a,4b,5,6,10, 10a-十 氳-7-異丙基 -1,4a-二甲基 -1-菲羧酸 鹽及其類似化合物 (三丁基錫酪氨酸 鹽) 的混合物 | Mixture of tributyl tin 1,2,3,4,4a,4b,5,6,10,10a-decahydro-7-isoproyl-1,4a-dimethyl-1-phenanthrenecarboxylate and its analogs (tributyltinrosin salt) | - |
| 其他三丁基錫類 | Other Tributyl Tins) | - |

TPT ; 三苯基錫化合物 / Triphenyltin (TPT) compounds

| 中文名稱 | Substances | CAS 號碼 |
|---------------------------------------|---|------------|
| 三苯基錫 N,N'-二甲基二硫代氨基甲酸鹽(二甲基二硫代氨基甲酸三苯基錫) | Triphenyl tin N,N'- Dimethyldithiocarbamate | 1803-12-9 |
| 三苯基錫氟化物 (氟化三苯基錫) | Triphenyl tin fluoride (fentin fluoride) | 379-52-2 |
| 三苯基錫乙酸鹽 | Triphenyl tin acetate | 900-95-8 |
| 氯化三苯基錫 | Triphenyl tin chloride | 639-58-7 |
| 羥基三苯基錫 | Triphenyl tin hydroxide | 76-87-9 |
| 三苯基錫脂肪酸鹽 (C=9~11) | Triphenyl tin fatty acid salts (C=9-11) | 18380-71-7 |
| 三苯基錫氯代乙酸鹽 | Triphenyl tin chloroacetate | 7094-94-2 |
| 其他三苯基錫 | Other Triphenyl Tins | - |

三置換有基錫化合物 / Tri-substituted organostannic compounds

| 中文名稱 | Substances | CAS 號碼 |
|--------------|---|--------|
| 其他的三置換有機錫化合物 | Other Tri-substituted organostannic compounds | - |

● 012 PFOS ; 全氟辛烷磺酸及鹽類 / PFOS (Perfluorooctane sulfonates)

| 中文名稱 | Substances | CAS 號碼 |
|-------------------|---|------------|
| PFOS 全氟辛基磺酸胺 | Heptadecafluoroctanesulphonamide | 754-91-6 |
| 全氟辛烷磺酸 | Heptadecafloroctane-1-sulphonic acid | 1763-23-1 |
| 全氟辛烷磺酸鉀鹽 | Potassiumheptadecafluoroctane-1-sulphonate | 2795-39-3 |
| 全氟辛烷磺酸鋰鹽 | Lithiumheptadecafluoroctanesulphonate | 29457-72-5 |
| 五氟乙基十氟環己磺酸鉀鹽 | Potassium decafluoro(pentafluoroethyl)cyclohexanesulphonate | 67584-42-3 |
| 二 (三氟甲基) 九氟環己烷磺酸鉀 | Potassium nonafluorobis(trifluoromethyl)cyclohexanesulphonate | 68156-01-4 |

● 014 DBT ; 二丁基錫化合物 / Dibutyltin (DBT) compounds

| 中文名稱 | Substances | CAS 號碼 |
|----------------|----------------------------------|------------|
| 二丁基氧化錫 | Dibutyltin oxide | 818-08-6 |
| 二醋酸二丁基錫 | Dibutyltin diacetate | 1067-33-0 |
| 二月桂酸二丁基錫 | Dibutyltin dilaurate | 77-58-7 |
| 馬來酸二丁基錫 | Dibutyltin maleate | 16091-18-2 |
| 二丁基二氯化錫 (DBTC) | Dibutyltin dichloride (DBTC) | 683-18-1 |
| 二丁基氫氧化硼 (DBB) | Dibutyltin hydrogen borate (DBB) | 75113-37-0 |
| 其他二丁基錫化合物 | Other Dibutyl Tins | - |

● 015 DOT ; 二辛基錫化合物 / Dioctyltin (DOT) compounds

| 中文名稱 | Substances | CAS 號碼 |
|-------------------------------|--|------------|
| 氧化二辛基錫 | Dioctyltin oxide | 870-08-6 |
| 二月桂酸二辛基錫 (DOTL) | Dioctyltin dilaurates (DOTL) | 3648-18-8 |
| 馬來酸二辛基錫 | Dioctyltin maleate | 16091-18-2 |
| 二辛基二氯化錫 | Dioctyltin dichloride | 3542-36-7 |
| 2,2-[(二辛基亞錫) 雙 (硫代)]雙乙酸二異辛酯 | Di(n-octyl)tinbis(isooctylthioglycolate) | 26401-97-8 |
| 其他二辛基錫化合物 | Other Dioctyl tins | - |

● 020 鄰苯二甲酸酯類 / Phthalates

| 中文名稱 | Substances | CAS 號碼 |
|------------------------|---------------------------------------|------------|
| 鄰苯二甲酸二異癸酯 (DIDP) | Diisodecyl phthalate (DIDP) | 26761-40-0 |
| 鄰苯二甲酸二異壬酯 (DINP) | Diisononyl phthalate (DINP) | 28553-12-0 |
| 鄰苯二甲酸二(2-甲氧基)乙酯 (DMEP) | Bis (2-methoxyethyl) phthalate (DMEP) | 117-82-8 |
| 鄰苯二甲酸二辛酯 (DnOP) | Di-n-octyl phthalate (DnOP) | 117-84-0 |

● 022 氣族溫室氣體(HFC, PFC, SF6) / Fluorinated greenhouse gases (HFC, PFC, SF6)

| PFC 類 / PFCs | | |
|--------------|---|-----------|
| 中文名稱 | Substances | CAS 號碼 |
| 四氟化碳 (四氟甲烷) | Carbon tetrafluoride (Perfluoromethane) | 75-73-0 |
| 全氟乙烷 (六氟乙烷) | Perfluoroethane (Hexafluoroethane) | 76-16-4 |
| 八氟丙烷 | Perfluoropropane (Octafluoropropane) | 76-19-7 |
| 十氟丁烷 | Perfluorobutane (Decafluorobutane) | 355-25-9 |
| 十二氟戊烷 | Perfluoropentane (Dodecafluoropentane) | 678-26-2 |
| 十四氟己烷 | Perfluorohexane (Tetradecafluorohexane) | 355-42-0 |
| 八氟環丁烷 | Perfluorocyclobutane | 115-25-3 |
| 六氟化硫 (SF6) | Sulfur Hexafluoride (SF6) | 2551-62-4 |

| HFC 類 / HFCs | | |
|--------------------------|--|-------------|
| 中文名稱 | Substances | CAS 號碼 |
| 三氟甲烷(HFC-23) | Trifluoromethane (HFC-23) | 75-46-7 |
| 二氟甲烷(HFC-32) | Difluoromethane (HFC-32) | 75-10-5 |
| 氟甲烷(HFC-41) | Methyl fluoride (HFC-41) | 593-53-3 |
| 2H,3H-全氟戊烷(HFC-43-10mee) | 2H,3H-Decafluoropentane (HFC-43-10mee) | 138495-42-8 |
| 五氟乙烷(HFC-125) | Pentafluoroethane (HFC-125) | 354-33-6 |

| HFC 類 / HFCs | | |
|------------------------|--------------------------------------|------------|
| 中文名稱 | Substances | CAS 號碼 |
| 1,1,1,2-四氟乙烷(HFC-134) | 1,1,2,2-Tetrafluoroethane (HFC-134) | 359-35-3 |
| 1,1,1,2-四氟乙烷(HFC-134a) | 1,1,1,2-Tetrafluoroethane (HFC-134a) | 811-97-2 |
| 二氟乙烷 | Difluoroethane | 25497-28-3 |

| 中文名稱 | Substances | CAS 號碼 |
|-----------------------------|---|------------|
| 1,1-二氟乙烷(HFC-152a) | 1,1-Difluoroethane (HFC-152a) | 75-37-6 |
| 1,2-二氟乙烷 | 1,2-Difluoroethane | 624-72-6 |
| 三氟乙烷 | Trifluoroethane | 27987-06-0 |
| 1,1,2-三氟乙烷 (HFC-143) | 1,1,2-Trifluoroethane (HFC-143) | 430-66-0 |
| 1,1,1-三氟乙烷(HFC-143a) | 1,1,1-Trifluoroethane (HFC-143a) | 420-46-2 |
| 七氟丙烷 (HFC-227ea) | 2H-Heptafluoropropane (HFC-227ea) | 431-89-0 |
| 1,1,1,2,2,3,3-七氟丙烷 | 1,1,1,2,2,3,3-Heptafluoropropane | 2252-84-8 |
| 1,1,2,2,3-六氟丙烷(HFC-236cb) | 1,1,1,2,2,3-Hexafluoro-propane(HFC-236cb) | 677-56-5 |
| 1,1,1,2,3,3-六氟丙烷(HFC-236ea) | 1,1,1,2,3,3-Hexafluoropropane (HFC-236ea) | 431-63-0 |
| 六氟丙烷 | Hexafluoropropane | 27070-61-7 |
| 1,1,1,3,3,3-六氟丙烷(HFC-236fa) | 1,1,1,3,3,3-Hexafluoropropane (HFC-236fa) | 690-39-1 |
| 1,1,2,2,3-五氟丙烷 (HFC-245ca) | 1,1,2,2,3-Pentafluoropropane (HFC-245ca) | 679-86-7 |
| 1,1,1,3,3-五氟丙烷 (HFC-245fa) | 1,1,1,3,3-Pentafluoropropane (HFC-245fa) | 460-73-1 |
| 1,1,1,2,2-五氟丙烷 | 1,1,1,2,2-Pentafluoropropane | 1814-88-6 |
| 1,1,1,3,3-五氟丙烷 (HFC-365mfc) | 1,1,1,3,3-Pentafluorobutane (HFC-365mfc) | 406-58-6 |

● 024 聯苯胺基物質/ Benzidine-based substances

| 中文名稱 | Substances | CAS 號碼 |
|-----------------------------|---|-----------|
| 4, 4' -二氨基-2, 2' -二甲基联苯二盐酸盐 | [1,1'-Biphenyl]-4,4'-diamine, dihydrochloride | 531-85-1 |
| 直接紅 44 | 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 |
| 氯唑黑 BH | 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 |
| 直接澄 8 | 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 |
| 直接棕 31 | 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 |
| 直接棕 2 | 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 |
| 直接黑 4 | 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 |
| 直接紅 1 | 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 |
| 直接棕 2 | Benzoic acid, 5-[[4'-([2,6-diamino-3-methyl-5-[(4-sulfophenyl)azo]phenyl]azo][1,1'-biphenyl]-4- yl]azo]-2-hydroxy-, disodium salt (C.I. Direct Brown 1:2) | 2586-58-5 |
| 直接藍 6 | 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 |
| 直接棕 6 | Benzoic acid, 5-[[4'-([2,4-dihydroxy-3-[(4-sulfophenyl)azo]phenyl]azo][1,1'-biphenyl]-4-yl]azo]- 2-hydroxy-, disodium salt (C.I. Direct Brown 6) | 2893-80-3 |
| 直接紅 37 | 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 |
| 酸性紅 85 | 1,3-Naphthalenedisulfonic acid, 7-hydroxy-8-[[4'-([4-methylphenyl) sulfonyl]oxy]phenyl]azo][1,1'-biphenyl]-4-yl]azo]-, disodium salt (C.I. Acid Red 85) | 3567-65-5 |

| 中文名稱 | Substances | CAS 號碼 |
|---------|--|------------|
| 直接綠 1 | 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 |
| 直接棕 1 | 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 |
| 直接綠 6 | 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 |
| 酸性黑 94 | 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 |
| 直接棕 27 | 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 Brow 27) | 6360-29-8 |
| 直接棕 154 | 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 |
| 直接棕 74 | Benzoic acid, 3,3'-(3,7-disulfo-1,5-naphthalenediyil)bis [azo(6-hydroxy-3,1-phenylene)azo[6(or7)- sulfo-4,1-naphthalenediyil]azo[1,1'-biphenyl]-4,4'-diylazo]]bis[6-hydroxy-, hexasodium salt (C.I. Direct Brown 74) | 8014-91-3 |
| 直接棕 95 | 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 |

● 029持續性有機污染物 Persistent Organic Pollutants (POPs)

| 中文名稱 | Substances | CAS 號碼 |
|-----------------|---|------------------------------------|
| 阿特靈 | Aldrin | - |
| 可氯丹 | Chlordanes | - |
| 十氯酮 | Chlordecone | - |
| 滴滴涕 | DDT Chlorophenothane | - |
| 地特靈 | Dieldrin | - |
| 安殺芬 | Endosulfan | 115-29-7 959-98-8 33213-65-9 |
| 安特靈 | Endrin | - |
| 六氯丁二烯 | Hexachlorobutadiene | 87-68-3 |
| 三氯殺蟎醇 | Kelthane | - |
| 滅蟻靈 | Mirex | - |
| 五氯苯 | Pentachlorobenzene | - |
| 毒殺芬 | Toxaphene | - |
| α -六氯環己烷 | α -Hexachlorocyclohexane | - |
| β -六氯環己烷 | β -Hexachlorocyclohexane | - |
| γ -六氯環己烷 | γ -Hexachlorocyclohexane | - |
| 五氯酚, 或五氯酚鹽或五氯酚酯 | Pentachlorophenol,Pentachlorophenolsalts,Pentachlorophenoesters | - |

3) 環境管理物質清單 D / Environment-related Substances List D

● 錫及錫化合物 / Antimony and Antimony Compounds

| 中文名稱 | Substances | CAS 號碼 |
|--------|--------------------------|------------|
| 錫（金屬性） | Antimony (metallic) | 7440-36-0 |
| 三氧化錫 | Antimony trioxide | 1309-64-4 |
| 五氧化二錫 | Antimony pentoxide | 1314-60-9 |
| 三氯化錫 | Antimony trichloride | 10025-91-9 |
| 錫酸鈉 | Sodium antimonate | 15432-85-6 |
| 其他錫化合物 | Other antimony compounds | - |

● 砷及砷化合物 / Arsenic and Arsenic Compounds

| 中文名稱 | Substances | CAS 號碼 |
|--------|-------------------------|------------|
| 砷 | Arsenic | 7440-38-2 |
| 砷化镓 | Gallium arsenide | 1303-00-0 |
| 砷酸钙 | Calcium arsenate | 7778-44-1 |
| 亚砷酸钙 | Calcium arsenite | 27152-57-4 |
| 五氧化二砷 | Arsenic pentoxide | 1303-28-2 |
| 三氧化二砷 | Arsenic trioxide | 1327-53-3 |
| 亚砷酸钾 | Potassium arsenite | 10124-50-2 |
| 砷酸钾 | Potassium arsenate | 7784-41-0 |
| 砷酸铅 | Lead arsenate | 3687-31-8 |
| 其他砷化合物 | Other arsenic compounds | - |

● 鍶及鍶化合物 / Beryllium and Beryllium Compounds

| 中文名稱 | Substances | CAS 號碼 |
|---------|--------------------------------|------------|
| 鍶 | Beryllium | 7440-41-7 |
| 鍶鋁合金 | Beryllium-aluminum alloy | 12770-50-2 |
| 氯化鍶 | Beryllium chloride | 7787-47-5 |
| 氟化鍶 | Beryllium fluoride | 7787-49-7 |
| 氫氧化鍶 | Beryllium hydroxide | 13327-32-7 |
| 氧化鍶 | Beryllium oxide | 1304-56-9 |
| 磷酸鍶 | Beryllium phosphate | 13598-15-7 |
| 硫酸鍶 | Beryllium sulfate | 13510-49-1 |
| 硫酸鍶四水合物 | Beryllium sulfate tetrahydrate | 7787-56-6 |
| 鍶礦石 | Beryl ore | 1302-52-9 |
| 其他鍶化合物 | Other beryllium compounds | - |

● 鎳及鎳化合物 / Nickel and Nickel Compounds

| 中文名稱 | Substances | CAS 號碼 |
|---------|---------------------------------------|------------|
| 鎳 | Nickel | 7440-02-0 |
| 氧化鎳 | Nickel (II) oxide | 1313-99-1 |
| 氯化鎳 | Nickel (II) chloride | 7718-54-9 |
| 六水合氯化鎳 | Nickel (II) chloride, hexahydrate | 7791-20-0 |
| 硫酸鎳 | Nickel (II) sulfate | 7786-81-4 |
| 六水硫酸鎳 | Nickel (II) sulfate, hexahydrate | 10101-97-0 |
| 硫酸鎳七水合物 | Nickel (II) sulfate, heptahydrate | 10101-98-1 |
| 鈦鎳黃 | Antimony nickel titanium oxide yellow | 8007-18-9 |
| | Nickel niobium titanium yellow | 68611-43-8 |
| 鈷鈦鎳 | Obalt titanate green spinel | 68186-85-6 |

● 硒及硒化合物 / Selenium and Selenium Compounds

| 中文名稱 | Substances | CAS 號碼 |
|--------|--------------------------|------------|
| 硒 | Selenium | 7782-49-2 |
| 硒化氫 | Hydrogen selenide | 7783-07-5 |
| 硒化鈉 | Sodium selenide | 1313-85-5 |
| 氧化硒 | Selenium dioxide | 7446-08-4 |
| 硒酸鈉 | Sodium selenate | 10112-94-4 |
| 乙烷硒化物 | Dimethyl selenide | 593-79-3 |
| 二氧化硒 | Selenium oxide | 12640-89-0 |
| 其他硒化合物 | Other selenium compounds | - |

● 高氯酸鹽化合物 / Perchlorate Compounds

| 中文名稱 | Substances | CAS 號碼 |
|-----------|---------------------------------|------------|
| 過氯酸銨 | Ammonium perchlorate | 7790-98-9 |
| 高氯酸鉀 | Potassium perchlorate | 7778-74-7 |
| 高氯酸鈉 | Sodium perchlorate | 7601-89-0 |
| 高氯酸鋰 | Lithium perchlorate | 7791-03-9 |
| 高氯酸鋰(三水) | Lithium perchlorate, trihydrate | 13453-78-6 |
| 其他高氯酸鹽化合物 | Other perchlorate compounds | - |

● 鹵化材料 (例如溴化阻燃劑 (BFR)，氯化阻燃劑 (CFR)，增塑劑和聚氯乙烯 (PVC)) / Halogenated Materials (e.g. Brominated Flame Retardants (BFRs), Chlorinated Flame Retardants (CFRs), plasticizers, and Polyvinylchloride (PVC))

| 中文名稱 | Substances | CAS 號碼 |
|---|--|--------|
| ISO1043-4 編號 FR(14) [脂肪族/脂環式含溴化合物] 符合此表示方法的溴化阻燃劑 | Brominated flame retardant which comes undernotation of ISO 1043-4 code numberFR(14) [Aliphatic/alicyclic brominated compounds] | - |

| 中文名稱 | Substances | CAS 號碼 |
|---|--|-------------|
| ISO1043-4 編號 FR(15) [脂肪族/脂環式含溴化合物和銻化合物的結合物] 符合此表示方法的溴化阻燃劑 | Brominated flame retardant which comes undernotation of ISO 1043-4 code numberFR(15) [Aliphatic/alicyclic brominated compounds incombination with antimony compounds] | - |
| ISO1043-4 編號 FR(16) [芳香族含溴化合物(溴化二苯及溴化二苯醚除外)] 符合此表示方法的溴化阻燃劑 | Brominated flame retardant which comes undernotation of ISO 1043-4 code number FR(16) [Aromaticbrominated compounds excluding brominated diphenylether and biphenyls)] | - |
| ISO1043-4 編號 FR(17) [芳香族含溴化合物(溴化二苯及溴化二苯醚除外)和銻化合物的結合物] 符合此表示方法的溴化阻燃劑 | Brominated flame retardant which comes undernotation of ISO 1043-4 code number FR(17) [Aromaticbrominated compounds excluding brominated diphenylether and biphenyls) in combination with antimonycompounds] | - |
| ISO1043-4 編號 FR(22) [脂肪族/脂環式氯化及溴化物] 符合此表示方法的溴化阻燃劑 | Brominated flame retardant which comes undernotation of ISO 1043-4 code numberFR(22) [Aliphatic/alicyclic chlorinated and brominatedcompounds] | - |
| ISO1043-4 編號 FR(42) [含溴有機磷化合物] 符合此 表示方法的溴化阻燃劑 | Brominated flame retardant which comes undernotation of ISO 1043-4 code number FR(42) [Brominatedorganic phosphorus compounds] | - |
| 聚 (2,6-二溴次苯基環氧) | Poly(2,6-dibromo-phenylene oxide) | 69882-11-7 |
| 四十溴-p-二苯氧苯 | Tetra-decabromo-diphenoxy-benzene | 58965-66-5 |
| 1,2-雙 (2,4,6-三溴苯氧基) 乙烷 | 1,2-Bis(2,4,6-tribromo-phenoxy) ethane | 37853-59-1 |
| 3,5,3',5'-四溴雙酚 A (TBBA) | 3,5,3',5'-Tetrabromo-bisphenol A (TBBA) | 79-94-7 |
| TBBA (結構未特定) | TBBA, unspecified | 30496-13-0 |
| TBBA (表氯醇低聚物) | TBBA-epichlorhydrin oligomer | 40039-93-8 |
| TBBA (TBBA-環氧甘油醚低聚物) | TBBA-TBBA-diglycidyl-ether oligomer | 70682-74-5 |
| TBBA (碳酸低聚物) | TBBA carbonate oligomer | 28906-13-0 |
| BC-52 四溴雙酚 A (TBBA 碳酸低聚物，苯氧端帽) | TBBA carbonate oligomer, phenoxy end capped | 94334-64-2 |
| BC-58 四溴雙酚 A (TBBA 碳酸低聚物，2,4,6-三溴酚終止) | TBBA carbonate oligomer, 2,4,6-tribromo-phenolterminated | 71342-77-3 |
| TBBA 雙酚 A 碳醯氯聚合物 | TBBA-bisphenol A-phosgene polymer | 32844-27-2 |
| 溴化環氧樹脂，三溴酚端帽 | Brominated epoxy resin end-capped withtribromophenol | 139638-58-7 |
| 溴化環氧樹脂，三溴酚端帽 | Brominated epoxy resin end-capped withtribromophenol | 135229-48-0 |
| TBBA- (2,3-二溴丙醚) | TBBA-(2,3-dibromo-propyl-ether) | 21850-44-2 |
| TBBA 雙- (2-羥乙醚) | TBBA bis-(2-hydroxy-ethyl-ether) | 4162-45-2 |
| TBBA 雙 (烯丙醚) | TBBA-bis-(allyl-ether) | 25327-89-3 |
| TBBA 二甲基醚 | TBBA-dimethyl-ether | 37853-61-5 |
| 四溴雙酚 S | Tetrabromo-bisphenol S | 39635-79-5 |
| TBBS 雙-(2,3-二溴丙醚) | TBBS-bis-(2,3-dibromo-propyl-ether) | 42757-55-1 |

| 中文名稱 | Substances | CAS 號碼 |
|-----------------------------|--|-------------|
| 2,4-二溴酚 | 2,4-Dibromo-phenol | 615-58-7 |
| 2,4,6-三溴酚 | 2,4,6-tribromo-phenol | 118-79-6 |
| 五溴酚 | Pentabromo-phenol | 608-71-9 |
| 2,4,6-三溴苯烯丙醚 | 2,4,6-Tribromo-phenyl-alltl-ether | 3278-89-5 |
| 三溴苯烯丙醚（結構未特定） | Tribromo-phenyl-allyl-ether, unspecified | 26762-91-4 |
| 雙（甲基）四溴鄰苯二甲酸酯 | Bis(methyl)tetrabromo-phtalate | 55481-60-2 |
| 四溴鄰苯二甲酸雙（2-乙基己基） | Bis(2-ethylhexyl)tetrabromo-phtalate | 26040-51-7 |
| 2-羥基-丙基-2-(2-羥基-乙氧基)-乙基-TBP | 2-Hydroxy-propyl-2-(2-hydroxy-ethoxy)-ethyl-TBP | 20566-35-2 |
| TBPA，乙二醇-氧化丙烯酯 | TBPA, glycol-and propylene-oxide esters | 75790-69-1 |
| N,N'-乙烯-雙-（四溴-酞醯亞胺） | N, N'-Ethylene -bis-(tetrabromo-phthalimide) | 32588-76-4 |
| 乙烯-雙（5,6 二溴降冰片烷-2,3-乙二胺） | Ethylene-bis85,6-dibromo-norbornane-2,3-dicarboximide) | 52907-07-0 |
| 2,3-二溴-2-丁烯-1,4-二醇 | 2,3-Dibromo-2-butene-1,4-diol | 3234-02-4 |
| 二溴新戊烷基乙二醇 | Dibromo-neopentyl-glycol | 3296-90-0 |
| 2,3-雙溴丙醇 | Dibromo-propanol | 96-13-9 |
| 三溴新戊烷基乙醇 | Tribromo-neopentyl-alcohol | 36483-57-5 |
| 聚三溴苯乙烯 | Poly tribromo-styrene | 57137-10-7 |
| 三溴苯乙烯 | Tribromo-styrene | 61368-34-1 |
| 二溴苯乙烯，PP 接枝物 | Dibromo-styrene grafted PP | 171091-06-8 |
| 聚二溴苯乙烯 | Poly-dibromo-styrene | 31780-26-4 |
| 溴化/氯化石蠟類 | Bromo-/Chloro-paraffins | 68955-41-9 |
| 溴化/氯化 α 烯烴 | Bromo-/Chloro-alpha-olefin | 82600-56-4 |
| 溴代乙烯 | Vinylbromide | 593-60-2 |
| 三（2,3-二溴丙基）異氰脲酸酯 | Tris-(2,3-dibromo-propyl)-isocyanurate | 52434-90-9 |
| 三（2,4-二溴苯）磷酸鹽 | Tris(2,4-Dibromo-phenyl) phosphate | 49690-63-3 |
| 三（三溴-新戊烷基）磷酸鹽 | Tris(tribromo-neopentyl) phosphate | 19186-97-1 |
| 氯、溴化磷酸酯 | Chlorinated and brominated phosphate ester | 125997-20-8 |
| 五溴甲苯 | Pentabromo-toluene | 87-83-2 |
| 五溴-溴化苄 | Pentabromo-benzyl bromide | 38521-51-6 |
| 溴化 1,3-丁二烯均聚物 | 1,3-Butadiene homopolymer,brominated | 68441-46-3 |
| 五溴苄基丙烯酸酯單體 | Pentabromo-benzyl-acrylate, monomer | 59447-55-1 |
| 五溴苄基丙烯酸酯聚合物 | Pentabromo-benzyl-acrylate, polymer | 59447-57-3 |
| 十溴二苯乙烷 | Decabromo-diphenyl-ethane | 84852-53-9 |
| 三溴雙苯順丁烯二醯亞胺 | Tribromo-bisphenyl-maleinimide | 59789-51-4 |
| 四溴環辛烷 | Tetrabromo-chyclo-octane | 31454-48-5 |

| 中文名稱 | Substances | CAS 號碼 |
|-----------------------------------|---|-------------|
| 1,2-二溴-4- (1,2-二溴甲基) 環己烷 | 1,2-Dibromo-4-(1,2 dibromo-methyl)-cyclo-hexane | 3322-93-8 |
| TBPA Na 鹽 | TBPA Na salt | 25357-79-3 |
| 四溴鄰苯二甲酸酐 | Tetrabromo phthalic-anhydride | 632-79-1 |
| 八溴-1,1,3-三甲基-1-苯基茚滿 (FR-1808) | Octabromo-1,1,3-trimethyl-1-phenylindan (FR-1808) | 155613-93-7 |
| 溴化三甲基苯丙種異構體 | Brominated trimethylphenyl-lindane | 59789-51-4 |
| 1,2,5,6,9,10-六溴環十二烷 (HBCD) | Hexabromo-cyclo-dodecane (HBCD), unspecified | 3194-55-6 |
| 其他溴系阻燃劑 | Other Brominated Flame Retardants | - |
| 中文名稱 | Substances | CAS 號碼 |
| 聚氯乙烯 (PVC) | Polyvinyl chloride (PVC) | 9002-86-2 |
| 中文名稱 | Substances | CAS 號碼 |
| 2,2-二(氯甲基)-1,3-丙二醇 双[双(2-氯乙基)磷酸酯] | 2,2-Bis(chloromethyl)-1,3-propanediol bis[bis(2-chloroethyl)phosphate] | 38051-10-4 |
| 磷酸三(1-氯-2-丙基)酯 | Tris(1-chloro-2-propyl) phosphate | 13674-84-5 |
| 其他氯化系阻燃劑 | Other Chlorinated Flame Retardants | - |

RoHS 指令排外條款

| 排外項目 | | 適用範圍及日期 |
|---------|---|----------------------------|
| 3 | 特殊用途之冷陰極螢光燈 (CCFL) 及外部電極螢光燈 (EEFL)，用於 2022 年 2 月 24 日之前投放市場的 EEE 中所使用的汞含量不得超過 (每個燈管)： | 除外條款到期後: 1000ppm |
| 3(a) | 較短長度 (≤ 500 mm) | 3.5 mg 到期日：2025 年 2 月 24 日 |
| 3(b) | 中等長度 (> 500 mm and $\leq 1\,500$ mm) | 5 mg 到期日：2025 年 2 月 24 日 |
| 3(c) | 較長長度 ($> 1\,500$ mm) | 13 mg 到期日：2025 年 2 月 24 日 |
| 5(b) | 螢光管中所含的鉛不得超過其重量之 0.2% | |
| 6(a)-I | 鉛用於加工用途之鋼材，含量最高可達 0.35%，用於批量熱浸鍍鋅鋼材，含鉛量最高可達 0.2% | 更新申請中 |
| 6(b)-I | 來源為回收含鉛鋁廢料時，其鉛含量最高可達 0.4% | 更新申請中 |
| 6(b)-II | 鉛用於加工用途之鋁合金，含量最高可達 0.4% | 更新申請中 |
| 6(c) | 銅合金中所含的鉛，最高可達 4% | 更新申請中 |
| 7(a) | 高熔點類之銻錫可含鉛 (如鉛為基底的合金，其鉛含量大於 85%) | 更新申請中 |
| 7(c)-I | 鉛用於電子元件中之玻璃或陶瓷 (介電陶瓷電容除外 電元件或者玻璃/陶瓷複合材料) | 更新申請中 |
| 7(c)-II | 額定電壓為 125 V AC or 250 V DC 或者更高之介電陶瓷電容中所含的鉛 | 更新申請中 |
| 8(b)-I | 鎘及其化合物可用於電子接點。 - 斷路器 Circuit Breaker - 熱感控制器 thermal sensing controls - 馬達過熱保護裝置 (不包含密封式過熱保護裝置) thermal motor protectors - 交流電開關額定值為當交流電壓為 250V 或更高時，電流達到 | 更新申請中 |

| 排外項目 | | 適用範圍及日期 |
|--|---|---------|
| 6A 或 更高。當交流電壓為 125V 或更高時，電流達到 12A 或 更高。 - 當直流電壓為 18 V 或以上時，直流電開關額定電流為 20 A 或更高。 - 用於電源頻率 \geq 200Hz 的開關。 | | |
| 13(a) | 光學應用之玻璃中可含鉛。 | 更新申請中 |
| 13(b)-III | 用於反射率標準釉料中的鉛和鎘。 | 更新申請中 |
| 15a | 用於積體電路覆晶封裝流程中，為連接半導體晶片及載體間，以完成電力連結的鍍錫可含鉛。 - 大於或等於 90nm 半導體技術製程。 - 單個晶圓尺寸大於或等於 300 mm ² 的半導體技術製程。 - 以大於或等於 300 mm ² 的晶圓堆疊封裝(stacked die packages)或大於或等於 300 mm ² 的矽載板(silicon interposers)。 | 更新申請中 |

RoHS Directive for exemptions

| Exemption | | Scope and dates of applicability |
|-----------|--|------------------------------------|
| 3 | Mercury in cold cathode fluorescent lamps and external electrode fluorescent lamps (CCFL and EEFL) for special purposes used in EEE placed on the market before 24 February 2022 not exceeding (per lamp): | When exemption expires: 1000ppm |
| 3(a) | Short length (\leq 500 mm) | 3.5 mg Expires on 24 February 2025 |
| 3(b) | Medium length ($>$ 500 mm and \leq 1 500 mm) | 5 mg Expires on 24 February 2025 |
| 3(c) | Long length ($>$ 1 500 mm) | 13 mg Expires on 24 February 2025 |
| 5(b) | Lead in glass of fluorescent tubes not exceeding 0.2 % by weight | |
| 6(a)-I | Lead as an alloying element in steel for machining purposes containing up to 0.35 % lead by weight and in batch hot dip galvanized steel components containing up 0.2% lead by weight. | Requested for Renewal |
| 6(b)-I | Lead as an alloying element in aluminium containing up to 0.4 % lead by weight, provided it stems from lead-bearing aluminium scrap recycling. | Requested for Renewal |
| 6(b)-II | Lead as an alloying element in aluminium for maching purposes with a lead content up to 0.4% by weight. | Requested for Renewal |
| 6(c) | Copper alloy containing up to 4 % lead by weight | Requested for Renewal |
| 7(a) | Lead in high melting temperature type solders (i.e. lead- based alloys containing 85 % by weight or more lead) | Requested for Renewal |
| 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 | Requested for Renewal |
| 7(c)-II | Lead in dielectric ceramic in capacitors for a rated voltage of 125 V AC or 250 V DC or higher | Requested for Renewal |
| 8(b)-I | Cadmium and its compounds in electrical contacts used in: - circuit breakers, - thermal sensing controls, - thermal motor | Requested for Renewal |

| Exemption | | Scope and dates of applicability |
|--|---|----------------------------------|
| protectors (excluding hermetic thermal motor protectors), - AC switches rated at: - 6 A and more at 250 V AC and more, or - 12 A and more at 125 V AC and more, - DC switches rated at 20 A and more at 18 V DC and more, - switches for use at voltage supply frequency ≥ 200 Hz | | |
| 13(a) | Lead in white glasses used for optical applications | Requested for Renewal |
| 13(b)-III | Cadmium and lead in glazes used for reflectance standards. | Requested for Renewal |
| 15(a) | Lead in solders to complete a viable electrical connection between the semiconductor die and carrier within integrated circuit flip chip packages where at least one of the following criteria applies: • a semiconductor technology node of 90 nm or larger; • a single die of 300 mm ² or larger in any semiconductor technology node; • stacked die packages with die of 300 mm ² or larger, or silicon interposers of 300 mm ² or larger. | Requested for Renewal |