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|  | Document No | :APA-RD-00005 |
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| 文件名稱 Document Title | | 環境物質限用管理程序 Environmental Restricted Management Procedure | |
|------------------------|----------------------|---|-------------------|
| 版次 Rev. | 變更項次 Change items | 變更內容簡述 Change description | 撰寫者 Originator |
| 1 | ---- | New Release | 陳國良 |
| 2 | 5.9 | 明定供應商上傳 AGP 系統之有害物質項目 | 陳國良 |
| 2 | 7.3 | 增加歐盟新化學品法規(REACH)高關注物質清單(SVHC)及危險物質清單 | 陳國良 |
| 3 | 5.16 | 新增文件保存期限規定 | 陳國良 |
| 3 | 5.17 | 新增變更通知規定 | 陳國良 |
| 3 | 5.18 | 新增外來文件管理規定 | 陳國良 |
| 3 | 6.1 | 變更紅磷及六溴環十二烷濃度限值 | 陳國良 |
| 3 | 6.4 | 增加歐盟新化學品法規(REACH)高關注物質清單(SVHC)及危險物質清單 | 陳國良 |
| 4 | 6.4 | 增加歐盟新化學品法規(REACH)高關注物質清單(SVHC)及危險物質清單 | 陳國良 |
| 4 | 7.2 | 更新參考資料 | 陳國良 |
| 5 | 5.19 | 新增供應商綠色等級評分 | 陳國良 |
| 6 | 5.14 | 新增環保承諾書表單編號 | 陳國良 |
| 6 | 6.4 | 增加歐盟新化學品法規(REACH)高關注物質清單(SVHC)及危險物質清單 | 陳國良 |
| 7 | 6.1 | 更新 PFOA 限值，新增限用管制物質，更新宇瞻原物料禁/限用管制物質表 | 陳國良 |
| 7 | 6.4 | 增加歐盟新化學品法規(REACH)高關注物質清單(SVHC)及危險物質清單 | 陳國良 |
| 8 | 4.12 | 無鹵產品之定義編碼原則 | 陳國良 |
| 9 | 4,5,6,7 | 重新定義名詞解釋與權責，更新作業內容，新增限用 | 陳國良 |



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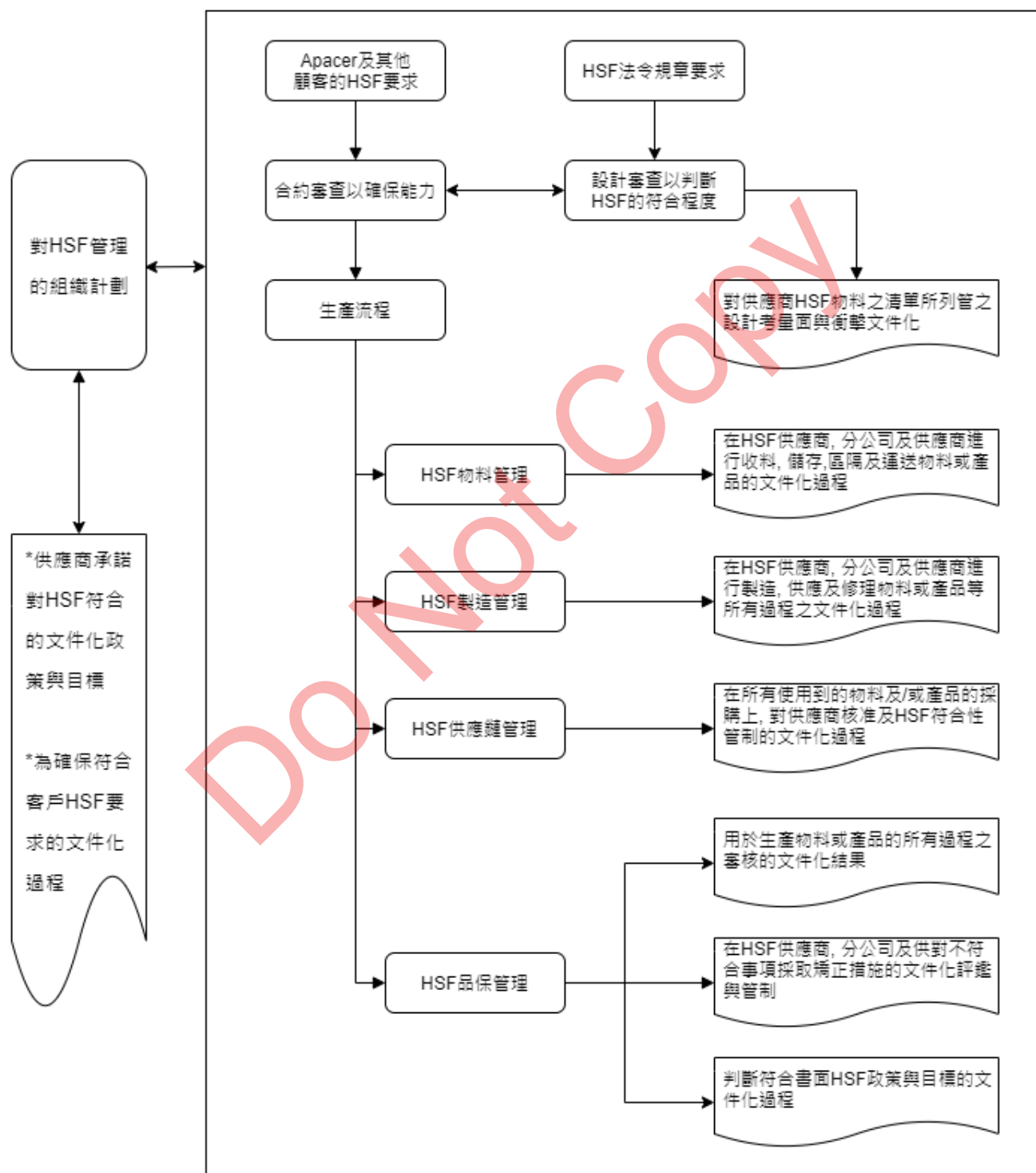
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|----|----------------------|---|-----|
| | | 物質管制表附件 | |
| 10 | 6.1.10, 8.1 | 更新 AGP 網址/增加附件一：限用管制物質表物質 | 陳國良 |
| 11 | 1, 6.5.1 | 加上流程圖,供應商分級及採購管理原則 | 陳國良 |
| 12 | 6.1.15 , 6.4.1 | 增加 新建供應商之文件，EU REACH SCIP 通報 | 陳國良 |
| 13 | 6.4.2, 7.21, 7.22 | 增加歐盟附錄 17 限制物質清單，增加美國 TSCA (The Toxic Substances Control Act)毒性化學物質管理辦法、中國 GB VOCs 標準(塗料、油墨、膠粘劑、清洗劑) | 洪臻璿 |
| 14 | 8.1 | 更新附件一：限用管制物質表。歐盟新化學品法規 (REACH)高關注物質清單(SVHC)新增至 223 項 | 李盈慶 |
| 15 | 8.1 | 更新附件一：限用管制物質表。歐盟新化學品法規 (REACH)高關注物質清單(SVHC)新增至 224 項 | 李盈慶 |
| 16 | 7.23 8.1 | 增加 法國礦物油控管 更新附件一：限用管制物質表。歐盟新化學品法規 (REACH)高關注物質清單(SVHC)新增至 233 項、 法國礦物油控管 | 李盈慶 |
| 17 | 6.3.4 7.24 8.1 | 增加 包裝材毒性物質訊息交流中心示範法案 TPCH、包裝材指令管制物質 更新附件一：限用管制物質表、歐盟新化學品法規 (REACH)高關注物質清單(SVHC)新增至 235 項 | 李盈慶 |
| 18 | 8.1 | 更新附件一：限用管制物質表、歐盟新化學品法規 (REACH)高關注物質清單(SVHC)新增至 240 項 | 李盈慶 |
| 19 | 8.1 | 更新附件一：限用管制物質表、歐盟新化學品法規 (REACH)高關注物質清單(SVHC)新增至 241 項 | 李盈慶 |
| 20 | 8.1 | 更新附件一：限用管制物質表、歐盟新化學品法規 (REACH)高關注物質清單(SVHC)新增至 242 項 | 李啓文 |
| 20 | 6.3.5 | 補限用管制物質表編號 (APA-RD-00005-F01) | |

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| 21 | 8.1 | 更新附件一：限用管制物質表、歐盟新化學品法規 (REACH) 高關注物質清單 (SVHC) 新增至 247 項 | 李啓文 |
| 接續頁 CONTINUATION---. <input checked="" type="checkbox"/> 是 YES <input type="checkbox"/> 否 NO | | | |

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1. 流程圖 Flow Chart



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2. 目的 Purpose

本規範旨在提供一個有害物質管控的要求，使各供應商及宇瞻內部團隊有所依循，以達到對各類有害物質使用於產品的有效控管，防止含有有害物質的各類材料流入或被使用，符合國際相關法令或宇瞻科技股份有限公司，以下簡稱“宇瞻”，以及客戶要求(例如無鹵、REACH)。以減輕對地球環境衝擊及保障人體之健康。

This “Guidance Of Restricted Substances In Products” (herein after as “Guidance”) is to provide the requests and regulations of Apacer Technology Inc. And customer requirements (eg halogen free, REACH).The purpose of this Guidance is to avoid the using of hazardous substances and comply with international laws and regulations and to decrease the impact on global environment and protect human health.

3. 範圍 Scope

本規範適用於宇瞻向供應商採購之所有各類原物料，包裝材，輔助材，半成品，成品，生產用治工具。皆適用之，以符合相關國際法令法規以及客戶要求。

This specification applies to all of the raw materials, packaging materials, auxiliary materials, semi-finished products, finished products and production tools that Apacer purchases from suppliers. Applicable to comply with relevant international laws and regulations and customer requirements.

4. 名詞解釋 Definition

本管制規範，對專有名詞做如下定義：

The definitions of this Guidance are as follows:

4.1 有害物質

係指對人體健康和環境有危害的物質。

Hazardous Substances: shall mean that substances produce damages on the global environment and human body.

4.2 限用物質

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係指各類限制使用物質。

Restricted Substances: shall mean that substances are restricted to use.

4.3 禁用物質

係指各類禁止使用物質。

Banned Substances: shall mean that substances are forbidden to use.

4.4 無有害物質

係指不含對人體健康和環境有危害的物質。

Hazardous Substances Free: shall mean that substances do not contain Hazardous Substances.

4.5 不含

係指低於儀器之最低偵測極限值MDL(Method Detection Limits)。意即受測試物質在均質狀態中，含量低於最低測試極限，以至測試技術/儀器不能測試出來。

Not contained/Not detected(N.D): shall mean above the MDL(Method Detection Limits), which basically refers to substances that are below the lowest detection limits and can not be detected by any test instrument or machine in Homogeneous status.

4.6 『化學文摘組織』註冊號

『化學文摘組織 CAS (Chemical Abstracts Service)』是位於美國的一個與化學有關的組織。該組織在編製化學摘要 (CA) 時，為便於確認同一種化學物質，故對每一個化學品編訂註冊登記號碼 (CAS Registry Number.)，該編號可清楚對應每一化學物質名稱，是國際通行的化學物質身份代碼。如：鉛的CAS註冊號是 7439-92-1。

(CAS) Chemical Abstract Service Registry Number: means a chemical research institute established and located in U.S.A, by which institute compiles every Chemical Abstracts and provide registered number for all chemical substances. This CAS number may clarify and identify every chemical substance and is recognized internationally. The CAS number of lead, for example, is 7439-92-1.

4.7 容許濃度

指在一均質材料中所允許含有該物質的最大濃度值。

Threshold Level: shall mean the maximum upper limit of hazardous substances contained in materials or products provided by vender in this Guidance.



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4.8 均質材料

指不能通過機械手段進一步拆分為不同均勻材質的材料，均質材料各部份的組成均相同，例如各種陶瓷、玻璃、金屬、合金、紙、木板、樹脂、塑膠以及塗料等。

Homogeneous Materials: shall mean the smallest unit of a material that can not be decomposed or separated through mechanical means, such as individual types of plastics, glass, ceramics, metals, alloys, paper, board, resins and coatings.

Homogeneous Materials shall be the same in every portion of a material.

4.9 機械拆分

運用機械手段進行有效的劃分和獲取測試單元的過程，包括旋開、切割、刮削、擠壓和研磨等。

Mechanical Disassembly: Shall mean a process to separate and gain a test unit with mechanical methods, including unfastening screws, cutting, pulverizing, crushing, and grinding.

4.10 豁免條款

指依照歐盟RoHS條款或本規範所指定之限用物質，其原本就為了特定用途使用，在目前現有技術上，無法用其他物質予以取代，或取代後會造成環境或安全衛生之負面影響加重，因而得依據歐盟『限用物質豁免條款』或本規範被允許使用。

Exempted applications of the Restricted Substances : shall mean the substance that is used for particular purpose and can not be substituted or if the substitution may cause negative impact on the environmental, safety and health under modern technical knowledge, then, under the RoHS regulations of Europe Union or this Guidance of Restricted Substances, this substance shall be permitted.

4.11 長時間皮膚接觸之定義

產品(如耳機、鍵盤、滑鼠、搖桿、遙控器、筆記型電腦等)在正常使用下與皮膚持續或重複接觸。

Prolonged skin contact: Products (e.g. earphone, keyboard, mouse, rocker, remote controller, and laptop) contact skin continuously or repeatedly in normal operation.

4.12 無鹵產品之定義

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對於鹵素的限制僅適用於氯、溴，不包括氟、碘、砷。所有均質材料可以滿足以下要求的產品稱為 " 無鹵產品 " (Halogen Free)。原物料，包裝材，輔助材，半成品，成品。其料號或品名編碼末碼若為B者，為需符合RoHS+無鹵規範。料號編碼末碼若為C者，為需符合RoHS規範。

總氯含量小於900ppm

總溴含量小於900ppm

總氯 + 總溴含量小於1500ppm

Halogen-free products :

Halogen restrictions apply only to Bromine, Chlorine and their compounds. No other halogen, including Fluorine, Iodine or Astatine are regulated. raw materials, packaging materials, auxiliary materials, semi-finished products and finished products the code number of the last code is B, in order to comply with RoHS+ halogen-free specifications. The code number of the last code is C, which is RoHS compliant.

The products or parts whose homogenous material meets below requirements may be considered as. The concentration of Chlorine is lower than 900ppm

The concentration of Bromine is lower than 900ppm

The total concentration of Chlorine and Bromine are lower than 1500ppm.

4.13 第三方公正單位: 通過ISO IEC 17025(或等同)之國際標準驗證之第三方測試機構。

Third-party testing organization certified to ISO IEC 17025 (or equivalent) international standards.

4.14 混測: 如果樣品的體積小於 4mm^3 ，可接受混測的檢測報告。

If the sample size is less than 4mm^3 , test reports acceptable measured mixed

4.15 HSF: 無有害物質 (Hazardous Substances Free, HSF)

4.16 原物料: 泛指生產製造加工中所需之零部件。

Refers to the parts needed for manufacturing and manufacturing.

4.17 包裝材: 被用在盛裝、保護、搬運、遞送及呈現貨品之材料。

Material be used for the containment, protection, handling, delivery and



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presentation of goods.

4.18 輔助材: 指直接用於生產製造加工，在生產中起輔助作用，會被拋棄損耗，不構成產品主要產體的各種材料。

Refers to all kinds of materials that are directly used in production and play an auxiliary role in production and do not constitute the main product of the product.

4.19 半成品: 已部份生產或加工，但尚未完成組裝之產品。

Products that have been partially produced or processed but have not yet been assembled.

4.20 成品: 已完成製造組裝之產品。

Has completed the manufacture of assembled products.

4.21 生產用治工具: 生產過程中，輔助生產順利而訂做的工具。

A tool that assists in the smooth production of the production process.

5. 權責 Responsibility

5.1 採購單位 (以下簡稱採購): 負責召集、引進協力廠商之原物料，包裝材，向供應商索取承認相關文件 (包含 HSF 相關證明文件: 檢測報告 / SDS / 環保承諾書)，以協助執行品質驗證作業。

Purchaser: to be in charge of new vender's materials recommendation to verify quality.

5.2 研發工程部(以下簡稱 RD): 於新產品開發時應注意如何選擇零件期能符合 HSF 相關法令規範之要求,並應協助採購部門蒐集相關資料。

RD: to be in charge of the specification and function verification of new materials.

5.3 PE 工程師(以下簡稱 PE): 負責生產用輔助材規格之確認及功能之審核。

PE: to be in charge of the specification and function verification of Auxiliary Material /Sub-materials.

5.4 綠色產品工程師(以下簡稱 GP): 確認向供應商採購之所有各類原物料，包裝材，輔助材，半成品，成品，生產用治工具，符合相關國際法令法規以及客戶要求。

GP: Confirm all the raw materials, packaging materials, auxiliary materials, semi-finished products, finished products and production tools purchased from the

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suppliers, in compliance with relevant international laws and regulations and customer requirements.

6. 內容:(實際作業流程) Content (Process procedure):

6.1 供應商作業要求：Vender Process requirements

6.1.1 本文件若有任何變更，宇瞻將於其網站(<http://agp.apacer.com>)公告之。各供應商應主動 供應符合最新『APA-RD-00005環境物質限用管理程序』之要求。

In the event any modification of this Guidance, Apacer will provide the latest version on the website (<http://agp.apacer.com>). Vender hereby acknowledges and agrees that vender shall provide APACER with the products or materials which comply with the latest version of this Guidance from the Environmental Restricted Management Procedure.

6.1.2 HSF(Hazardous Substances Free)測試要求

依據歐盟RoHS指令，要求須在「均勻材質」標準下進行測試。

Test Requirements of HSF : According to RoHS Directive of Europe Union , test shall be performed at homogenous material level.

6.1.3 針對歐盟RoHS指令中10項有害物質的測試方法需以IEC 62321測試標準之最新版本為準。如因測試方法或版本不同造成測試結果差異，則其測試結果須以符合IEC62321測試標準之最新版本為準。

For RoHS 10 hazardous substances in RoHS Directive of Europe Union testing method shall comply with the latest standard of IEC62321.If other testing method is used, vender shall ensure the testing method is approved and accepted internationally.

6.1.4 每種物質的分析測試須選擇由ICP-AES電感耦合等離子體發射光譜儀，ICP-MS (電感耦合等離子體質譜儀)，IC (離子色譜法)，AAS (原子吸收分光光度計)，UV-VIS (紫外可見分光光度計)，GC/MS (氣相色譜質譜聯用儀) 等設備完成。如使用其他設備，必須確認所採用的測試設備為國際一般測試上所認可。

The analysis test of the substances shall use the equipments as follows: ICP-

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AES(Inductively Coupled Plasma-Atomic Emission Spectrometer) · ICP-MS (Inductively Coupled Plasma-Mass Spectrometer) · IC (Ion Chromatography) · AAS (Atomic Absorption spectrophotometer) · UV-VIS(Ultraviolet or visible light absorption spectrophotometer)and GC/MS (Gas Chromatography –Mass Spectrometer) . If other equipment is used for analysis test, vender shall ensure such equipment is approved and accepted internationally.

6.1.5 供應商所提供予宇瞻之文件(包括但不限於宣告書、測試報告、MCD、安全資料表、成分表)須無條件授權宇瞻使用(包括但不限於製作合併報告、提供給客戶、提供給政府相關單位)。

All documents provided by Vender to Apacer (include but not limited to, Declaration Letter, Testing Reports, MCD, SDS, and Composition Sheet) shall be unconditionally authorized APACER to be used(include but not limited to, combined reports, provided to Apacer' s customers, or provided to relevant official units.)

6.1.6 供應商所提供予宇瞻的原物料測試報告須為通過ISO IEC 17025(或等同)之國際標準驗證之第三方測試機構出具的測試報告，測試結果值需小於『限用物質含量標準表』之『容許濃度』之限值。上述測試報告供應商應主動配合適時提供更新檔。但若供應商之產品產生容許濃度之疑慮，經宇瞻要求時，供應商須重新送測試及提供測試報告(更新檔要求亦同)。

The vendors' test report of material shall be issued by the third party testing organization, which passes the ISO IEC17025 Laboratory Quality Certification or the same standard. The test result shall be less than the threshold specified in Restricted Substances Standard List .Vender shall provide and update aforesaid test report duly.

In the event Apacer have doubt with materials default or Apacer customers' requests on this Guidance, vender shall provide or renew the related test reports or certifications.

6.1.7 本規範限用物質為現行國際公約、各國法規或宇瞻的產品規範中已明令禁止使用、

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限制使用或已設定其禁止使用期限日的物質。供應商必須確認及保證這類物質並未添加在供應給宇瞻的原物料。

The restricted substances of this guidance are those which have been banned or restricted within specific timelines by existing international conventions, countries' regulation or Apacer' s product specification. Vendor shall identify and guarantee such substances are not contained in the material supplied to Apacer.

- 6.1.8 供應商必須配合宇瞻之HSF需求改善產品的環境品質，保證供應之產品可符合輸出入國相關法規之規範(包括但不限於有害物質禁用之規範)。

Vender shall improve the HSF quality of products provided to Apacer and assure the products meet the regulations and laws of import or export countries or territories(including but not limited to the Guidance.)

- 6.1.9 宇瞻所列之禁用或限用物質，供應商不得故意添加於均質材料，或供給宇瞻之所有原物料，包裝材，輔助材，半成品，成品中。於新物料承認階段，供應商必須提供RoHS指令規範之鉛(Pb)、鎘(Cd)、汞(Hg)、六價鉻(Cr6+)、多溴聯苯(PBB)、多溴聯苯醚(PBDE)、鄰苯二甲酸二(2-乙基己基)酯(DEHP)、鄰苯二甲酸丁酯苯甲酯(BBP)、鄰苯二甲酸二丁酯 (DBP)、鄰苯二甲酸二異丁酯 (DIBP)等測試報告(Test Report) (除輔助材報告日期3年內有效，其餘報告日期2年內有效)。供宇瞻審核及使用。供應商需將測試結果、測試報告、重量、引用豁免條款等資料彙整於AGP系統上，且需要定期維護及按時更新資料。

The banned or restricted substances listed in Apacer shall not be deliberately added to the homogeneous materials or to all of Apacer's raw materials, packaging materials, auxiliary materials, semi-finished products and finished products. In the stage of material approval, vendors are required to submit the Pb、Cd、Hg、Cr6+、PBB、PBDE、DEHP、BBP、DBP、DIBP Test Report. (auxiliary materials reported in the three years, the rest of the general raw material parts within two years) to APACER for approval and use. Vendors shall upload the test result, test report, weight, and applied exemption, etc. to AGP(Apacer Green Product Web System), and periodically maintain and duly



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update.

6.1.10 AGP：綠色供應鏈管理系統。

宇瞻以GPM系統作為原物料綠色環保文件資料控管平台，供應商須將原物料文件資料於GPM系統填寫及上傳供宇瞻審核及使用。GPM系統之供應商『基本資料』由供應商維護，如相關資料有任何異動需隨時主動更新。供應商於原物料中使用或添加或雜質含有本規範禁、限用物質者，必需在宇瞻『綠色供應鏈管理系統 GPM』上據實填寫。

AGP 系統網址：<http://agp.apacer.com>。

AGP(Apacer Green Product Web System)

GPM system is a platform where Apacer manages vendors' environmental documents of material. Thus, vendor shall key in and upload information and documents used for material approval on GPM system for Apacer' s approval and use. The Basic Information of Vender on GPM shall be maintained by vendor. For any information changes, vendor shall update initiatively. When the banned or restricted substances are used in or added in or contained in impurities of vendors' material, Vender shall make declaration on Apacer GPM system.

6.1.11 承認階段蒐集相關供應商所提供之HSF之文件，上傳至AGP後，供應商提供給宇瞻之所有原物料，包裝材，輔助材，半成品，成品，經測試不符合『環境物質限用管理程序』，或與送交宇瞻承認資料不符合，或相關材質變更後未通過宇瞻承認者，供應商應停止供貨，並經宇瞻審核核准後，始可進行供貨。宇瞻將不符標準之物料，不負擔付款義務，供應商應配合辦理後續退貨手續。

In the recognition stage, the documents of HSF provided by the relevant suppliers are collected and uploaded to AGP. All raw materials, packaging materials, auxiliary materials, semi-finished products and finished products provided by the supplier to Apacer are not in compliance with the "Environmental Substances Restricted Management". If the program is not in conformity with the information submitted by Apacer, or the material has not been approved by Apacer, the supplier shall stop the supply and will be



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available for delivery after approval by Apacer. Apacer will not comply with the standard materials, does not bear the payment obligation, the supplier should cooperate with the follow-up return procedures.

- 6.1.12 供應商有任何違反本APA-RD-00005環境物質限用管理程序之行為，因而造成宇瞻或其客戶任何損害或損失者，應由供應商負擔所有損害賠償責任。

Vender shall be labile for any and all damages and losses of Apacer and its clients, occurred from vender' s non-compliance with this Guidance.

- 6.1.13 宇瞻環保承諾保證書:表單最新版本為V4.1。未提供V4.0以上版本環保承諾書之供應商，需轉為不合格供應商

Apacer Environmental Commitment Guarantee: The latest version is V4.1。If the Suppliers that have not provided the environmental commitment letter of version V4.0 or higher must be turned into unqualified suppliers

- 6.1.14 供應商需對所有供貨至宇瞻科技之產品，調查衝突礦物使用的狀況，以英文填寫完成衝突礦物調查報告。

Please inquire the Conflict Minerals status of all products shipping to Apacer; then complete the new version "Conflict Minerals Template" in "English" and upload to AGP(Apacer Green Product Web System).

- 6.1.15 新建供應商應提供以下文件，並經宇瞻審核通過後，始得繼續簽核新建 Vendor code 申請，成為合格供應商

New supplier shall provide the following documents, and after approval, before it may continue to sign-off the new Vendor code application by Apacer become qualified suppliers

| NO | 文件名稱 Document Name |
|----|--|
| 1 | 環保承諾書 Declaration of Environmental commitment guarantee |
| 2 | 遵守 RBA 標準承諾書 Compliance with Responsible Business Alliance |
| 3 | 不使用衝突礦產承諾書 Commitment Not to Use Conflict Minerals |



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6.2 宇瞻作業要求: Apacer Process requirements

6.2.1 宇瞻內部及供應商所提供予宇瞻HSF之文件，含 1.技術文件(如SIP、SOP、ECN、PCN/PCR、Data sheet)。2. ICP檢測報告。3. XRF檢驗記錄。其保存期限自其料件本身停產後，仍需保存十年以上。文件儲存允許以電子檔，書面提供，若有行衝突時，以電子檔為準。

The documents provided by Apacer and suppliers to Apacer HSF include 1. Technical documents (such as SIP, SOP, ECN, PCN/PCR, Data sheet). 2. ICP test report. 3. XRF inspection record. The shelf life of the material has to be preserved for more than ten years after the material itself has been discontinued. File storage is allowed to be provided in electronic file and in writing. In case of conflict, the electronic file will prevail.

6.2.2 宇瞻內部及供應商所提供予宇瞻之原物料，包裝材，輔助材，半成品，成品，若材質、表面處理、製造地變更時，需評估 HSF 是否符合環保指令需求，評估送第三方單位檢驗並依客戶要求，通知客戶。

The raw materials, packaging materials, auxiliary materials, semi-finished products and finished products provided by Apacer and suppliers are subject to the assessment of whether HSF meets the requirements of environmental protection directives, and the assessment is sent to third-party units for inspection. Notify customers according to customer requirements.

6.2.3 與宇瞻有關的 HSF 的文件，或由宇瞻以外取得的 HSF/綠色產品法規/指令，內部應做適當管理與登錄。例如宇瞻將外來文件登錄至 AGP 系統管控。

All documents in or out from Apacer, such as HSF/Green product Regulations /directive, internal should be properly managed and registered. for example, Apacer logs foreign files to the AGP system.

6.2.4 每年依宇瞻 品質/HSF 目標管制表 (APA-QM-00001-F01)之年度目標，於 AGP 平台，計算供應商該年度應提交報告數量與狀態(含新料與過期更新報告)，並訂定供應商綠色等級(分為 A、B、C、D)級。此供應商綠色等級評分公式，分為新料報告審核通過狀態與過期更新完成狀態，兩者相加平均即得該供應商綠色等級分數。

A:90 分以上，B:75~89 分，C:60~74 分，D:59 分以下。

此供應商綠色等級分數，將提供給宇瞻採購單位於年度供應商評核之依據。



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The annual targets set by the Apacer Quality/HSF Objectives Control List (APA-QM-oooo1-F01-01) are properly managed and registered. For example, Apacer logs in external files to the AGP system. AGP platform, the calculation supplier shall submit the report quantity (including new material and overdue update report) in this year, and set the green rating scale of the supplier (class A, B, C, D) for this supplier. The new material reports the status of audit approval and the completion status of overdue updates. Adding the two to the average gives the supplier a green score of A: 90 points or more, B: 75 to 89 points, C: 60 to 74 points, and D: 59 or less. This supplier's green grade score will be used to provide the Apacer's procurement unit with the basis for annual supplier assessment.

6.3 原物料禁/限用管制物質 Material Banned and Restricted Substances :

6.3.1 所有供應給宇瞻的原物料，包裝材，輔助材，半成品，成品，均要符合本規範的禁用、限用物質之規定。

All material supplied to Apacer (including but not limited to , raw materials, packaging materials, auxiliary materials, semi-finished products and finished products) shall comply with the regulations of Banned and Restricted Substances.

6.3.2 禁限用物質含量標準表之測試報告欄標示說明如下：

Y：必須提供測試報告。


---：得提供測試報告。

Marks of test report in Restricted Substances Standard List;

Y: must provide test reports;

---: may provide test report by convenience.


單位：毫克/公斤=百萬分之一

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| (Unit:mg/kg=ppm) | | | | | |
|------------------|-------------|---------------|-------------------|-----------------|----------------------|
| No. | 物質Substance | 化學文摘號碼CAS No. | 限用對象 Applications | 測試報告Test Report | 容許濃度 Threshold Limit |

6.3.3 RoHS 指令管制項目


| | | | | | |
|---|--|------------|--|---|----------------|
| 1 | 鉛及其化合物 Lead and lead compounds (Pb) | 7439-92-1 | 塑膠、橡膠、樹脂、膠、 油墨、油漆Plastic, Rubber, Resin, Glue, Ink, Paint | Y | 100 |
| | | | 其他電池Other batteries | Y | 1000 |
| | | | 其他產品與零組件Other products and parts | Y | 1000 |
| 2 | 鎘及其化合物 Cadmium and cadmium compounds (Cd) | 7440-43-9 | 所有產品與零組件All products and parts | Y | 100 |
| 3 | 汞及其化合物 Mercury and mercury compounds (Hg) | 7439-97-6 | 油墨、油漆、表面鍍層 Ink、Paint、Surface Plating | Y | 10 |
| | | | 所有電池All batteries | Y | 5 |
| | | | 其他產品與零組件Other products and parts | Y | 1000 |
| 4 | 六價鉻及其化合物 Hexavalent | 18540-29-9 | 表面鍍層Surface Plating | Y | 禁止含有 Banned |

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| | | | | | |
|----|--|------------|----------------------------------|---|------|
| | chromium compounds (Cr6+) | | 其他產品與零組件Other products and parts | Y | 1000 |
| 5 | 多溴聯苯 Polybrominated biphenyls (PBBs) | 2052-07-05 | 所有產品與零組件All products and parts | Y | 1000 |
| 6 | 多溴聯苯醚 Polybrominated diphenyl ethers (PBDEs) | 101-55-3 | 所有產品與零組件All products and parts | Y | 1000 |
| 7 | 鄰苯二甲酸二(2-乙基己基)酯(DEHP) | 117-81-7 | 所有產品與零組件 All products and parts | Y | 1000 |
| 8 | 鄰苯二甲酸丁酯苯甲酯(BBP) | 85-68-7 | 所有產品與零組件 All products and parts | Y | 1000 |
| 9 | 鄰苯二甲酸二丁酯 (DBP) | 84-74-2 | 所有產品與零組件 All products and parts | Y | 1000 |
| 10 | 鄰苯二甲酸二異丁酯(DIBP) | 84-65-5 | 所有產品與零組件 All products and parts | Y | 1000 |

6.3.4 包裝材指令管制物質 Restrict Substances of Packaging Material :

單位：毫克/公斤=百萬分之一

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(Unit:mg/kg=ppm)

| No. | 物質Substance | 化學文摘 號碼CAS No. | 限用對象 Applications | 測試報 告Test Report | 容許濃度 Threshold |
|-----|--|---|--|------------------------|--|
| 1 | 鎘、六價鉻、鉛及汞 化合物Cadmium, Hexavalent chromium, Lead and Mercury compounds | 7439-92- 1 7440- 43-9 7439-97- 6 18540- 29-9 | 包裝材料Packaging material | Y | 總和含量100 鎘 之極限濃度不得超 過5ppm 100(total) 5(cadmium) |
| 2 | 鹵素(氯) Halogen- Chlorine (Cl) | 7782-50- 5 | 所有無鹵包材All Halogen free Packaging material | Y | 900 Br + Cl <1500 |
| 3 | 鹵素(溴) Halogen- Bromine (Br) | 7726-95- 6 | 所有無鹵包材All Halogen free Packaging material | Y | 900 Cl+Br<1500 |
| 4 | 全氟/多氟烷基物質 (perfluoroalkyl and polyfluoroalkyl substances, PFAS) | -- | 包裝材料 Packaging material | - | 禁止含有 Banned |
| 5 | 鄰苯二甲酸酯類 (phthalates) | -- | 包裝材料 Packaging material | - | 總和 100ppm Total 100ppm |

6.3.5 宇瞻禁/限用管制物質項目，請見附件限用管制物質表 (APA-RD-00005-F01) 。

Apacer Banned/Restricted Substances Control Project, please refer to the Appendix:
Banned/Restricted Substances List (APA-RD-00005-F01).

6.3.6 宇瞻監控物質 **Material Reportable Substances**：

屬於宇瞻關注但尚未禁用的物質，凡監控項目超過管制限值者，供應商必需主動通知
宇瞻。有供應給宇瞻的原物料，包裝材，輔助材，半成品，成品，均要提供實際含



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量。監控物質項目請見附件限用管制物質表

Reportable Substances are concerned by apacer but not prohibited to be used. Suppliers must inform apacer in advance if the items used on the products exceed the threshold level. You're requested that all material supplied to Apacer (include raw materials, packaging materials, auxiliary materials, semi-finished products and finished products) shall provide the real value the restricted substances. Please refer to the Appendix: Banned/Restricted Substances List.

6.4 歐盟化學品註冊、評估、授權與限制法規 Registration, Evaluation, Authorization, and Restriction of Chemicals (REACH)

6.4.1 歐盟高關注物質清單 EU REACH SVHC Materials List，詳見附件限用管制物質表以下網址。歐盟化學總署將每年更新 2 次高度關注物質清單，供應商可參考歐洲化學總署網站之最新公告 (網址: <https://echa.europa.eu/candidate-list-table>).

EU REACH SVHC List : Please refer to the website of the attached Banned/restricted controlled substances List or the following website. The European Chemicals Agency will update the EU REACH SVHC List twice a year. Suppliers can refer to the latest announcement on the European Chemicals Agency website. (<https://echa.europa.eu/candidate-list-table>).

6.4.1.1 EU REACH SCIP 通報 EU REACH SCIP Notification

歐盟 Directive (EU) 2018/851 更新《廢棄物框架指令》 Waste Framework Directive (WFD) 2008/98/EC。更新指令要求歐盟境內的物品(article)供應商必須針對其所供應的物品(article)含有超過 0.1%(w/w)的 SVHC 的濃度與其它產品相關資訊，提供給予予瞻，向歐盟化學總署 ECHA 進行通報，此通報即為 Substances of Concern In articles as such or in complex objects (Products)，簡稱 SCIP 通報。

The EU Directive (EU) 2018/851 renews the Waste Framework Directive (WFD) 2008/98/EC. The updated directive requires that article suppliers in the EU must provide Apacer for articles containing more than 0.1% (w/w) of SVHC concentration and other product-related information, and report to the European Chemical Agency ECHA makes a notification, and this notification is Substances of



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Concern In articles as such or in complex objects (Products), referred to as SCIP notification.


6.4.2 歐盟附錄 17 限制物質清單 EU REACH (ANNEX XVII) Substances restricted List，詳見附件以下網址。

使用列在 REACH 法規附錄 17 清單的限制物質時，應符合其適用範圍及限值。Each restricted Substances should conform to its restricted scope and limit. 歐盟化學總署將不定期更新限制物質清單及其限制範圍，供應商可參考歐洲化學總署網站之最新公告(網址: <https://echa.europa.eu/substances-restricted-under-reach>). The European Chemicals Agency will update the list of restricted substances and their restricted scope (Conditions of restriction) from time to time. Suppliers can refer to the latest announcement on The European Chemicals Agency website. (<https://echa.europa.eu/substances-restricted-under-reach>).

6.5 HSF 風險分級:各類原物料，包裝材，輔助材，半成品，成品，生產用治工具之 HSF 風險，分為無、低、中、高風險四級。依供應商管理分級及採購管理原則，定義各類風險如下。 HSF(Hazardous Substances Free) risk classification: HSF risks of various raw materials, packaging materials, auxiliary materials, semi-finished products, finished products, and production tools are divided into four levels: no, low, medium, and high risk. According to the supplier management classification and procurement management principles, various risks are defined as follows.

6.5.1 供應商分級及採購管理原則 Supplier classification and procurement management principles


| | | |
|-------------------|--------------------|-----------------|
| 供應商類別 | HSF 分級 | HSF 行動 |
| Supplier category | HSF classification | HSF action |
| 生產用治工具 | 無風險 | 風險評估 |
| Production tool | No risk | Risk assessment |

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|---|--------------------|---|
| 電子類原料 包材 Electronic materials Packaging material | 低風險 Low risk | 1.保證書(或自我宣告書) Guarantee 2. 3rd party test reports 3.依據材料 RPN 風險評估與供應商評比做為實地稽核依據 Based on the material RPN risk assessment and supplier evaluation as the basis for on-site audits. |
| 機構 Housing/connector/散熱片 | 中風險 Medium risk | 1.保證書(或自我宣告書) Guarantee 2. 3rd party test reports 3.XRF 測試 XRF test 4.依據材料 RPN 風險評估與供應商評比做為實地稽核依據 Based on the material RPN risk assessment and supplier evaluation as the basis for on-site audits. |
| PCB SMT、Test 外包 | 高風險 High risk | 1.保證書(或自我宣告書) Guarantee 2. 3rd party test reports 3.XRF 測試 XRF test 4.依據材料 RPN 風險評估與供應商評比做為實地稽核依據 Based on the material RPN risk assessment and supplier evaluation as the basis for on-site audits. |

6.5.2 HSF 外購產品採購管理原則 HSF outsourcing product procurement management principles

| | | |
|----------------------------|------------------------------|---|
| 供應商類別 Supplier category | HSF 分級 HSF classification | HSF 行動 HSF action |
| Module 記憶卡 Memory card | 中風險 Medium risk | 1.保證書(或自我宣告書) Guarantee 2. 3rd party test reports 3.XRF 測試 XRF test |

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|---------------------------|--------------------|---|
| 其他外購 Other outsourcing | 中風險 Medium risk | 1.保證書(或自我宣告書) Guarantee 2. 3rd party test reports 3.XRF 測試 XRF test |
|---------------------------|--------------------|---|

7 參考資料 Reference :

7.1 依宇瞻科技股份有限公司 “APA-RD-00005環境物質限用管理程序 ” 制定。

Follow Apacer “Guidance of Environmental Restricted Management Procedure in Supplier’s Products ”

7.2 本環境物質限用管理程序中未明確規範之物質或用途，仍應遵守宇瞻科技各項環境及安全衛生管理辦法。若當地或國家法規及法令規範禁限用，必須遵守當地規定。若與宇瞻科技之客戶的有害物質管理規範有衝突時，以較嚴格之有害物質管理規定為準。


Regarding the substances or their purposes whose use is banned by regional or country laws and ordinances, Apacer environment and safety and health management procedure must be observed even though the substances or their purposes are not clearly regulated in technical standards. Customer’s requests must also be observed while this standard has conflict with the environment-related regulations of customers whose design, manufacture, sale and distribution are subcontracted to Apacer. The stricter regulations for hazardous substances shall prevail.

7.3 歐盟電器電子設備危害物質限制指令RoHS指令，2011/65/EU RoHS recast指令及含延伸指令2015/863/EU。

Directive of the European Union on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment, EC RoHS Directive, 2011/65/EU RoHS recast Directive and the amending Directive 2015/863/EU.

7.4 歐盟電池和蓄電池中某些危險物質的指令，2006/66/EC，及含延伸指令91/157/EEC。

European Union Directive 2006/66/EC on Batteries and Accumulators Containing

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Certain Dangerous Substances, and the amending Directive 91/157/EEC.

7.5 歐盟包裝和包裝廢棄物的指令，(含延伸指令) 94/62/EC，1994/12，2013/2/EU，2013/9/30。

Directive of the European Union on Packaging and Packaging waste, 94/62/EC, December 1994, 2013/2/EU，2013/9/30 and.

7.6 德國關於包裝廢棄物禁用和再循環法令(包裝法--VerpackV)，1998 年 8 月。

German Ordinance concerning the avoidance and recycling of packaging waste (Packaging Ordinance –VerpackV), August 1998.

7.7 歐盟關於限制銷售和使用含氮染料 2004/21/EC 指令，2004 年 2 月 24 日 (76/769/EEC 指令第 13 次修正)。

COMMISSION DIRECTIVE 2004/21/EC of 24 February 2004，relating to restrictions on the marketing and use of ‘azo colourants’ (thirteenth adaptation to technical progress of Council Directive 76/769/EEC)

7.8 JIG-101：聯合工業指南(JIG)，電子產品物料成分聲明。

JIG-101: JOINT INDUSTRY GUIDE (JIG), Material Composition Declaration for Electronic Products.

7.9 歐盟，行銷及使用限制指令 (含延伸指令)。

Marketing and Use of Dangerous Substances Directive 76/769/EEC and the amending Directive 91/338/EEC.

7.10 蒙特婁破壞臭氧層物質管制議定書 (含延伸修正案)。

Montreal Protocol (on Substances that Deplete the Ozone Layer) and the amendments.

7.11 歐洲聯盟關於限制使用化學物全氟辛烷磺酸(PFOS) 2006/122/EC 指令，於 2008 年 6 月 27



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日生效。

European Union Directive EU DIRECTIVE (2006/122/EC) relating to restrictions on the marketing and use of certain dangerous substances and preparations (perfluorooctane sulfonates), 27 June, 2008.

7.12 美國加利福尼亞州·安全飲用水及有毒物強制法令(加利福尼亞州健康與安全代碼範圍 25249.5-25249.13)·1986 年。通常指『加利福尼亞州第65 提案』。

The amending Directive 2004/12/EC U.S.A. California Safe Drinking Water and Toxic Enforcement Act of 1986 (Section 25249.5-25249.13 of the California Health and Safety Code), commonly referred to as "California Proposition 65".

7.13 業務作業程序 APA-CS-00001

7.14 P流程產品開發作業程序 APA-RD-00001

7.15 文件化資訊管理程序 APA-QA-00003

7.16 供應商管理程序 APA-MM-00001

7.17 進料管制檢驗程序 APA-QA-00010

7.18 XRF作業規範 SOP-QA-00011

7.19 不合格品管制程序 APA-QA-00004

7.20 產品製程變更要求 / 通知 APA-RD-00002

7.21 美國TSCA (The Toxic Substances Control Act) 毒性化學物質管理辦法

2021年1月美國環保署(US EPA)根據美國毒性化學物質管理辦法6(h)加重對於5項持久性生物累積毒性物質(PBTs)管控，並透過Federal register 86 FR 866-932公布最終管制規則。

<https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/persistent-bioaccumulative-and-toxic-pbt-chemicals-under>

TSCA : In January 2021, the US Environmental Protection Agency (US EPA) increased the control of 5 persistent, bio-accumulative and toxic substances (PBTs) in accordance with the US Toxic Chemical Substances Management Regulation 6(h), and announced the final control rules through Federal register 86 FR 866-932 .



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7.22 中國GB VOCs標準--塗料、油墨、膠粘劑、清洗劑

China GB VOCs Standard--Coatings, Inks, Adhesives, Cleaning Agents

中國欲使得2020年VOCs的總排放量能較2015年減少10%以上，因此中國制定一系列GB VOCs標準。以下4項產品適用之監管標準：GB 30981-2020 工业防护涂料中有害物质限量、GB 33372-2020 胶粘剂挥发性有机化合物限量、GB 38507-2020 油墨中可挥发性有机化合物(VOCs)含量的限值、GB 38508-2020 清洗剂挥发性有机化合物含量限值)。塗料、油墨、膠粘劑、清洗劑須符合上述標準。

<http://openstd.samr.gov.cn/bzgk/gb/gbMainQuery>

China wants to reduce the total emissions of VOCs by more than 10% in 2020 compared with 2015. Therefore, China has formulated a series of GB VOCs standards. The following 4 products are applicable to regulatory standards: GB 30981-2020 Limits of Hazardous Substances in Industrial Protective Coatings, GB 33372-2020 Limits of Volatile Organic Compounds in Adhesives, GB 38507-2020 Limits of Volatile Organic Compounds (VOCs) in Inks, GB 38508-2020 Cleaning agent volatile organic compound content limit. Coatings, inks, adhesives, and cleaning agents must meet the standards.

7.23 法國礦物油控管 French Mineral Oil Restrictions

2022年5月3日，法國生態轉型部 (Ministère de la Transition écologique) 發布法令，針對兩類礦物油及其實施要求。

On May 3, 2022, France's Ministry for Ecological Transition (Ministère de la Transition écologique) issued Decree to regulate two categories of mineral oil and their requirements for the implementation.

<https://www.legifrance.gouv.fr/jorf/id/JORFTEXT000045733481>

7.24 美國包裝材毒性物質訊息交流中心示範法案 (Toxics in Packaging Clearinghouse, TPCH)

TPCH規範包材及包材零部件製造或銷售時禁止刻意導入四項重金屬(Pb, Cd, Hg, Cr6+)，於2021年2月16日發布包材中有害物質要求更新，新增全氟/多氟烷基物質(perfluoroalkyl and polyfluoroalkyl substances, PFAS)、鄰苯二甲酸酯類(phthalates)二項管制化學物質，其包材總和現值不可超過100ppm。

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The model legislation prohibits the intentional introduction of the four heavy metals, PFAS and phthalates during manufacturing or distribution. Manufacturers and distributors of packaging or packaging materials are required to reduce the sum of the concentration levels of incidentally introduced lead, cadmium, mercury and hexavalent chromium to 100 parts per million or less and eliminate the intentional introduction of PFAS and phthalates.

<https://toxicsinpackaging.org/model-legislation/model/>

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8 附件 Appendix:

8.1 APA-RD-00005-F01 限用管制物質表 Banned/Restricted Substances List

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