

Version: 2

Released Date: 2023/01/10

文件名稱:CarUX\_管制物質作業規範

# Doc. Name: CarUX\_Restricted substances management standard

#### 1.0 目的 Purpose

1.1 本規範依據本公司客戶的管制物質標準及國際法規要求而製訂,透過此規範的建立,用 以管制本公司所使用之材料與成品符合客戶及國際法規要求,並達到保護地球環境及 減輕對生態系統的影響。

This standard is established by customers' environmental management standards and international regulations. Based on this standard to manage our company products, materials and components for customers' and international regulations requirements, in order to reduce the influence upon the ecosystem and contribute to the global environmental preservation.

1.2 為了更好管理供應商的材料GP符合度情況,本規範定義了標籤標示要求。

This standard defines the Label requirement, in order to manage the suppliers' materials better.

#### 2.0 範圍 Scope

2.1 本標準適用於:本公司以及由本公司委託設計,製造的產品所包含的零部件,材料及其他物品。(註:車用產品須遵守最低要求符 GADSL(全球汽車申報物質清單)、REACH、ELV指令並滿足無衝突礦產的管理)。

Objects are the parts, materials, and other articles that are procured by our company, or by third parties to which our company outsources the design and manufacture of its electronics products. (Note: Automotive products should meet the minimum requirement of GADSL, REACH, ELV and conflict –free minerals management.)

2.2 本規範中所定義的管制物質的管制界限都是針對均一材質。

The substance's thresholds defined in this standard are all against to homogenous material.

2.3 本標準原則上每年改版一次。

This Standard is updated at least once a year.

2.4 此標準參考但不限於以下國際環保規範及以下客戶最新規範:

This standard refers to international environmental standards and the latest customers' standards but not limit as follows:

2.4.1 國際環保規範 international environmental standards:

EU RoHS / EU REACH / China RoHS / POPs / CFM...

- 2.4.2 客戶規範 the customers' standards:
  - 1. acer---產品限用物質管制指南\_707-0008
  - 2. ASUS---Green ASUS HSF 技術標準 S-AT2-001
  - DELL---Materials Restricted for Use
  - 4. HP---HP Standard 011 General Specification for the Environment
  - 5. Lenovo--- Baseline Environmental Requirement\_41A7731 & 41A7733
  - 6. LGE---LG Electronics manual of the hazardous substance management in the parts and models
  - 7. Panasonic---化學物質管理等級準則
  - 8. Samsung---Samsung Electronics Standards for Control of Substances with Environmental Impacts within Products
  - 9. Sony--- Management Regulations for the environment Sony SS-00259
  - 10. Nokia---Nokia Statement of Conformance to Nokia Substance List...

#### 3.0 權責 Responsibility

3.1 供應商:據實填寫本公司所規定之「Material Composition Declaration (GP MCD)」



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並簽署「廠商承諾書」。且須依本公司要求,即時提供所需資料。

Supplier: Fill in the "Material Composition Declaration (GP MCD), and sign back "Supplier's Undertakings." Shall timely supply information in accordance with CarUX's demand.

3.2 產品合規暨認證:國際法規和客戶規範解讀,定期維護此規範。

審核供應商所填寫之「GP MCD」並判定是否符合此規範要求。

PC&C: Review and change this document content regularly.

Review and judge the "GP MCD" from supplier.

3.3 PM/PD/RD/TD:協助跟催供應商回覆「GP MCD」。

PM/PD/RD/TD: To follow up the "GP MCD".

3.4 採購:協助跟催「廠商承諾書」,並上傳至合約審查系統。

PUR: Follow up the "Supplier's Undertakings".

Upload the agreement to Agreement Review Application System

- 3.5 法務:
  - 3.5.1「廠商承諾書」如須修改,由法務協助審查修改內容。
  - 3.5.2 除因產品合規暨認證或採購等單位之需求,由法務依法律文書管理辦法第 4-4-2 條 雙方協商並由該單位自行保管合約正本外,「廠商承諾書」正本由法務保存。

\_egal:

- 3.5.1 Review and judge the "Supplier's Undertakings" effectiveness when Supplier's Undertakings" had been modified by supplier.
- 3.5.2 Reserve the originals of "Supplier's Undertakings" except the conditions specified in 4-4-2 of "Legal Documents Management Bylaw."
- 4.0 名詞定義 Definition 🦯
  - 4.1 均一材質 Homogenous material

均一材質指不能用機械方法拆分為不同物質的材料。"均一材質"也可理解為"材料各部位的組成均相同",例如塑膠、陶瓷、玻璃、金屬、合金、紙張、木板、樹脂等。"Homogeneous material means a material that cannot be mechanically disjointed into different materials". Homogeneous materials consist of a uniform composition or phase and include plastics, ceramics, glass, metal, alloys, paper, wood, resin, etc.

4.2 管制物質 Controlled Substances

國際環保規範和本司客戶環保規範管制的有害物質。

The Harzardous substances which are managed by International environmental standards and the customers' standards.

4.3 管制級別 Management standards

按照以下管理級別和排外條款進行管理:

To manage the above-mentioned substances, the following levels and exemption are used:

(a) 1 級 level 1

將該物質及其用途規定為:禁止用於零部件和材料中。

The substances and their applications classified into this level are those that banned for the use in parts and materials.

(b) 2 級 level 2

表中規定的該日期到來時(即:禁止供貨時期之期限日)變更為〔1級〕。

On the date set in each table, the substances and their applications in the respective

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tables shall be reclassified into Level 1.

(c) 3級 level 3

目前雖然沒有規定禁止使用的日期目標,但指定了禁止使用的使用零部件,材料中 所含的物質及用途。如果被判斷為可以使用代替零部件,開發材料和代替技術並引 進該產品或技術時,即可變更為2級並且逐步實現禁止使用的目標。

No effective date of the ban on the delivery is currently set for the substances and their applications classifiled into this level. The ones under Level 3 shall be reclassified into Level 2 for banning the use of them in phases, depending on the availability of alternative parts or materials that satify the intended uses.

(d) 除外條款 Exemption

法令規定為對象外或在現階段沒有替代技術方案的物質和用途部位。

The substances and their applications classified as Exemption are those not regulated by or exempted from laws, or excepted from the 'Controlled Substance' Because of the unavailability of adequate alternative parts and materials that satisfy the intended uses.

4.4 禁止供貨時期 Effective data of the ban on the delivery

禁止向本公司供應零部件和材料的時期

This indicates the date on or after which our company won't accept the parts and/or materials.

4.5 禁止使用 Banned

零部件中含有有害物質的濃度小於測試方法的檢測極限值(< MDL)與管制限值。

The concentration of hazardous substance is smaller than testing method limit and control limit

4.6 刻意添加 Intentionally added

為了提供部材特定的特性蓄意加入某種物質

A substance is contained in the part or materials because of deliberate addition in order to provide a specific characteristic.

4.7 無菌 Halogen free(HF)

零部件中的每個均一材質需滿足

Each homogenous material in the part or product has a maximum concentration of

Total Br < 900ppm;

Total CI < 900ppm:

Total Br + Total Cl < 1500ppm;

4.8 REACH 決規

REACH --- Registration (註冊) 、 Evaluation (評估) 、 Authorization (授權)

Restriction (限制) of Chemicals (化學物質)

官方網站 (Web): http://echa.europa.eu/reach en.asp

2023.01.11

4.9 全球汽車申報物質清單 Global Automotive Declarable Substance List (GADSL)

官方網站 (Web): http://www.gadsl.org/

DCC

4.10 報廢車輛指令 End-of-Life Vehicle(ELV)

官方網站 (Web): http://ec.europa.eu/environment/waste/elv/index.htm

4.11 無衝突礦產 Conflict-free minerals(CFM)



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官方網站 (Web): http://www.conflictfreesourcing.org/

- 4.12 環保等級 Env level
  - (a).Non Green 等級: 無法律、指令、法規與客戶要求,部品不執行 GP 驗證 \_\_ The parts defined as Non Green level no laws, directives, regulations and customers requirements should not carry out the GP verify;
  - (b).Green 1 等級: 部品應符合 EU RoHS、REACH、CFM與 POPs 要求 <u>•</u>
    The parts defined as Green 1 level should meet EU RoHS, REACH, CFM and POPs requirements
  - (c).Green 2 等級: 車用部品最低標準須符合 GADSL、 ELV、 REACH and CFM \_ The parts defined as Green 2 level should meet at least GADSL & ELV & REACH and CFM
  - (d). Green 3 等級: 部品應符合管制物質作業規範,但不包含無鹵要求。
    The parts defined as Green 3 level should not contain the substances of Restricted Substance Management Standard, Not include halogen free;
  - (e). Green 4 等級: 部品應符合管制物質作業規範,包含無鹵要求<u>•</u>
    The parts defined as Green 4 level should not contain the substances of Restricted Substance Management Standard, include halogen free.
  - (f). Green P1 等級:部品應符合管制物質作業規範對包裝材料之要求 ,但不包含無鹵要求。

The parts defined as Green P1 level should not contain the substances of Packaging Restricted Substance Management Standard, Not include halogen free;

- (g). Green P2 等級:部品應符合管制物質作業規範對包裝材料之要求<u>,包含無鹵要求。</u>
  The parts defined as Green P2 level should not contain the substances of Packaging Restricted Substance Management Standard, include halogen free;
- (h). Green Unconcerned 等級: 材料成分不影響最後成品之組成(不殘留於產品),無須執行 GP 要求,如: 製程使用之氣體與化學品。

The parts defined as Green Unconcerned level when their compositions are not concerned in the final product (no residue in final product) such as gas and chemicals, and should not carry out the GP requirement.

#### 5.0 作業內容 Content

- 5.1 產品及製程中的管制物質 Controlled Substances in Product and Manufacturing Processes
- 5.1.1 環境管制物質名稱一覽表請見表 5-1,管制物質限值和範圍在 5.2 項目中描述:

The Table 5-1 lists the "Controlled Substances", The detailed limit and scope is in item 5.2

表 5-1 環境管制物質名稱一覽表 Table 5-1 List of "Controlled Substances" \_\_\_\_\_

No.	物質種類	物質名稱	限制的法律,指令,法     管理等       規     DCC
	Substance Category	Substance Name	Laws, directives and regulations (level)



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<u> </u>	Hairic. Garox	<u>_ Restricted Substances ma</u>	inagement standard	
1		鎘及鎘化合物 Cadmium and Its Compounds	EU RoHS Directive US California. Proposition 65 EU Packaging Directive	Level 1
2		鉛及鉛化合物 Lead and Its Compounds	EU RoHS Directive US California. Proposition 65 EU Packaging Directive	Level 1
3		汞及汞化合物 Mercury and Its Compounds	EU RoHS Directive US California. Proposition 65 EU Packaging Directive	Level 1
4		六價鉻及其化合物 Hexavalent Chromium and Its Compounds	EU RoHS Directive US California. Proposition 65 EU Packaging Directive	Level 1
5		砷及其化合物 Arsenic and Its Compounds	EU regulation REACH Germany Law JIG 101A	Level 1
6	重金屬(Heavy metals)	鈹元素及其化合物 Beryllium and Its Compounds	JIG 101A	Level 1
7			Directive 2004/96/EC EU regulation REACH	Level 1& Level 3
8	Carl	銻及其化合物 Antimony and Its Compounds	JIG 101A	Level 1 & Level 3
9		鈷及其化合物 Cobalt and Its Compounds	JIG 101A REACH	Level 1 & Level 3
10	1	鎵元素 Gallium Elemental Only	Specified by Customer	Level 1
11		衝突礦產 Conflict Minerals	Responsible Minerals Initiative Section 1502 of the Dodd Frank Act EU 2017/821	Level 1
12		其它特定類金屬及其化合物 Other Specific Metals and Its Compounds	JIG 101A 2023.01.	1
13	氯及氯的化合 物	多氯聯苯 Polychlorinated Biphenyls (PCBs)	EU regulation REACH OSPAR Priority Chemicals	Level 1
14	Chlorine and its compounds	多氯化萘 Polychlorinated Naphthalenes	EU regulation REACH OSPAR Priority	Level 1



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		(PCNs)	Chemicals	
15		多氯三聯苯 Polychlorinated Terphenyls (PCTs)	EU regulation REACH OSPAR Priority Chemicals	Level 1
16		氯代烷烴 Chlorinated Paraffins (CP)	JIG 101A	Level 1
17		聚氯乙烯 Polyvinyl Chloride (PVC)	JIG 101A	Level 1
18		過氯酸鹽 Perchlorate Compounds	Specified by Customer	Level 1
19		氯化烴 Chlorinated Hydrocarbons	Specified by Customer	Level 1
20		氯化阻燃劑 Chlorinated Flame Retardants	Specified by Customer	Level 1
21		總氯 Total Chlorine	Specified by Customer	Level 1
22		多溴聯苯 Polybrominated Biphenyls (PBBs)	EU RoHS Directive EU regulation REACH	
23	Carl	多溴二苯醚 Polybrominated Diphenylethers (PBDEs)(Including Deca- Bromodiphenyl Ether [DecaBDE])	EU RoHS Directive EU regulation REACH	Level 1
24	溴及溴的化合 物 Bromine and	四溴雙酚-A Tetrabromobisphenol A (TBBP-A)	JIG 101A	Level 1
25	its compounds	六溴環十二烷 Hexabromocyclododecane (HBCDD)	EU REACH Annex XIV	Level 1
26		溴化阻燃劑 Brominated Flame Retardants	Specified by Customer	Level 1
27		總溴 Total Bromine	Specified by Customer C	Level 1
28	其他 Others	有機錫化合物 Organic Tin Compounds	EU regulation REACH 2009/425/EC	Level 1



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<b>DUC.</b>	Name. Carox	<u> </u>	anagement Standard	
29		石棉 Asbestos	EU regulation REACH JIG 101A, Germany Law,	Level 1
30		特定偶氮化合物和胺化合物 Specific Azo Compounds and Special Amines	Directive 85/467/EEC EU regulation REACH	Level 1
31		甲醛 Formaldehyde	Germany Law	Level 1
32		持續性有機污染物 Persistent Organic Pollutants(POPs)	Switzerland's Chemikalien Rest Risiko Verordnung from 1 July, 2005.	Level 1
33		鄰苯二甲酸酯類 Phthalates	EU RoHS Directive RoHS Annex II (EU) 2015/863 EU regulation REACH JIG 101A	Level 1
34	Carl	特定氟化合物 (全氟辛烷磺酸, 全氟辛酸類化合物,氫氟碳化合物,全氟化碳,六氟化硫) Specific Fluorine Compounds (Perfluorooctane Sulfonates(PFOS), Perfluorooctanoic Acid(PFOA), Hydrofluorocarbon (HFC), Perfluorocarbons (PFCS), Sulfur Hexafluoride (SF6))	Directive 2006/122/EC	Level 1
35	1	多環芳烴 Polycyclic Aromatic Hydrocarbons (PAHs)	EU regulation REACH Germany GS	Level 1
36		臭氧層危害物質 Ozone-Depleting Chemicals	Montreal Protocol; US: 1990 Clear Air Act, Japanese Law	Level 1
37		放射性物質 Radioactive Substances	Japanese Law 2023.01.	Level 1
38		特定苯並三氮唑 Specific Benzotriazole	Japanese Law DCC	Level 1



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	Hame: Oarox	_ Restricted substances in a	anagement standard	
39		特殊酚類化合物 (Special Phenol Compounds)	挪威 PoHS Customer's Survey	Level 1
40		壬基苯酚及壬基酚聚氧乙烯醚 Nonyl Phenols/ Nonylphenol Ethoxylates	Customer's Survey EU regulation REACH	Level 1
41		鹵化二苯基甲烷 Halogenated Diphenyl Methanes	Customer's Survey EU regulation REACH	Level 1
42		富馬酸二甲酯 Dimethyl Fumarate(DMF)	EU regulation REACH	Level 1
43		所有合成麝香 All Synthetic Musks (Including Musk Ketone and Musk Xylene)	挪威 PoHS	Level 1
44		磷單質 Element Phosphorus	Specified by Customer	Level 1
45		致癌原類,致突變原類,生殖毒性 (致畸)類物質 Carcinogens, Mutagens & Reproductive Toxins (CMR)	Specified by Customer	Level 1
46	Carc	特殊類物質 (REACH法規限制的 化學物質) Special Substances (Restricted In Reach)	EU regulation REACH	Level 1
47	1	REACH 高關注物質 REACH SVHC (Substance of Very High Concern)	EU regulation REACH	Level 3
48		其它需宣告之物質 Other Controlled Substances	Specified by Customer	Level 3
49		製程中限制物質 Restriction Substances in Manufacturing Processes	Specified by Customer 2023.01.	Level 1
50		二苯胺與苯乙烯及 2,4,4-三甲基 戊烯的反應產物 Benzenamine, N-Phenyl-, Reaction Products with Styrene And 2,4,4-Trimethylpentene	Specified by Customer	Level 1



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<u> </u>	Hairie. Garox	<u>_ Restricted Substances ina</u>	magement standard	
51		有機磷化合物Organophosphate Compound	Specified by Customer	Level 1 & Level 3
52		鹵素芳香物質 halogenated Aromatic Substances(HAS)	Specified by Customer	Level 1
53		木材,紙張和其他植物為基礎的 產品 Wood, Paper, and Other Plant-Based Products	Specified by Customer	Level 1
54		IARC 公佈 1 & 2A 致癌物質 Group 1 & 2A CMR Substances Classified by the IARC Monographs	Specified by Customer	Level 1
55		界面活性劑 Surfactants	Specified by Customer	Level 1
56		抗菌,抗微生物劑 Antimicrobial & Biocidal	Specified by Customer	Level 1
57		天然橡膠 Natural rubber	Specified by Customer	Level 1
58	Caro	1,3-diorthotolylguanidine (DOTG,N, N'-Bis(2- methylphenyl)guanidine)	Specified by Customer	Level 1
59		TCO 認證-有害物質的限制 TCO Certified-Reduction of hazardous substances	Specified by Customer	Level 3
60		中國 VOC 標準要求 China VOC (Volatile Organic Compound) Standard Requirements	Specified by Customer	Level 1
61		磷化氫 Phosphine	Specified by Customer 2023.01.	Level 1
62		美國毒性物質管理法(Toxic Substances Control Act, TSCA)	Specified by Customer C	Level 1
63	<u>其他</u> Others	(EU)2019/2021-鹵化阻燃劑 (EU)2019/2021-Halogenated flame retardants	Specified by Customer	Level 1



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64	<u>其他</u> Others	正己烷 n-Hexane	Specified by Customer	Level 1
65	<u>其他</u> Others	橡膠防老劑 IPPD: N-lsopropyl-N'-phenyl-1,4- phenylenediamine	Specified by Customer	Level 1

5.1.2 具體涉及之化學物質請參考附錄"化學物質目錄"。

Please refer to the Annex "The Chemical Substance list" for reference.

5.1.3 若有國際或地區的法律和條文(包含本公司客戶)有要求但此規範中未提及的物質或此規範 規定較寬鬆,所涉及的物質及濃度含量需比照該國家法律或區域法律甚至於本公司客戶 禁止或限制物質濃度的規範為主。

In case regional or country laws and regulations (including of our company's customer) exist that set prohibitions or restrictions on certain substances or stricter, the laws and regulations even our company's customer must be observed, even though substances are not clearly identified in this standard. Measurement of concerned substances should be based on the methodology set forth in those laws.

5.1.4 供貨給 CarUX之產品,若有引用 RoHS 排外豁免條款時,應於所引用排外豁免條款之引用截止期限前 18 個月,通知 CarUX (必要時內容應包括後續可能影響之資訊),且最晚必須於引用截止期限前 12 個月停止引用該排外豁免條款,並協助進行 CarUX 庫存料件轉換更換等事官。

If the products which supply to CarUX cite the RoHS exemption terms shall notice CarUX 18 months prior to the exemption deadline(if necessary, should include information that may affect the follow-up), and must stop to cite exemption terms 12 months prior to the exemption deadline and help CarUX to convert material in inventory.

# 5.2 物質管控標準 Control limit of Substances

管控對象:均質材料

Control Object: Homogeneous material

#### 5.2.1 鎘及鎘化合物 Cadmium and its compounds

管理零部件 Managed parts	最大含有量允許標 準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
塑膠(包含橡膠)材料及其含有的穩定劑,顏料,染料,塗料,油墨,表面處理(例如電鍍、塗裝、烤漆等),焊料	5ppm	DCC 立即執行
The plastics(including rubber) materials and the stabilizers, pigments, dyes, paints, inks, surface treatment(e.g. electroplating,		Banned immediately



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electroless plating, etc), solders;		
其他部分 others	50ppm	立即執行
7/18/18/3/ CHIEFE	оорр	Banned immediately

#### 排外條款 Exemption:

- 1. 電氣連接的觸點中的鎘及化合物 (RoHS 排外條款-8(b)) Cadmium and its compounds in electrical contacts. (RoHS exemption-8(b))
- 2. 濾光玻璃及用來作反射率標準片的玻璃中所用的鎘(RoHS 排外條款-13(b))

Cadmium in filter glasses and glasses used for reflectance standards (RoHS exemption-13(b))

3. 用於硼矽酸鹽玻璃瓷漆的印墨所含的鎘(RoHS 排外條款-21)

Cadmium in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses. (RoHS exemption-21)

#### 5.2.2 鉛及鉛化合物 Lead and its compounds

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
塑膠(包含橡膠)材料及其含有的穩定劑,顏料,染料,塗料,油墨,表面處理(例如電鍍,塗裝,烤漆等) The plastics (including rubber) materials and the stabilizers, pigments, dyes, paints, inks, surface treatment (e.g.electroplating, electroless plating, etc);	90ppm	立即執行 Banned immediately
其他部分 others	500ppm	立即執行 Banned immediately

#### 

1. 鉛用於加工用途之鋼材及鍍鋅鋼的合金元素之一,含量最高可達 0.4% (RoHS 排外條款-6(a))

Lead as an alloying element in steel for machining purposes and in galvanized steel containing up to 0,35 % lead by weight (RoHS exemption-6(a))

- 2. 鉛用於鋁合金,並為其元素之一,含量最高可達 0.4% (RoHS 排外條款-6(b)) Lead as an alloying element in aluminium containing up to 0,4% lead by weight (RoHS 11 exemption-6(b))
- 3. 銅合金所含的鉛,最高可達 4% (RoHS 排外條款-6(c)) Copper alloy containing up to 4 % lead by weight (RoHS exemption-6(c))
- 4. 高溫融化的焊料中的鉛。(即:錫鉛焊料合金中鉛含量超過85%的)(RoHS 排外條款-7(a))

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



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5.電器及電子元件中之玻璃或陶瓷(介電陶瓷電容除外)的鉛例如: 壓電元件或者玻璃/陶瓷複合材料 (RoHS 排外條款-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. (RoHS exemption-7(c)-l)

6. 額定交流電壓125V以上或直流電壓250V以上的電容中絕緣陶瓷中的鉛(RoHS 排外條款-7(c)-II)

Lead in dielectric ceramic in capacitors for a rated voltage of 125V AC or 250V DC or higher. (RoHS exemption-7(c)-II)

7. 光學應用之玻璃中的鉛(RoHS 排外條款-13(a))

Lead in white glasses used for optical applications (RoHS exemption-13(a))

8.濾光玻璃及用來作反射率標準片的玻璃中所用的鉛(RoHS 排外條款-13(b)) Lead in filter glasses and glasses used for reflectance standards(RoHS exemption-13(b))

9.用於集成電路Flip Chip包之內連接半導體模塊和載波器的焊料中的鉛。(RoHS 排外條款-15)

Lead in solders to complete a viable electrical connection between semiconductor die and carrier within integrated circuit flip chip packages. (RoHS exemption-15)

10.仿日曬用之放電燈,其中含有磷,如BSP (BaSi2O5:Pb),則放電燈中的螢光粉,其鉛作為觸

發源,鉛含量最高1%(RoHS排外條款-18(b))

Lead as activator in the fluorescent powder (1 % lead by weight or less) of discharge lamps when used as sun tanning lamps containing phosphors such as BSP (BaSi2O5:Pb) ( RoHS exemption-18(b))

11.用於硼矽玻璃瓷漆的印墨中的(RoHS 排外條款-21)

Lead in printing inks for the application of enamels on glasses, such as borosilicate and soda lime glasses(RoHS exemption-21)

12.通孔盤狀及平面陳列陶瓷多層電容器焊料所含的鉛(RoHS 排外條款-24)

Lead in solders for the soldering to machined through hole discoidal and planar array ceramic multilayer capacitors. (RoHS exemption-24)

- 13.第69/493/EEC 號指令附件 1(第一、二、三及四類所指水晶玻璃的鉛) (RoHS 排外條款-29) Lead bound in crystal glass as defined in Annex I (Categories 1, 2, 3 and 4) of Council Directive 69/493/EEC(RoHS exemption-29)
- 14.用於氫和氪鐳射管防護窗組合件的封裝玻璃料裏的鉛的氧化物。(RoHS 排外條款-32) Lead oxide in seal frit used for making window assemblies for Argon and Krypton laser tubes(RoHS exemption-32)

15.金屬陶瓷微調電位計中的鉛(RoHS 排外條款-34)

CarUK 文管中心

Lead in cermet-based trimmer potentiometer elements (RoHS exemption-34) 16.以硼酸鋅玻璃體為基礎的高壓二極體的電鍍層的鉛(RoHS 排外條款-37)

Lead in the plating layer of high voltage diodes on the basis of a zinc borate glass body (RoHS

exemption-37)

#### 5.2.3 汞及汞的化合物 Mercury and its compounds



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管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Dailleu	Banned immediately

#### 5.2.4 六價鉻及其化合物 Hexavalent chromium and its compound

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品		立即執行
All parts and products	Banned	Banned immediately

#### 5.2.5 砷及其化合物 Arsenic and its compounds

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
木製品(包含棧板)、塗料、油墨、 TFT/CF 玻璃 in wood products(including Pallets), paints, inks, TFT/CF glass	Banned	立即執行 Banned immediately
金屬合金類 Metal alloys	500ppm	立即執行 Banned immediately
其它 Others	50ppm	立即執行 Banned immediately

#### 排外條款 Exemption:

1. 使用用途是無法取代的零部件:

例如:運用於半導體基材或其摻雜物(例如:IC、LED chips)。

The purpose in parts have no substitute.

For example: Arsenic used in semiconductor substrates or as a dopant in semiconductors, such as IC, LED chip.

# 5.2.6 鈹元素及其化合物 Beryllium and its compounds



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管理零部件 Managed parts	最大含有量允許標 準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Dannad	立即執行
All parts and products	Banned	Banned immediately

排外條款 Exemption:

1. 金屬合金中之鈹含量小於 1000ppm

Metal alloy containing beryllium less than 1000ppm

# 5.2.7 鎳及其化合物 Nickel and its compounds

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
與皮膚長期接觸的零部件		立即執行
The parts that will be in touch with human skins long	0.2µg/cm2/Week	Banned immediately
有機鎳化合物 Organic Nickel Compounds 所有零部件和產品 All parts and products	1000ppm	未定義 N/A

# 5.2.8 銻及其化合物 Antimony and its compounds

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
三氧化二銻 Antimony Trioxide 所有無鹵零部件和產品 all HF parts and products	700 ppm	Car立即執行 Banned immediately
三氧化二銻 Antimony Trioxide 其他零部件和產品 Other parts and products	700 ppm	<b>DCC</b> 未定義 N/A



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銻 Antimony 所有無鹵零部件和產品 all HF parts and products	700 ppm	立即執行 Banned immediately
銻 Antimony 其他零部件和產品 Other parts and products	700 ppm	未定義 N/A
排外條款 Exemption:		1

銻用於異方性導電膠膜列為豁免

Antimony in anisotropic conductive film (ACF) is exempt.

# 5.2.9 鈷及其化合物 Cobalt and its compounds

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
矽膠類,濕度指示劑,與皮膚接觸的零部件 Silica-gel bags and moisture indicators;The parts contacting human skins	Banned	立即執行 Banned immediately
二氯化鈷 Cobalt dichloride 所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately
其它零部件中的鈷 Cobalt in Other parts	1000ppm	未定義 N/A

#### 5.2.10 鎵元素 Gallium elemental only

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
每個零部件中的液體鎵	0.10g	立即執行
Liquid gallium per part	0.10g	Banned immediately

#### 5.2.11 衝突礦產管理 Conflict Minerals Management



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供應商必須確保所製造的產品中所含有的鉭、錫、鎢、金和鈷不會直接或間接地資助或有益於受衝突影響和高風險區域(包含剛果民主共和國及其鄰近國家)內侵犯人權之犯罪武裝團體。

Supplier shall ensure Tantalum(Ta), Tin(Sn), Tungsten(W), Gold(Au) and Cobalt(Co) in the products they manufacture does not directly or indirectly finance or benefit armed groups that are perpetrators of serious human rights abuses in Conflict-Affected and High-Risk Area(including the

Democratic Republic of the Congo or an adjoining country).

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Conflict free	立即執行
All parts and products	Confile nee	Banned immediately
所有零部件和產品	Validation of conflict-free	客戶要求時立即禁用
All parts and products	smelters	Banned when customer
4		requested

- 1. 備註: 供應商應加強供應鏈管理,制定相關管理制度和規定以有效鑑別和追溯原料來源, 確保原料來源的合法性,杜絕衝突礦產投入使用;本公司計劃將對供應商原料金屬來源 進行稽核
- 2. 詳細內容請參照: http://www.responsiblemineralsinitiative.org/
- Remark: Company shall reinforce its supply chain management and establish relevant management policies or rules to effectively detect and track sources of raw materials, ensure the legality of sources of raw materials, and preclude use of conflict minerals. CarUX commissions Innolux to audit the source of supplier's metal raw material.
- 2. Please get the information in the Web: http://www.responsiblemineralsinitiative.org/

#### 5.2.12 其它特定類金屬及其化合物 other specific metals and its compounds(詳見附錄五)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	1000ppm	<b>2023.01.11</b> 未定義 N/A
All parts and products	Τοσορριτί	DCC

#### 5.2.13 多氯聯苯 Polychlorinated biphenyls(PCBs)



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管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Dannad	立即執行
All parts and products	Banned	Banned immediately

#### 5.2.14 多氯化萘 Polychlorinated naphthalenes(PCNs)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品		立即執行
All parts and products	Banned	Banned immediately

# 5.2.15 多氯三聯苯 Polychlorinated terphenyls(PCTs)

管理零部件 Managed parts Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 Banned	立即執行
All parts and products	Banned immediately

# 5.2.16 氯代烷烴 Chlorinated paraffins (CP)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products		Banned immediately

#### 5.2.17 聚氯乙烯 Polyvinyl chloride (PVC)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately



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#### 排外條款 Exemptions:

1. 線材的外皮(電源線,信號線,音頻線,排線,喇叭線,電源插座上的線)。

1. Sheathing for wires and cables (e.g. Power cords, Cable D-SUB, Cable DVI, Cable AUDIO, HRN Ass'v, FFC, the wires of Speaker, the wire of AC Socket).

備註:針對此排外條款的要求,依客戶要求管制。

Remark: When specified in some wires and cables, PVC should be banned.

#### 5.2.18 過氯酸鹽 Perchlorate Compounds

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Baillieu	Banned immediately

#### 5.2.19 氯化烴 Chlorinated Hydrocarbons

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
二氯甲烷 Methylenechloride 所有零部件和產品 All parts and products	1000 ppm	立即執行 Banned immediately
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately

#### 5.2.20 氯化阻燃劑 Chlorinated Flame Retardants(CFR)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有無鹵零部件和產品	900ppm	<b>2023</b>
All HF parts and products	эооррпі	Banned immediately

#### 5.2.21 總氯 Total Chlorine

Managed parts	Threshold limit	Effective data of the
管理零部件	最大含有量允許標準	禁止供貨日期



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		ban on the delivery
所有無鹵零部件和產品	CI< 900ppm	立即執行
All HF parts and products	Total Br +Cl < 1500ppm	Banned immediately
氯苯 Chlorobenzene		→ □H+1. /~
所有無鹵零部件和產品	Banned	立即執行
All HF parts and products		Banned immediately

#### 排外條款 Exemption:

1.技術性不可取代之零件除外。例如,光阻。

Non technical substitute is exempt. For exemple :Photoresist.

# 5.2.22 多溴聯苯 Polybrominated biphenyls (PBBs)

	大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Darmed	Banned immediately
使用回收料的塑膠類零部件 (供應商需提供使用回收料的證明)	REAL	立即執行
The plastic parts used recycling materials	1000ppm	
(the supplier should provide the evidence of	V'	Banned immediately
recycling materials used)		

# 5.2.23 多溴二苯醚 Polybrominated diphenylethers (PBDEs) (including decabromodiphenylether [DecaBDE])

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	Car立即執行
All parts and products		Banned immediately
使用回收料的塑膠類零部件 (供應商需提供使用回收料的證明) The plastic parts used recycling materials (the supplier should provide the evidence of recycling materials used)	1000ppm	立即執行 Banned immediately

#### 5.2.24 四溴雙酚-A (TBBP-A) Tetrabromobisphenol A (TBBP-A)



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管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	2404	Banned immediately

排外條款 Exemption:

1.有鹵印刷電路板(PCB)除外。

The halogen printed circuit board(PCB) is exempt.

#### 5.2.25 六溴環十二烷 Hexabromocyclododecane (HBCDD)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products		Banned immediately

### 5.2.26 溴化阻燃劑 Brominated Flame Retardants(BFR)

管理零部件 最大含有量允許標準 Managed parts Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有無鹵零部件和產品 900ppm	立即執行
All HF parts and products	Banned immediately

# 5.2.27 總溴 Total Bromine

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有無鹵零部件和產品	Br < 900ppm	立即執行
All HF parts and products	Total Br +Cl < 1500ppm	Banned immediately
出版 版 事 Everntion:		13.3.2.1.4

排外條款 Exemption:

1.技術性不可取代之零件除外。例如,光阻。

Non technical substitute is exempt. For exemple :Photoresist.

#### 5.2.28 有機錫化合物 Organic tin compounds



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管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the deliver
三取代有機錫化合物(三丁基錫、三苯基錫、氧化三丁錫) Tri-substituted organostannic compounds (Tributyltin(TBT), Triphenyltin(TPT), Tributyl Tin Oxide (TBTO)) 所有零部件和產品All parts and products	Banned	立即執行 Banned immediately
二辛基錫化合物 Dioctyltin (DOT) compounds  所有零部件和產品 All parts and products	100 ppm	立即執行 Banned immediately
二丁基錫化合物 Dibutyltin (DBT) compounds 所有零部件和產品 All parts and products	100 ppm	立即執行 Banned immediately
有機錫化合物(除上述所列) Organic tin compounds except above	1000ppm	立即執行 Banned immediately

5.2.29 石棉 Asbestos		
管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately

# 5.2.30 特定偶氮化合物和胺化合物 Specific azo compounds and special amines 11

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products		Banned immediately



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#### 5.2.31 甲醛 Formaldehyde

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	) == 11 (=
All parts and products	詳見下方說明 The details are as follows	立即執行 Banned immediately

#### 建議參考以下方法

- 1. 測試室法 (參考 ISO 12460-1): 0.1ppm(或 0.124mg/m3)在氣密試驗槽中
- 2. 穿孔法 (參考 ISO 12460-5): 8.0 mg/100g
- 3. 乾燥器法 (參考 JISA 1460): 1.5 mg/l
- 4. VDA 275
- 5. ISO 17226-1

#### Suggesting refer following methods

Threshold level (emission content): Obtain the value by any one of following methods

- 1. With a chamber method (refer to ISO 12460-1): 0.1ppm(or 0.124mg/m3) in an air –tight test chamber
- 2. With a perforator method (refer ISO 12460-5): 8.0 mg/100g
- 3. With a desiccator method (refer JISA 1460) : 1.5 mg/l
- 4. VDA 275
- 5. ISO 17226-1

# 5.2.32 持續性有機污染物 Persistent Organic Pollutants(POPs)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		Banned immediately

#### 5.2.33 鄰苯二甲酸酯 phthalates

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品中的鄰苯二甲酸酯	500ppm	立即執行
Phthalates in all parts and products	σουρριτί	Banned immediately



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DEHP+BBP+DBP		
所有玩具和兒童用品	1000 nnm	立即執行
All toys and childcare articles	1000 ppm	Banned immediately
(REACH Annex XVII)		
DINP+DIDP+DNOP		
所有玩具和兒童用品	1000 ppm	立即執行
All toys and childcare articles		Banned immediately
(REACH Annex XVII)		

**5.2.34** 特定氟化合物 (全氟辛烷磺酸,全氟辛酸類化合物,氫氟碳化合物,全氟化碳,六氟化硫)

Specific Fluorine Compounds (Perfluorooctane Sulfonates (PFOS), Perfluorooctanoic Acid (PFOA),

Hydrofluorocarbon (HFC), Perfluorocarbons (PFCS), Sulfur Hexafluoride (SF6))

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Ballifed	Banned immediately

5.2.35 多環芳烴 Polycyclic aromatic hydrocarbons (PAHs)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
多環芳烴 PAHs  所有零部件和產品在正常的使用下會直接接觸到人體皮膚或口腔 All parts and products that come into direct as well as prolonged or short-term repetitive contact with the human skin or the oral cavity, under normal or reasonably foreseeable conditions of use	0.5ppm	立即執行 Banned immediately 2023.01.11
多環芳烴 PAHs 除了上述以外的所有應用 All application except above	10ppm	立即執行 Banned immediately



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苯並[def]屈 (苯並[a]芘)		<b>文明</b> 4/7
Benzo[def]chrysene (Benzo[a]pyrene)	0.5 ppm	立即執行
所有零部件和產品 All parts and products		Banned immediately

#### 5.2.36 臭氧層危害物質 Ozone-Depleting Chemicals

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Barnos	Banned immediately

#### 5.2.37 放射性物質 Radioactive substances

管理零部位 Managed pa		含有量允 <mark>許</mark> 標準 hreshold <mark>limi</mark> t	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	CO, V	Banned	立即執行
All parts and products		W/ Min	Banned immediately

# 5.2.38 特定苯並三氮唑 Specific benzotriazole

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Barrioa	Banned immediately

#### 5.2.39 特殊酚類化合物 (Special phenol compounds)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	2023 立即執行 Banned immediately
雙酚 A在所有零部件和產品 Bisphenol A in all parts and products	250 ppm	立即執行 Banned immediately



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雙酚 A排外條款

1. 雙酚 A超過 250 ppm 但不屬於外部零件。

Bisphenol A Exemption

1. Bisphenol A is not used in external parts and its residue over 250ppm.

#### 5.2.40 壬基苯酚及壬基酚聚氧乙烯醚 Nonyl Phenols/ Nonylphenol ethoxylates

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Dailleu	Banned immediately

#### 5.2.41 鹵化二苯基甲烷 Halogenated diphenyl Methanes

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Dained	Banned immediately

#### 5.2.42 富馬酸二甲酯 (Dimethyl Fumarate, DMF)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	26111104	Banned immediately

#### 5.2.43所有合成麝香all synthetic musks (including Musk ketone and Musk xylene)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	Banned	立即執行
All parts and products	Dailleu	Banned immediately

#### 5.2.44 磷單質 Element Phosphorus



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管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
紅磷在所有零部件和產品	Pannad	立即執行
Red Phosphorus in all parts and products	Banned	Banned immediately
黄磷在所有零部件和產品	Banned	立即執行
Yellow Phosphorus in all parts and products	Dailleu	Banned immediately

5.2.45 致癌原類,致突變原類,生殖毒性(致畸)類(CMR類)物質 Carcinogens,Mutagens&Reproductive toxins

管理零部件 Managed parts	最大含有量允許標 準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
與皮膚接觸的零部件 The parts that will be in touch with human skins	Banned	立即執行 Banned immediately

#### 5.2.46 特殊類物質 (REACH 法規限制的化學物質)Special substance (Restricted in REACH)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品中均一物質	請見附錄"化學物質目	
All parts and products in homogeneous	錄"	立即執行
materials	Please see the "Chemical substance list"	Banned immediately
(VOC)		

1. REACH 法規中的限制物質會不斷增加,供應商應該滿足其要求。

The Restricted substance in REACH will increase and the suppliers should meet it.

2. 詳細情況請見網站: http://echa.europa.eu/reach\_en.asp

Please get the information in the Web: http://echa.europa.eu/reach\_en.asp

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具體涉及之化學物質請見附錄"化學物質目錄"

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Please see Detailed substance in the "Chemical substance list"

5.2.47 REACH 高關注物質 REACH SVHC (Substance of Very High Concern)

REACH SVHC 不定期發佈在如下網站: http://echa.europa.eu/home\_en.asp

Remark: Our company applies a stricter restriction for some SVHCs (e.g. phthalates, chlorine and compounds, and organic tin compounds). Always apply the stricter concentration limit, if

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substance belongs also to other substances;

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	1000ppm	依 REACH 要求 According to EU
All parts and products	in Article	regulation REACH

備註:各零部件中的關於此項物質的含量需透過 GP MCD 主動通報至本公司。

Remark: The SVHC content in parts need actively announce to our company by GP MCD

#### 5.2.48 其它需宣告之物質 Other Controlled Substances

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品	主動宣告	未定義 N/A
All parts and products	Declarable	大大 我 1477

備註:具體涉及之化學物質請見附錄"化學物質目錄"

Remark: Please see Detailed substance in the "Chemical substance list"

### 5.2.49 製程中限制物質 Restriction substances in manufacturing processes

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零件製程	Banned	立即執行
All manufacturing processes		Banned immediately

備註:具體涉及之化學物質請見附錄"化學物質目錄"

Remark: Please see Detailed substance in the "Chemical substance list"

#### 5.2.50 二苯胺與苯乙烯及 2,4,4-三甲基戊烯的反應產物

Benzenamine, N-phenyl-, reaction products with styrene and 2,4,4-trimethylpentene

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately



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#### 5.2.51 有機磷化合物 Organophosphate compound

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
磷酸三鄰甲苯酯 Tri-o-cresyl phosphate(TCP) 所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately
三(2-氯乙基)磷酸酯,磷酸三(2-氯丙基)酯與磷酸三(1,3 - 二氯異丙基)酯 Tris(2-chloroethyl)phosphate (TCEP), Tris(2-chloro-1-methylethyl) phosphate (TCPP) and Tris[2-chloro-1-(chloromethyl)ethyl] phosphate (TDCPP) 所有零部件和產品 All parts and products 其它有機磷化合物(除上述所列)	Banned	立即執行 Banned immediately
Other organophosphate compounds except above 所有零部件和產品 All parts and products	1000ppm	未定義 <b>N/A</b>
其它磷系阻燃劑(除上述所列) Other Phosphorus flame retardants except above 所有零部件和產品 All parts and products	1000ppm	未定義 N/A

#### 5.2.52 鹵素芳香物質 Halogenated Aromatic Substances(HAS)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
單分子鹵化芳香族物質用於電容和變壓器中 Monohalogenated aromatic substances use in capacitors and transformers	500ppm	Car 立即執行 Banned immediately
多分子鹵化芳香族物質用於電容和變壓器中 Polyhalogenated aromatic substances use in capacitors and transformers	50ppm	立即執行 Banned immediately

# 5.2.53 木材,紙張和其他植物為基礎的產品 Wood, Paper, and other Plant-based Products



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管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
在零件,部件,材料和產品中含有任何非法 取得的木材或植物材料(備註1) Parts, components, materials, and products contain any wood material or wild plant material that was illegally sourced from its country of origin.(Remark 1)	Banned	立即執行 Banned immediately
來自熱帶雨林中的纖維材料(備註2) fibre from rainforest sources (Remark 2)	Banned	立即執行 Banned immediately

備註 1: 供應商必須盡職調查取得證明文件,包含來源證明和相關生產紀錄,以驗證產品中材料的木材和植物產品來源是合法的。

Remark 1: Suppliers must have a due diligence process to verify compliance of products with the material restrictions that wood and plant products are legally sourced, including obtaining the country of origin and genus and species of plant or wood material and maintaining records that verify the legal origin of plant materials used to produce products and packaging.

備註 2: 請將紙製造紙漿之木材來源地寫在本公司調查表中

Remark 2: Please fill the country of original sources in our GP MCD.

5.2.54 IARC 公佈 1 & 2A 致癌物質 Group 1 & 2A CMR substances Classified by the IARC Monographs

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately
參考連結 reference link http://monographs.iarc.fr/ENG/Classification/		

#### 5.2.55 界面活性劑 Surfactants

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	1000 ppm	立即執行 Banned immediately

#### 5.2.56 抗菌,抗微生物劑 Antimicrobial & Biocidal



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管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately

#### 5.2.57 天然橡膠 Natural rubber

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately

#### 5.2.58 二鄰甲苯胍 1,3-diorthotolylguanidine (DOTG,N, N´-Bis(2-methylphenyl)guanidine)

管理零部件 Managed parts		含有量允許標準 nreshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	NO	Banned	立即執行 Banned immediately

#### 5.2.59 TCO 認證-有害物質的限制 TCO Certified-Reduction of hazardous substances

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
國素阻燃劑、未列入TCO Certified Accepted Substance List 的非鹵素阻燃劑及塑化劑 Halogenated flame retardants、 Non-halogen flame retardants and		CarUX 文管中心
Plasticizers are not listed in the TCO Certified Accepted Substance List	1000 ppm	未定義N/A DCC
重量超過25克的零件(耳機為10 克,智能手機為5克)且主要由 塑料製成。		bee
Parts that weigh more than 25		



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<del></del>	
grams (10 g for headsets and 5 g for smartphones) and are made mainly of plastics.	
a. 印刷線路板層壓板,電子元件和各種電纜絕緣層除外。 a. Exempted are printed wiring board laminates, electronic components and all kinds of cable insulation.	
用於在火災條件下改變塑料的滴 落行為或改善加工性能的氟有機 添加劑	
Fluoroorganic additives, used to modify the dripping behaviour of plastics in fire conditions or to improve the processing behaviour	5000 ppm 未定義N/A
所有零部件和產品	THE COLUMN
All parts and products	

# 5.2.60 中國 VOC 標準要求 China VOC (Volatile Organic Compound) Standard Requirements

requirements		
管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件、產品及生產過程 All parts, products and manufacturing processes	請參照以下中國VOC標準所訂立的限值 Please refer to the below China VOC standard's control limit.  1. GB 30981-2020, Limit of harmful substances of industrial protective coatings  2. GB 38507-2020, Limits of volatile organic compounds (VOCs) in printing ink  3. GB 33372-2020, Limit of volatile organic compounds content in adhesive  4. GB 38508-2020, Limit of	立即執行 Banned immediately 2023.01.11 DCC
	volatile organic compounds content in cleaning agents	

#### 5.2.61 磷化氫 Phosphine



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管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately

### 5.2.62 美國毒性物質管理法(Toxic Substances Control Act, TSCA)

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately

參考連結 reference link: https://www.epa.gov/assessing-and-managing-chemicals-under-tsca/persistent-bioaccumulative-and-toxic-pbt-chemicals-under

#### 5.2.63 (EU)2019/2021-鹵化阻燃劑 (EU)2019/2021-Halogenated flame retardants

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
電子顯示器的外殼和支架中 <mark>的</mark> 鹵 化阻燃劑 The use of halogenated flame retardants in the enclosure and stand of electronic displays.	Halogen substance < 1000ppm	立即執行 Banned immediately

排外條款 Exemption: Halogen substance in the enclosure and stand of electronic displays can be proved that is not belong to flame retardants.

關於鎘的標籤和重量超過50 g的塑料組件的標記,請遵循(EU)2019/2021法規的要求。

About the labeling of Cadmium and marking of Plastic components heavier than 50 g, please follow the requirement of (EU) 2019/2021 regulation.

#### 5.2.64 正己烷 n-Hexane

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately



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5.2.65 橡膠防老劑 IPPD: N-Isopropyl-N'-phenyl-1,4-phenylenediamine

管理零部件 Managed parts	最大含有量允許標準 Threshold limit	禁止供貨日期 Effective data of the ban on the delivery
所有零部件和產品 All parts and products	Banned	立即執行 Banned immediately

#### 5.3 包裝材料管制物質 Controlled substances of package material

5.3.1 供應商需確保所交付的包裝材料符合下表所列之管制物質與其管制限值要求,並針對前 4項送交第三公正單位進行檢測。無鹵素的包材須再增加溴、氯檢測。包材須遵守最低 要求符合 REACH 並滿足無衝突礦產的管理。

The supplier must ensure that package material meets the requirement of the control limit according to concentration request and provide test report from the third party, the control limit as below table. In addition, supplier should provide test report for bromine and chlorine for HF package materials. Package materials should meet the minimum requirement of REACH and conflict –free minerals management.

管制物質 Controlled Substances	管制限值 Control Limit
鎘及鎘化合物 Cadmium (Cd)/ Cadmium Compounds	
鉛及鉛化合物 Lead (Pb)/ Lead Compounds	80ppm
汞及汞化合物 Mercury (Hg)/ Mercury Compounds	(sum of Cd,Pb,Hg,Cr <sup>6+</sup> ) Cd: 5 ppm
六價鉻及六價鉻化合物 Hexava <mark>lent-Chromium(Cr6+)</mark> and Its Compounds	
聚氯乙烯 Poly Vinyl Chloride (PVC)	Banned
泡沫聚苯乙烯 Expanded Polystyrene (EPS)	Report
溴甲烷 Methyl Bromide	Banned
砷化合物 Arsenic Compounds	Banned
總溴 Total Bromine	Br< 900ppm Total Br +Cl < 1500ppm 依客戶需求 For customers' requirement
總氯 Total Chlorine	Cl< 900ppm <sup>3.01.11</sup> Total Br +Cl < 1500ppm 依客戶需求 For customers' requirement
甲醛 Formaldehyde	Banned
元素氯作為漂白劑 Elemental chlorine as a bleaching agent	Banned



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鄰苯二甲酸二乙酯 Di(2-ethylhexyl)Phthalate(DEHP)	1000 ppm
鄰苯二甲酸丁卞酯 Benzylbutyl Phthalate(BBP)	1000 ppm
鄰苯二甲酸二丁酯 Dibutyl Phthalate(DBP)	1000 ppm
鄰苯二甲酸二异丁酯 Diisobutyl phthalate (DIBP)	1000 ppm
鄰苯二甲酸酯 <u>Total</u> Phthalates	100 ppm For TPCH's requirement
全氟與多氟烷基物質 Perfluoroalkyl and	Banned
Polyfluoroalkyl substances (PFAS)	For TPCH's requirement
礦物油 Mineral Oil	<u>Report</u>

#### 5.3.2 關於包裝材料的回收,標識等要求,請見附錄;各國包裝材料管制要求;

The requirement of packaging material recyling and marking are in "Packing material requirement from some countries "

#### 5.4 揮發性有機物 Volatile Organic Compounds(VOCs)

所有交付給 CarUX 之零部件皆須滿足以下揮發性有機物管制要求

管控對象:成品或部品,非均質。

備註:液態樣品或是經製程後會變化之產品以製程後樣品管控。

All products and parts to CarUX shall meet control management of VOC.

Contol Object: products or parts, not homogeneous material.

Remark: liquid state samples or products that will change after process are controlled by post-process samples.

#### 5.4.1 部品與材料分類以及管控期程 (表 5-4-1)

Catalogy of parts and materials & control schedule (Table 5-4-1)

#### Table 5-4-1 Applicable Material and Parts

項目	部品/材料	詳細資訊	管控時程	
ITEMS	PARTS/ MATERIAL	DETAILS	Control Schedule	
1	所有塑膠材料、印刷 電路板(含電子零件組 裝) All Plastic material, PCB with electronic assembly	例如: (1) 膠框、塑料外殼與電鍍、塗裝、印刷電路板及其模組、蓋、電線、保護膜、光條、軟排線 (2) 聚甲醛 (POM) 環氧樹脂、聚甲醛 (POM)、環氧樹脂材料、環氧塗層材料 eg:	第一階段(2015/Q3): 所有產品、零部件及包材:宣告 第二階段(2016/Q4): 車用產品及零部件及包材:宣告並提交檢測報告(檢測項目應符合13QM000051物質成分宣告表及檢測報告審核規範)	



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2	光學板材、背光模組 Optical film/plate, BLU	(1) Housing, Frame, outer casing with electroplating and coating, Plastic Outer Casing, PCB & PCBA & FPCA, including electronic parts assembly, Cover, Wire, Protector Film, Light Bar, FFC  (2) Polyoxymethylene (POM) Epoxy Resin, Polyoxymethylene (POM) Epoxy Resin Material, Epoxy Coating Material  例如: 擴散片、反射片、菱鏡片、 導光板、偏光板 eg: Diffuser, Reflector, lens, BEF,	第三階段(未定義): 所有產品、零部件及包材:禁用 Level 1 (2015/Q3): All products, parts and package material: declare Level 2(2016/Q4): Autotive products, parts and package material: declare and provide the 3rd party test reports (The test items of the sample should according to the (13QM000051) Requirement of Material Composition Declaration Form and 3rd Party Test Reports) Level 3(no effective date): All products, parts and package material: banned
	膠、雙面膠、多層黏 合部品/材料	LGP, Polarizer  例如: 導電膠、密封膠、保護膠、	同項目 1
3	Adhesive Glue, Double side Tape, Multiple layers adhesive parts/ Materials	防水膠、膠帶、緩衝片 eg: ACF, Sealant, Tuffy ,waterproof glue, Tape, Mylar, Spacer	reference item 1
			DCC



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4	塗料、油墨、印刷、 化學品 Paint, Coating, Ink, Printing, Chemical	例如:油墨、塗料、液晶、光阻、 聚亞醯胺 eg:lnk, paint, LC, photo resistor, PI, Spacer(Au Ball)	同項目 1 reference item 1
5	電子零件、玻璃、金屬、焊錫、其它(非屬上述類別與包裝材料) Electronic part, Glass, Metal, Solder, Others (except above items and packaging materials)	例如: (1) 電阻、電容、電感、保險絲、電晶體、繼電器、積體電路、連結器等電子零件 (2) 焊錫 (3) 玻璃 (4) 金屬框,背板,散熱片,靶材 (5) 其它 eg: (1) Resistor, capacitor, Inductor, Fuse, Transistor, Relay, IC, Connectorelectronic components (2) Solder (3) Glass (4) Metal Frame, Rear, Bezel, Heatsink, Target (5) others	同項目 1 reference item 1
6	包裝材料 Package Material	例如: (1)夾層板和膠合板、托盤、保護膜、護角、紙、紙箱、包裝帶、棧板、發泡材料、乾燥劑、木材基板、木材屑片、木材屑粒eg: (1) Sandwich Plate & Plywood, Tray, Protector Film, Corner Protector, Paper, Carton, Packing Band, Pallet, Foam Material, Desiccant, Wood - Based Panels, Basal Laminar, Coarse-Grained	同項目 1 reference item 1 2023.01.11 DCC



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# 5.4.2 各部品與材料揮發性有機物管控限制 VOC control limit of parts and materials

每個部件的揮發性有機物皆須滿足以下分類的要求

The amount of volatilization from each part (parts/unit) shall be satisfied with following numerical values

	The amount of volatilization from each part (parts/ unit) shall be satisfied with following numerical values.										
	管控限值 Control Limit( μ g/m³/Unit)  * 檢測方法 test method: JASO M902/ISO 12219-2										
	4.0	1	<b>y</b>	* 機渕万法 test method: JASO M902/ISO 12219-2  * 儀器 Instrument: GC-MS & HPLC-DAD							
No	物質 · Substance(C)	物質 substances(E)	CAS No.	所有塑膠材 料、印刷電路		膠、雙面膠、 多層黏合部品 /材料	塗料、油墨、 印刷、化學品 Paint, Coating, Ink, Printing, Chemical	電子零件、玻璃、金屬、焊錫、其它(非屬上述類別與包裝材料) Electronic part, Glass, Metal, Solder, Others (except above items and packaging materials)	包裝材料 Package Material		
1	正己烷	n-Hexane	110-54-3	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50		
2	正戊烷	Pentane	109-66-0	≤ 50	≤ 50	≤ 50	≤ 25023.	<b>01.≨1</b> 50	≤ 50		
3	環己烷	Cyclohexane	110-82-7	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50		
4	甲苯	Toluene	108-88-3	≤ 100	≤ 1000	≤ 1000	≤ 100	≤ 50	≤ 1000		
5	乙苯	Ethylbenzene	100-41-4	≤ 100	≤ 100	≤ 100	≤ 100	≤ 50	≤ 1000		
6	二甲苯	Xylene	95-47-6 (o) 106-42-3(m) 108-38-3(p)		≤ 100	≤ 100	≤ 100	≤ 100	≤ 500		

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<del>.</del>	ino: oarox_ nooi	ilicieu substance	Jillalla	germent ste	arradra	1			
7	苯乙烯	Styrene	100-42-5	≤ 100	≤ 50	≤ 50	≤ 50	≤ 50	≤ 100
8	乙酸丁酯	Butyl acetate	123-86-4	≤ 100	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
9	對-二氯苯	p-Dichlorobenzene	106-46-7	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
10	十四烷	Tetradecane	629-59-4	≤ 50	<b>∫</b> ≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
11	苯	Benzene	71-43-2	<b>≤</b> 50	≤ 60	≤ 50	≤ 60	≤ 50	≤ 60
12	十一烷	Undecane	1120-21-4	<b>//</b> ≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
13	十六烷	Hexadecane	544-76-3	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
14	DBP,鄰苯二甲酸二丁酯	Di-n-butyl phthalate	84-74-2	≤ 500 mg/m³/Unit					
15	DEHP,鄰苯二甲酸二辛酯	Di-2-ethylhexyl phthalate	117-81-7	≤ 500 mg/m³/Unit					
16	甲醛	Formaldehyde	50-00-0	≤ 50	≤ 50	≤ 50	70	≤ 50	≤ 50
17	乙醛	Acetaldehyd	75-07-0	≤ 50	≤ 50	≤ 50	30rLX 文	管中≤心 50	≤ 50
18	環己酮	Cyclohexanone	108-94-1	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50	≤ 50
19	丙酮	Acetone	67-64-1	≤ 50	≤ 50	≤ 50	≤ 70	≤ 50	≤ 50
20	丙烯醛	Acrolein or Acraldehyde	107-02-8	≤ 50	≤ 50	≤ 50	≤ 30 <b>D</b> (	C ≤ 50	≤ 30
21	丙醛	Propionaldehyde	123-38-6	≤ 50	≤ 50	≤ 50	≤ 30	≤ 50	≤ 50
22	丁烯醛	Crotonaldehyde	123-73-9	≤ 50	≤ 50	≤ 50	≤ 30	≤ 50	≤ 50
23	丁醛	Butyraldehyde	123-72-8	≤ 50	≤ 50	≤ 50	≤ 30	≤ 50	≤ 50



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24	苯甲醛	Benzaldehyde	100-52-7	≤ 50 ≤ 50	≤ 50	≤ 30	≤ 50	≤ 50	
25	異戊醛	Isovaleraldehyde	590-86-3	≤ 50 ≤ 50	≤ 50	≤ 30	≤ 50	≤ 50	
26	已醛	Hexaldehyde	66-25-1	≤ 50 ≤ 50	≤ 50	≤ 30	≤ 50	≤ 50	
27	總揮發性有機化合物, C <sub>6</sub> - C <sub>16</sub>	T-VOC		36V	600 μg/	m³/Unit			





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#### 5.5 電池管制物質 Controlled substances of batteries

**5.5.1** 供應商需確保所交付的產品中,其所附屬之電池符合下表所列之管制物質與其管制限值要求,並針對下表三項送交第三公正單位進行檢測。電池須遵守最低要求符合 REACH並滿足無衝突礦產的管理。

The supplier must ensure that batteries meets the requirement of the control limit according to concentration request and provide test report from the third party, the control limit as below table. Batteries should meet the minimum requirement of REACH and conflict –free minerals management.

No	管制物質 Restricted substance	內容 Content	限值 limit (ppm)	法律 法規 指令 <b>✓ ) origin</b>	
1	4 鉛元素及其化合物	所有鹼性電池除了鈕扣式電池 All alkaline batteries except button cells	40	EU 2006/66/EC Specified by Customer	
	Compounds	其它電池 All other batteries	1000	EU 2006/66/EC Specified by Customer	
2	IN/loroury// Hall/ N/loroury/	所有電池 All batteries	1	EU 2006/66/EC Specified by Customer	
	I( 'admilim/( 'd) /	所有電池 All batteries	Je J	EU 2006/66/EC Specified by Customer	

5.5.2 關於電池的回收,標識等要求,請見附錄:各國電池管制要求;

The requirement of package material recyling and marking are in "Battery requirements from some countries"

5.6 供應商需依要求提交檢測報告 (檢測項目應符合 Innolux 13QM000051 物質成分宣告表及檢測報告審核規範)。

The suppliers should follow our requests to provide the 3rd party test reports (The test items of the sample should according to the (13QM000051 for innolux documentation) requirement of material composition declaration form and 3rd party test reports)

5.7 供應商未於「GP MCD」中所揭露的物質,表示所交付的材料與產品中不含有上述所列之相關管制物質,並簽署「廠商承諾書」承諾之,若經相關單位舉發或檢測後發現有上述所列之相關管制物質,需負相關連帶責任。

The foregoing substances had not been filled in GP MCD from suppliers; suppliers need to sign an warranty to guarantee not containing controlled substance used in materials and product of delivering to our company. If the foregoing material was found with controlled substances from related test department, the suppliers will need to take all responsibilities to our company.

5.8 當供應商對所交付的材料或產品的組成成分變更,而影響「GP MCD」之真實性時, 需將第三公正單位之檢測報告與修改後的「GP MCD」主動通知本公司。

The suppliers must spontaneous inform CarUX when you modify ingredient of material and product, making GP MCD become unauthentic, the GP MCD and the third party test report.



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#### 5.9 標籤標示要求 Label requirements

5.9.1 供應商需對符合本公司規格要求的綠色產品外包裝上進行標示,標識要求如下所示 ("GP"或 "Green Product"字樣,擇一即可):

The suppliers should follow our labelling requirements of outer packing. It is qualified that one of the label forms, "GP" or "Green Product", is chosen.

Please see below

標籤樣式 (Label Form)	詳細規格 (Specifications)	標籤定義 (Definition)		
	1. 字母最小高度: 3.5 mm			
GP	Minimum height of letter: 3.5 mm	所有環保之部材與包材		
<b>O</b> I	2. 字體、顏色與大小寫不限制	All Green parts and package		
	There is no requirement to	materials \		
	font ,color, uppercase and	例如 example:		
	lowercase letters on label.	Green 1, Green 2,		
Green Product		Green 3, Green 4,		
	The mark label must be legible and	Green P1, Green P2		
	visible.			

5.9.2 本標識可以根據包裝的實際尺寸大小按比例進行調整。

This marking can be adjusted in proportion according to the actual size of the package.

5.9.3 本標識可以為一標籤或者為一印章,以方便操作即可。

This marking can be a label or a stamp whichever is convenient for operation.

5.9.4 若無外包裝者,可直接標示於本體上。

This marking can direct marking on the part, if no outer packing.

#### 6.0 相關文件/作業表單 Concerned Documents/Forms

請參閱系統上『表單』、『其他相關文件』、『其他相關附錄/表單』欄位。 Please refer to "form" and "others docuement" fields on DCC system.

#### 7.0 附錄 Appendix

請參閱系統上『附錄』欄位。

Please refer to "attachment" fields on DCC system.

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