



附錄 02：各國包裝材料管制要求 Appendix 02 : Packaging requirement from some countries

A. 摘要 Abstract :

一、包裝材料中的禁限用物質

Restricted Substances for Packing

1. 非揮發性限用物質 :7 項

Non Volatility of Restricted Substances: 7 items and other substances restricted in Product

2. 揮發性危險物質：供應商到相關網站查詢揮發性危險物質並核查各零部件含有情況，必須將正確的揮發性危險物質含有信息主動提供在 MSDS，並盡量減少揮發性危險物質使用。

Volatility of dangerous substances: Disclosing actively, and reducing using them.

二、包裝材料回收要求(Recycling requirements of Packaging materials) :

參照歐盟包裝材料指令 (2004/12/EC), According to EU directive 2004/12/EC.

三、包裝材料標示要求 (Packing marking requirements):

1. 含各國要求(中國/日本/美國/歐盟等), 內容包含: 利于回收而設計的材料類型標識

Some country's requirements (China/ Japan/ America/ EU...) :

Containing Material marking for recycling easily.

B. 名詞解釋 Phrase explanation;

一. 危險物質 dangerous substances

對人體或環境有危險的化學物質

The chemical is dangerous to person or environment.

二. 可回收再利用 Recovery

主要用作燃料或其他方式產生能源；溶劑再製或再生；包括合成及其他生物轉換製程以及能源之回收；

The main action is usable to fuel or other means making energy .

三. 可再循環 Recycling

指為原用途或其他用途之目的，將廢物料於製程中再加工

Reworking for original purpose

C. 正文 Text:

一. 禁限用物質要求:

Restricted Substances for Packing

1. 非揮發性危險物質 Non Volatility of dangerous Substances:

包裝材料中禁限用非揮發性化學物質的完整列表之相關資訊如表一，表中提供禁限用物質的項目及其限值。針對前 4 項送交第三公正單位進行檢測。

All packaging and packaging components must comply table 1, in all respects, to the requirements for heavy metals content.

The supplier must provide test report from the third party for front five items, the control limit as below table.



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表一：非揮發性化學物質清單

Table 1: the list of Non Volatility of Compounds:

管制物質 Controlled Substances	管制限值 Control Limit
鎘及鎘化合物 Cadmium (Cd)/ Cadmium Compounds	80 ppm (Cd,Pb,Hg,Cr ⁶⁺ 的總和) 80ppm (sum of Cd,Pb,Hg,Cr ⁶⁺)
鉛及鉛化合物 Lead (Pb)/ Lead Compounds	
汞及汞化合物 Mercury (Hg)/ Mercury Compounds	
六價鉻及六價鉻化合物 Hexavalent-Chromium(Cr ⁶⁺)/ Hexavalent-Chromium 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

2. 揮發性危險物質

Volatility of dangerous substances :

2.1. 識別揮發性危險物質 Identify Volatility of dangerous substances

除了上表一列出的物質，供應商應識別任何包裝組件中所含有或添加（透過物質安全資料表(MSDS)）之任何已被確認為“危險”之成份（如已被歸類於歐盟指令 67/548/EEC 附件一及其修正指令中具備符號‘N’之物質）。如果被識別為危險之成份其濃度 ≥ 1000 ppm 則必須在 MSDS 中揭露。

為確定一種物質是否被歸類為具有符號“N”，您可以至以下網址查詢：

<http://www.kemi.se/nclass>

<http://www.ellispub.com>

In addition to the substances listed above and in Table 1, CarUX requires each supplier to identify (via Safety Data Sheet a.k.a. Material Safety Data Sheet) any constituent identified as “dangerous” (as so classified in Annex I of EC Directive 67/548 and its amendments with the symbol ‘N’), which is contained in or added to any packaging component. Additionally, if the concentration of a constituent, identified as dangerous, is ≥ 1000 ppm the concentration must be listed in the MSDS sheet.

You can search for a substance to determine if it is classified with the symbol “N” at:

<http://www.kemi.se/nclass>

<http://www.ellispub.com>

2.2 減少揮發性危險物質的使用 Reduce Volatility of dangerous substances

供應商應依據歐盟 EN 13428:2004 標準減少“危險物質”的使用(其執行方法在 CEN/TR 13695-2:2004 中有詳細的解說)。

英文版的 CEN/TR 13695-2:2004 標準可以在以下網站購買：

<http://www.sfs.fi/en/> (在搜索欄中輸入標準編號) 或

<http://www.bsonline.bsi-global.com/server/index.jsp>

The supplier is also required to reduce the use of any “dangerous substances” as much as possible in accordance with EN 13428: 2004 (the methodology is fully explained in

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CEN / TR 13695-2:2004). The CEN/TR 13695-2:2004 standard can be purchased in English at either: <http://www.sfs.fi/en/> (Type in the number for the standard in the search field).

<http://www.bsonline.bsi-global.com/server/index.jsp>

二. 包裝材料回收要求:

Recovery and recycling for Packing

2.1. 2001/06/30 前包裝材料應滿足 50%~65%可回收利用或焚化(能量循環)

No later than 30 June 2001 between 50 % as a minimum and 65 % as a maximum by weight of packaging waste will be recovered or incinerated at waste incineration plants with energy recovery;

2.2. 2001/06/30 前包裝材料應滿足 25%~45%可再循環，每種包裝材料至少應滿足 15%

No later than 30 June 2001 between 25 % as a minimum and 45 % as a maximum by weight of the totality of packaging materials contained in packaging waste will be recycled with a minimum of 15 % by weight for each packaging material;

2.3. 2008/12/31 前包裝材料應滿足至少 60%可回收再利用或焚化(能量循環)

No later than 31 December 2008 60 % as a minimum by weight of packaging waste will be recovered or incinerated at waste incineration plants with energy recovery;

2.4. 2008/12/31 前包裝材料應滿足 55%~80%可再循環

No later than 31 December 2008 between 55 % as a minimum and 80 % as a maximum by weight of packaging waste will be recycled;

備注：2008/12/31 前各種材料再生目標：玻璃 60%、紙及紙板 60%、金屬 50%、塑膠 22.5%、木材 15%

Notes: No later than 31 December 2008 the following minimum recycling targets for materials contained in packaging waste will be attained:

- (i) 60 % by weight for glass;
- (ii) 60 % by weight for paper and board;
- (iii) 50 % by weight for metals;
- (iv) 22.5 % by weight for plastics, counting exclusively material that is recycled back into plastics;
- (v) 15 % by weight for wood.

三. 包裝材料標示要求 Marking requirements of package materials :

3.1 中國大陸包裝回收標誌，參照 GB 18455 : 2001要求：

China Packaging recycling mark, follow GB 18455: 2001:



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3.1.1 回收標誌請見表 2 Recycling Marks in Table 2

表 2:回收標誌

Table 2 : Recycling Marks

標誌號 Mark Number	標誌名稱 Mark Name	標誌圖形 (Mark Graphic)	標誌適用範圍 (Scope of Application of Mark)
1	可重複使用 Reusable		適用於各類包裝 Applies to all types of packaging
2	可回收再生 Recyclable/Renewable		
3	含再生材料 Contains renewable materials		
4	綠點標誌 Green point mark		

備注Remark:

綠點標誌：包裝生產者已支付包裝處理費的綠色包裝環保標誌。

Green point mark: the packing manufacturer has disbursed the packing bargain price.

3.1.2 各種材質的包裝在所屬標誌圖形中的代號見表3

See Table 3 for the codes for packaging of various types of materials in their corresponding mark graphics.

表3：各種材質的包裝在所屬標誌圖形中的代號

Table 3 : codes for packaging of various types of materials in their corresponding mark graphics.

類別 Item	名稱 Category	材質 Material	代號 code
I	塑膠 (Plastic)	高密度聚乙烯 High Density Polyethylene	HDPE
		低密度聚乙烯 Low Density Polyethylene	LDPE
		聚氯乙烯 Polyvinyl chloride	PVC
		聚對苯二甲酸乙二酯 Polyethylene Terephthalate	PET

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類別 Item	名稱 Category	材質 Material	代號 code
		聚丙烯 Polypropylene	PP
		聚苯乙烯 Polystyrene	PS
II	紙 (Paper)	紙 Paper	WPP
		紙板 Paperboard	PB
		瓦楞紙板 Corrugated Cardboard	CB
		瓦楞纖維板 Corrugated Fiberboard	CFB
		非瓦楞纖維板 Non-Corrugated Solid Fiber Board	NCFB
III	金屬 Metal	鋼鐵 Steel	FE
		鋁 Aluminum	ALU
IV	複合材料 (Composite materials)	塑膠/鋁 Plastic/aluminum	11
		塑膠/馬口鐵 Plastic/tin	12
		塑膠/混合金屬 Plastic/mixed metals	13
		塑膠/玻璃 Plastic/glass	14
		玻璃/鋁 glass/aluminum	21
		玻璃/馬口鐵 glass/tin	22
		玻璃/混合金屬 glass/mixed metals	23
		紙或纖維板/塑膠 paper or fiberboard/ plastic	31
		紙或纖維板/鋁 paper or fiberboard/ aluminum	32
		紙或纖維板/馬口鐵 paper or fiberboard/ tin	33
		紙或纖維板/混合金屬 paper or fiberboard/ mixed metals	34
		紙或纖維板/塑膠/金屬 paper or fiberboard/ plastic/ metal	41
V	玻璃 (Glass)	無色 Colorless	GL1
		棕色 Brown	GL2
		綠色 Green	GL3
VI	木材 (Wood)	自然木材(Nature wood)	NW



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3.1.3 標誌尺寸、顏色 Mark sizes and colors

A. 標誌尺寸(mm)：Mark sizes

表四. 標誌尺寸

Table 4 : Mark sizes

號別 Number	長 Length	寬 Width
1	20	20
2	40	40
3	60	60
4	80	80

注：如遇特大或特小的包裝件，標誌的尺寸可按表 3 的規定適當擴大或縮小。

Remark: If especially large or especially small packaged items are encountered, mark size may be appropriately enlarged or reduced in accordance with the requirements in table 3

B. 標誌的顏色 Mark colors

標誌的顏色應為單色印刷，一般採用綠色印刷。如果因包裝件所用的顏色使綠色圖示標誌顯得不清晰，也可採用其他適當的對比顏色。

Mark colors should be printed monochromatically, generally, green printing is used. If the color used for the packaging piece makes the green graphic mark appear unclear, other suitable contrasting colors may be used also.

3.1.4 塑膠包裝材料及容器所用包裝回收標誌示例

Packaging Recycling Marks Used for Plastic Packaging Materials and containers

Example:

A. 塑膠包裝材料及容器應用“可回收再生”標誌

The “Recyclable/Renewable” mark should be used for plastic packaging materials and containers.

B. 體積超過100 ml的塑膠容器和包裝物必須以直覺外觀注明塑膠種類的迴圈符號，印或刻制在該塑膠包裝材料上。

On plastic containers and packaging pieces with volumes in excess of 100ml, the recycling symbol for the type of plastic must be indicated in an accessible and external manner, printed or carved on said plastic materials



LDPE

04- 塑膠號碼 Plastic Number

LDPE- 塑膠類型 Type of plastic





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3.1.5 瓦楞纖維板應標示如下：

Corrugated Fiberboard should be marked as below:



3.2 日本資源回收標誌 Japan recycling identification marks

3.2.1 日本資源回收標誌是根據日本1991年制定的《資源有效利用促進法》的規定所必須標示的。當產品廢棄時，收集再利用時即可以以此當作分類的標記。

Japan has a system of recycling marks, recycling identification marks, which indicate and classify recyclable materials. They are similar to the resin identification codes, in that they have surrounding arrows, with text inside to indicate the type of material.

3.2.2 日本資源回收標誌與塑膠分類標誌十分類似，兩者皆有圍繞的箭頭，內文皆依照材質的不同而標示在被箭頭圍繞的中間。除了可以用內文判斷材料的種類之外，箭頭圍繞的方式也可以用來判斷材料的種類：

They are similar to the resin identification codes, in that they have surrounding arrows, with text inside to indicate the type of material. Rather than using the triangular recycling symbol for all materials, with differing text, the shape of the arrows also varies, which allows them to be distinguished at a glance:

- A. 三角形代表鋁 (triangle standards aluminum)
- B. 橢圓形代表紙 (ellipse standards Paper)
- C. 方形代表塑膠 (square standards plastic)
- D. 圓形代表鋼 (circle standards Steel)



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3.3 韓國包材標示制度:

South Korea packaging marking requirements

3.3.1 紙 Paper

項目 Item	內容 Content
包裝材料定義 Packaging materials defined	得到韓國環境資源公社指定標示批准的紙包裝材料 Producers and importers using paper for their products and wrappings can voluntarily apply to ENVICO for use of the mark.
包裝材料示例 Packaging materials sample	包裝電子產品紙張，顯示器包裝箱等 the paper of the electric product packing, Monitor's CARTON
標示方法 Marking method	在包裝材料的表面印刷，刻印或標籤(可使用單一顏色) print, carve characters or labeling on the packing(single color is acceptable)
標示圖案 Mark Graphic	

3.3.2 紙盒 Carton

項目 Item	內容 Content
包裝材料定義 Packaging materials defined	貼合合成樹脂或鋁箔、噴塗的紙盒 carton by connected with adhesives or others , which is composed by resin and aluminum foil
包裝材料範例 Packaging materials sample	貼合合成樹脂的牛奶盒/豆奶盒 the carton for installing milk or soybean milk
標示方法 Marking method	在包裝材料的表面印刷，刻印或標籤(可使用單一顏色) print, carve characters or labeling on the packing(single color is acceptable),
標示圖案 Mark Graphic	

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3.3.3 玻璃, 金属 glass / Metal

項目 Item	內容 Content
包裝材料定義 Packaging materials defined	玻璃、鐵、鋁材質的包裝材料 the packing material is made by steel, glasses, and plastics
包裝材料示例 Packaging materials sample	裝有飲料及酒類的鐵罐、鋁罐、玻璃瓶 the glass / Metal bottles for carrying drinks
標示方法 Marking method	在包裝材料的表面印刷、刻印或標籤(可使用單一顏色) print, carve characters or labeling on the packing(single color is acceptable)
標示圖案 Mark Graphic	

3.3.4 塑膠 Plastic

項目 Item	內容 Content
包裝材料定義 Packaging materials defined	合成樹脂 (PET, HDPE, LDPE, PP, PS, PVC, OTHER) 材質的包裝材料 The packing materials are made of PET, HDPE, LDPE, PP, PS, PVC, OTHER
包裝材料示例 Packaging materials sample	電源線材包裝袋 the bag of power cable
標示方法 Marking method	在包裝材料的表面印刷、刻印或標籤(可使用單一顏色) print, carve characters or labeling on the packing(single color is acceptable)
標示圖案 Mark Graphic	



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3.4 台灣 Taiwan

台灣市場需要在可回收之產品含有回收標誌，此標誌是由四個逆時鐘方向，指向中心的箭頭所組成，不限定采綠色，只要單色印刷都可以。

Taiwan requires the use of a four-arrow symbol on all containers (either on the container itself, the inner or outer wrapping, or on the packaging label) that are subject to recycling under the Waste Act.



3.5 .美國 America

一般材料通用編碼: General Material Coding

3.5.1 塑膠分類標誌 (Resin identification code) 或稱合成樹脂識認碼、塑膠材質編號、塑膠材料編碼與塑料編碼，是美國塑膠工業協會 (Society of the Plastics Industry) 於1988年所發展出來的分類編碼方式。

The SPI resin identification coding system is a set of symbols placed on plastics to identify the polymer type. It was developed by the Society of the Plastics Industry (SPI) in 1988,

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表五. 塑膠材料編碼表

Table 5 : Plastic material Code list

Code 編碼	Material 物料	Applications 應用例子
 or  PET PETE	Polyethylene Terephthalate 聚對苯二甲酸乙二酯	Clear soft drink and beverage bottles, films 透明汽水及飲品樽、菲林
 or  HDPE PE-HD	High Density Polyethylene 高密度聚乙烯 (硬性軟膠)	Detergent bottles, industrial wrapping and film, sheets, shopping bags 洗潔精樽、工業包裝及薄膜、膠板、背心膠袋
 or  PVC V	Polyvinyl Chloride 聚氯乙烯	Water pipes, bath curtains, credit cards, packaging film, water containers 水管、浴簾、信用卡、包裝薄膜、盛水容器
 or  LDPE PE-LD	Low Density Polyethylene 低密度聚乙烯	Cling film, bread bags, plastic bags, shrink wrap, T-shirt bags 保鮮紙、麵包袋、收縮膠膜、背心膠袋
 PP	Polypropylene 聚丙烯 (百折膠)	Microwave containers, sweet and snack wrappers, straws, artificial lawns 微波爐膠盒、糖果及小吃、飲管、人造草皮
 PS	Polystyrene 聚苯乙烯 (硬膠)	Disposable cups and plates, fast-food boxes, CD cases, VHS tapes 即棄膠碟、飯盒、雷射唱片膠盒、錄影帶
 or  OTHER O	All other resin and multi-materials not otherwise defined 其他所有未列出之樹脂及混合料	CD, complex composites 雷射唱片，合成樹脂製品

Note:

This Table should be read in conjunction with the Guideline on Plastic Coding System

附註：

此編碼表應與塑膠材料編碼指引一併閱讀





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3.6 歐盟地區 EU

參照 CEN/TC 261要求

According to CEN/TC 261

3.6.1 材質要求 (Material requirements)

表六. 標誌尺寸

Table 6 : Material requirements

No	類別 Category	標示圖形 Mark Graphic
1	鋁 Aluminum	
2	鋼鐵 Steel	
3	玻璃 Glass	特殊材料的識別沒有要求 Specific material Identification is not required
4	紙和紙板 Paper and Board	特殊材料的識別沒有要求 Specific material Identification is not required
5	塑料 Plastic	
6	複合材料 Composites	僅需表達起決定性作用的材料 to be linked to the dominant material



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