

# 中華民國 與 聯合國 禁止化學武器公約

## The Chemical Weapons Convention and the Republic of China (Taiwan)

### 台灣與《禁止化學武器公約》

當今，印有“台灣製造”標籤的電子資訊及通訊產品廣泛流通於全球市場。正因台灣這類產品的設計、生產及供應上表現出色，在國際貿易中扮演著重要的角色。然而，為促進化學品用於和平用途的《禁止化學武器公約（CWC）》所實施之列管化學品貿易管理，使得電子資訊及化學等相關產業的發展與競爭力在無形中受到了限制。

《禁止化學武器公約》的宗旨在規範締約國以徹底消除大規模殺傷性化學武器之開發、生產、儲存、轉讓及使用的可能性，同時透過限制締約國和非締約國間對“列管化學品”之貿易管理來控制國際間的列管化學品的交易。

由於台灣目前為被排除在《禁止化學武器公約》外的非締約國，故對於甲類和乙類（公約附表1和附表2）列管化學品於締約國與台灣之間的交易是被禁止的，而丙類（公約附表3）化學品則要求台灣提供最終用途保證書來進行交易。具有軍事與民用雙重用途的部分CWC列管化學品，對於台灣來說，主要是運用在電子、資訊、通訊及塑膠、製藥、建材等民生工業必須使用到的化學品，找出可以進行交易與使用CWC列管化學品作為和平用途的方案成為勢在必行。

### Taiwan and the Chemical Weapons Convention

The country of origin label “Made in Taiwan” appears on a wide array of electronic and information and communications technology (ICT) products available on the market today worldwide. Indeed, Republic of China (Taiwan) has played a major role in international trade by designing, manufacturing and supplying such products. But Taiwan’s right to fair competition in these industries is being inadvertently eroded by restrictions imposed by the control list of Scheduled Chemicals set forth in the Chemical Weapons Convention (CWC), a treaty which promotes the peaceful use of chemicals.

The CWC aims to eliminate an entire category of weapons of mass destruction by prohibiting the development, production, acquisition, stockpiling, retention, transfer, or use of chemical weapons by States Parties. The CWC controls the international trade of Scheduled Chemicals by restricting transactions between States Parties and States non-Parties subject to the CWC provisions and control list.

As Taiwan is currently excluded from the CWC and treated as a State not Party, the CWC prohibits the trade of Schedule 1 and Schedule 2 Chemicals between State Parties and Taiwan and requires Taiwan to provide the end-use certificate



## 乙類列管化學品的貿易管制對台灣產業的影響

自2000年4月29日以來，乙類列管化學品對於非締約國的貿易限制已造成台灣某些原材料的供應中斷，進而影響到許多的本地製造商。例如，在此限制前，國內業者可以進口乙類2B04化學品，這些化學品廣泛應用於紡織工業的阻燃劑，特別是聚酯纖維。

更重要的是，許多含磷基的乙類或丙類化合物是應用於有機磷系阻燃劑；同樣屬乙類的二甲胺基氯乙烷（N,N-Dimethylaminoethyl-2-chloride），是電子與醫藥製程中不可或缺的製劑；而且，其它一些乙類化學品多為電子資訊通訊、塑膠、紡織、建材等製品之原料或中間體。以上總總，在實施管制乙類化學品後，國內許多工廠被迫撤離或停產。

台灣並非缺乏上述列管化學品的開發技術。然而，由於特殊化學品的國內需求量不大，無法透過量產規模達成經濟效益策略，導致生產成本增加。這可能會導致公司停止生產或轉移至海外而不利於台灣的產業發展。為全球主要化學工業國之一的台灣，理應獲得在《禁止化學武器公約》框架下作特殊協議，可以在出具最終用途保證書的模式下，允許乙類化學品與締約國貿易往來。無論如何，此一協議將有助於台灣工業發展，且可達成全面防止化武擴散之目的。

for trading Schedule 3 Chemicals. To Obtain CWC controlled chemicals which have the dual usage not only for chemical weapons but also for consumer products, it has become a major concern for certain industries in Taiwan, notably among pharmaceutical, ICT and electronic manufacturers. It is imperative for Taiwan to find a solution which will allow Taiwan to trade and use CWC controlled chemicals for peaceful purposes.

## Sanction of Schedule 2 Chemicals on Taiwan since Year 2000

Since April 29, 2000, trade restrictions on Schedule 2 chemicals with States not Parties has cut off the supply of certain raw materials to Taiwan, consequently affecting many local manufacturers. For example, prior to the restriction, local industries had been able to import Schedule 2B04 chemicals, which were widely used as flame-resistant agents in textile industry, particularly for polyester fibers. More importantly, phosphorous-based compounds classified as either Schedule 2 or Schedule 3 chemicals can be employed as organic phosphorus flame retardants. N,N-Dimethylaminoethyl-2-chloride, a Schedule 2 Chemical, is an essential agent used in the electronic and pharmaceutical industries. However, some other Schedule 2 Chemicals along with their derivatives are often used in the manufacturing of ICT, electronic and medical components, as well as in the production of plastics, textiles, surfactants, and construction materials. As a result of the sanction of Schedule 2 Chemicals on Taiwan, several commercial production facilities in Taiwan have been forced to cease the operations or relocate.

Taiwan possesses the technology required for developing the aforementioned restricted Scheduled Chemicals. However, the limited quantities of special chemicals needed increases the cost of production, causing the firms unable to meet the cost-effective strategies by optimizing the economics of scale. This may lead the firms to cease the operation or go overseas, which is detrimental to the development of Taiwan's



industries. In order to develop new products derived from Schedule 2 Chemicals, Taiwan, as one of the major chemical industries in the world, should be granted a special arrangement within the framework of the CWC and be permitted to transfer Schedule 2 Chemicals from States Parties by providing the end-use certificate. This arrangement would enhance the development of Taiwan's industries and eliminate the proliferation of chemical weapons.

## 若丙類化學品貿易規範趨嚴將全面衝擊台灣的產業發展

丙類列管化學品是消費性及高科技產品生產鏈中絕對必要的原物料。在目前的《禁止化學武器公約》貿易規範下，台灣廠商以出具最終用途保證書的方式，由締約國進口丙類列管化學品。然而，一旦《禁止化學武器公約》締約國於審議大會中決議全面禁止締約國與非締約國之間的丙類化學品貿易往來，台灣工業將遭受嚴重的打擊。

依據海關進出口資料統計，製造業於2011年進口丙類列管化學品貿易額為2,640萬美元。舉例而言，CWC列管的含磷化合物可用於製造印刷電路板(PCB)所必須使用的阻燃劑，而台灣2011年PCB的產值即達60億美元以上。很明顯的，CWC列管化學品的貿易限制，對台灣這樣的非締約國來說，其最終產品的市場與產值的衝擊遠大於列管化學品本身的價值。



## Posing Changes to Existing Control Mechanism of Schedule 3 Chemicals May Immensely and Adversely Affect Taiwan's Industries

Schedule 3 Chemicals are quite essential for the production of Taiwan's consumer and hi-tech products. In light of CWC Transfers Regime, Taiwan's manufacturers currently import Schedule 3 Chemicals from States Parties by providing the end-use certificate. However, once the CWC bans the trade of Schedule 3 Chemicals between States Parties and States not Party, Taiwan industries will suffer tremendously.

Based on the statistics provided by the Customs, Republic of China, the value of Schedule 3 Chemicals imported in 2011 was US\$26.4 million dollars. For example, the flame retardant made by some CWC scheduled phosphorous compounds, may generate a total of production value of more than US\$6 billion in Taiwan's printed circuit board (PCB) industry alone. The impact of these trade restrictions of Scheduled chemicals imposed on States non-Parties, such as Taiwan, is far greater in the market value of derivative products than in the value of Scheduled Chemicals themselves.

## 為因應CWC公約台灣執行措施

1992年聯合國正式通過CWC規章之後，台灣即表達認同與支持，並配合公約規範採取了一系列措施以為因應。在軍事方面，政府公開承諾不開發、不生產、與不使用化學武器；在工業方面，政府於1997年成立「經濟部聯合國禁止化學武器公約策略推動小組」，一個相當於CWC締約國之國家主管部門的跨部會工作小組；為了加強其管理，更於2000年1月合併「經濟部聯合國禁止化學武器公約策略推動小組」與「經濟部高科技保護小組」，成立「經濟部戰略性高科技貨品管理策略推動小組」。

政府為了配合CWC公約而制定了相關法令及執行架構。1997年公約生效後，政府隨即公告進口CWC列管化學品最終用途保證書申請程序，同年12月，並編訂了CWC列管化學品的專屬稅號，以有效管理及掌握化學品的貿易狀況。1999年7月CWC公約列管化學物質之輸出入管理，依照貿易法第13條納入「戰略性高科技貨品輸出入管理辦法」予以規範，由國際貿易局核發「最終用途保證書」。另外1999年，經濟部也試行CWC相關化學品製造廠的申報作業，並公告了各類列管化學品內容清單及申報門檻。



## Taiwan's Voluntary Efforts on Controlling Sensitive Chemicals

Following the UN's adoption of the CWC in December 1992, Taiwan announced its support of the goals stated therein and voluntarily adopted a series of measures to comply with its provisions. At the military level, the government declared its commitment not to develop, manufacture or use chemical weapons. At the industrial level, Taiwan established the MOEA Chemical Task Force in 1997, an interdepartmental task force equivalent to the CWC National Authority of States Parties. To improve its administration, the MOEA merged the Chemical Task Force with the MOEA High-Tech Protection Task Force to form the MOEA Task Force on the Management of Strategic Hi-Tech Commodities in January, 2000.

In order to establish the legal framework for the Import of CWC-Scheduled Chemicals, the government announced the Procedures of End-Use Certificate Issuance in July 1997. Subsequently, to monitor and regulate the trade on controlled chemicals, the government published a list of HS codes on the CWC Scheduled Chemicals. Furthermore, in 1999, the MOEA implemented the regulations governing administration of the production of the CWC-related chemicals and the lists of CWC-Scheduled Chemicals and the quantity threshold for declaration.

According to the contents and regulation of the CWC, MOEA of the Republic of China has implemented the legal framework of CWC in Taiwan as follows:

- Implemented controls on the CWC materials according to the article 6,11 and 13 of the Trade Act.

中華民國經濟部依據《禁止化學武器公約》規範，逐步建立的相關法令及管理措施如下：

- 根據貿易法案第6、11與13條來監控CWC列管化學品的流向管理。
- 依據工廠管理輔導法第18條制定“禁止化學武器公約相關化學物質申報辦法”，於2010年11月10日公告實施。接著舉辦宣導說明會，為各界解說公約宗旨、內容及推動廠商順利進行申報作業。
- 2011年2月，展開廠商申報作業。

台灣對於管控措施的規劃、國家申報系統的建立、全國性數據的編制、進口化學品監控體系及查核機制的設計等都起步非常早。雖然台灣持續以自己的方式來實施國內防止擴散制度，但終究無法將其努力與公約體系結合，其間的隔閡足以使得非法使用列管化學品的疑慮依舊存在。

- The Declaration Measures for the related Scheduled Chemicals of CWC based on the Article 18 of the Factory Management Act., was promulgated on Nov 10, 2010. Followed a series of seminar, to promote and enforce the awareness of this special Chemicals Declaration Measures..
- Manufacturers' annual declaration has been implemented in February, 2011.

Taiwan has long started the formulation of regulatory measures, set up a national claim system, compiled nationwide data, implemented an import control system as well as designed inspection schemes. However, while Taiwan continues to pave its way to sustaining a national non-proliferation regime, the gap of effectively managing illegitimate controlled chemicals use will always exist when Taiwan in reality is not included as part of the Convention.





## 我們的呼籲

可以確定的是，公約的運作進程中台灣被排除在外的現況，不僅是全國2千3百萬人民(大於澳洲的人口)的損失，也是全球的缺憾。台灣及國際社會無法也不應承受這樣的損失，故找到一個解決方案讓台灣得以納入CWC公約及監控列管化學品的供應顯得異常重要。

我們更呼籲CWC締約國支持台灣與CWC之間達成某種合作方式或特殊安排，讓台灣可以為和平常用途取得及使用乙類列管化學品。台灣支持丙類列管化學品維持現行的貿易管理制度。但若CWC會議決定加強管制對非締約國之間的貿易，解決台灣的困境的方案中，最實際的選項是將台灣納入現有的管理體系中。

台灣的意圖參與公約是給予CWC全球入約的目標最明確的支持，同時有助於台灣取得最新資訊以利其履行CWC的規範。台灣曾經參與許多國際論壇及組織，如亞洲開發銀行、世界貿易組織和亞太經濟合作會議(APEC)等，並積極貢獻心力。最終，我們希望可以給予台灣為CWC公約貢獻的平等機會。

## Where We Need Your Help

We can be sure of that excluding Taiwan from participating the current development of the Convention cannot close the gap. It would be a loss that none of us can afford to both Taiwan's 23 million people (a population larger than that of Australia), and to the international community. Finding a solution for Taiwan to participate in the CWC and to secure the supply of controlled chemicals is therefore extremely important.

As such, we urge the CWC States Parties to support some form of collaboration between the CWC and Taiwan that arrives at a special arrangement for Taiwan's trade and peaceful use of Schedule 2 chemicals.

Taiwan supports the current control regime for the trade of the Schedule 3 chemicals. But if the CWC imposes trade restrictions on Schedule 3 chemicals with States non-Parties, Taiwan's dilemma will have to be addressed. The only realistic option is to work with us to include Taiwan in the established system.

Given the explicit support for universality of the CWC, Taiwan's materialistic participation in a meaningful manner is not only fitting, but would help Taiwan acquire up-to-date information and facilitate implementation of CWC regulations. There are many international forums and organizations where Taiwan has made positive contributions, such as the Asian Development Bank, the World Trade Organization and Asia-Pacific Economic Cooperation. Ultimately, we hope that Taiwan can be given an equal opportunity to contribute to the CWC.

## 台灣是全球化學工業重要的一員

中華民國(台灣) 非常關切國際事務。而實際上, 和平及安全不可避免地與經濟發展及國際貿易有密切的相關性。2011年台灣的國際貿易總值為5,899億美元, 全世界排名第十八位, 台灣希望能夠負起國際貿易的利益與全球分享的責任, 而且台灣的化學工業在全球化工業中, 不論是供需均扮演著非常重要的角色。

台灣不發展、不儲備及不企圖使用化學武器, 所以台灣在獲取必要的列管化學品應用於CWC公約未禁止的用途的權益不應該被拒絕。儘管如此, CWC為防止化武擴散而制訂的化學品的貿易管制機制卻無意間對台灣貿易權益造成損害。這類的損害威脅到台灣與多個締約國的化學品及衍生性商品的交易, 同時亦危及許多締約國在台灣相關工業的巨額投資。不僅對台灣本身經濟及其貿易伙伴造成負面的衝擊, 亦將影響全球高科技產業甚至全球經濟。

2011年台灣的IC產業占全球IC產能的20%, 但 IC代工則占全球的69.3%, 顯而易見的, 台灣是全球高科技工業最重要的供應國之一。由1999年台灣921大地震後的全球供應鏈的恐慌可以證明, 若台灣IC產業崩潰將對全球科技產業造成極深的負面影響。



## Taiwan Is an Important Player in the Global Chemical Industry

The Republic of China (Taiwan) has to a great extent concerned itself with all important international issues. Indeed, world peace and international security are inextricably linked with economic development and international trade. Taiwan, with an international trade volume of US \$525 billion in 2010, is the world's 18th largest trading nation and has taken the responsibility to ensure that the benefits of international trade are shared by all. Taiwan's chemical industry particularly plays an important role in the global chemical industry, both as a supplier and as a market.

As Taiwan does not develop, stockpile or intend to use chemical weapons, it should not be denied the right to acquire necessary Scheduled Chemicals for the purposes not prohibited by the CWC. Nonetheless, the trade control regime for Scheduled Chemicals, while necessary to prevent international chemical weapons proliferation, will inadvertently place sanctions on Taiwan's regular trade and industries. Such sanctions threaten the significant trade in chemicals and derivative products that Taiwan conducts with multiple State Parties, and it endangers the large investments in which many State Parties have made in related industries in Taiwan. This not only negatively impacts Taiwan's own economy and that of its trading partners, but also affects the global hi-tech industry and thus the global economy as a whole.

Taiwan's IC industry made up 20.4 % of global IC production capacity in 2010, but Taiwan held 69.3 % of the global IC OEM capacity. Clearly, Taiwan is one of the most important suppliers for the hi-tech industry globally. Therefore, any disruption to Taiwan's IC industry would have a profoundly negative influence on the global hi-tech industry, as it was demonstrated in the aftermath of the massive earthquake in Taiwan on September 21, 1999.

有機磷是取代被RoHS禁用溴化物阻燃劑的化學品，是廣泛地使用於印刷電路板與紡織產業的阻燃劑。而某些磷化物阻燃劑是以乙類列管化學品為部份原材料，下【表1】中為禁止乙類列管化學品對於印刷電路板與紡織產業的衝擊，而上述IC與印刷電路板產品為ICT的關鍵零組件，如下【圖1】所示，全球ICT產品中，台灣產品佔有非常大的比重，對我國列管化學品的交易限制對於全球科技產業的衝擊是不言而喻的事實。

The most prominent substitutes for RoHS-banned bromide-based flame retardants are organophosphorous. These chemicals are widely used in the PCB and textile industries as flame retardants. However, some of the phosphorous-based flame retardants use Schedule 2 chemicals as part of their raw materials. The impact of the ban on Scheduled Chemicals on these two industries is shown in Table 1. The above-mentioned IC and PCB products are key components in ICT devices. As shown in Figure 1, a very large portion of the world's ICT products is made in Taiwan. The impact of the Scheduled Chemicals trade ban on global hi-tech industries is clearly demonstrated.

Figure 1. Global Market Share of Hi-Tech ICT Products Made by Taiwan

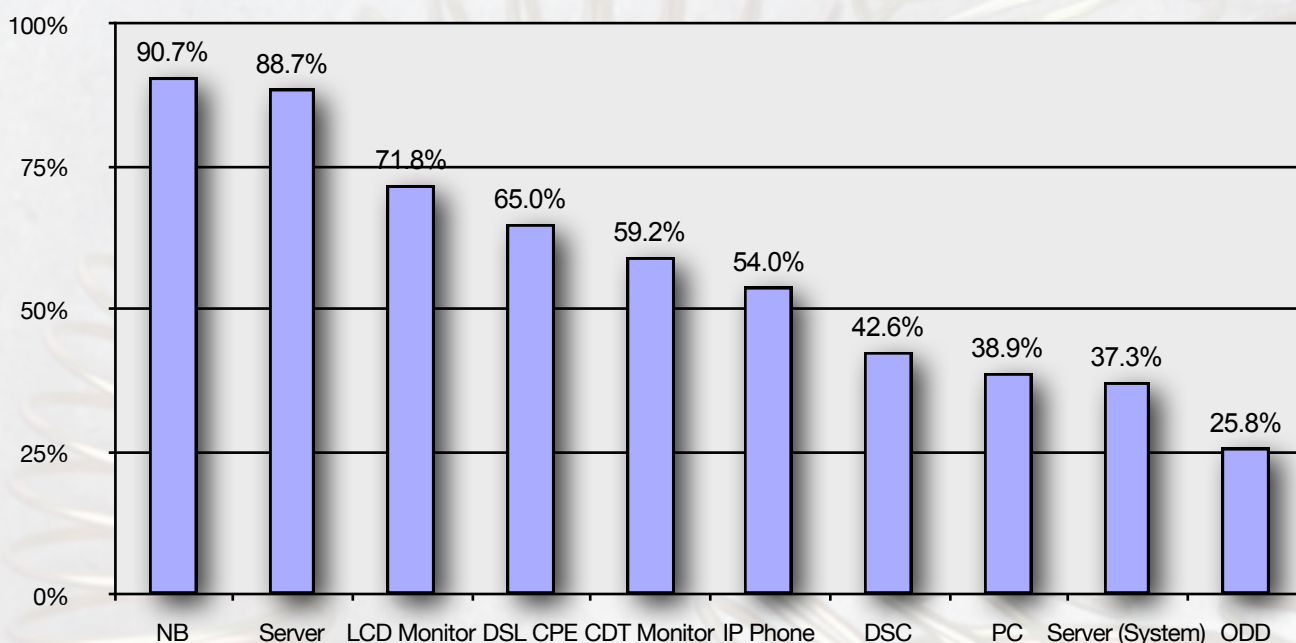


Table 1. Major Applications

Unit: US\$ millions

Industry	2010 Production Value	% of Phosphorous Derivatives	Affected Production Value
PCB	6,832	15	1,090 (*Halogen-containing PCBs)
Textile	14,830	< 2	234
<b>Total</b>	<b>21,662</b>		<b>1,324</b>

\*Halogen-free PCBs are the future trend

Source: Industrial Technology Research Institute, IEK