



**Proposal to Control VOC in
Fountain Solutions and
Printing Machine Cleansing Agents**
**管制潤版液及印刷機清潔劑中
揮發性有機化合物的建議**

Air Policy Group - Environmental Protection Department
空氣政策組 環境保護署

VOCConsult@epd.gov.hk



Control Proposal

規管建議

Limit the VOC content in
Fountain Solutions (FS) and

Printing Machine Cleansing Agents (PMCA)

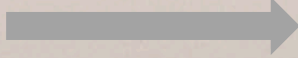
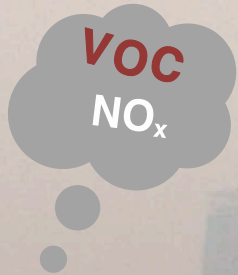
管制潤版液（又稱水斗液、水槽液或潤濕液）
及印刷機清潔劑中揮發性有機化合物含量

Volatile Organic Compounds (VOC)

揮發性有機化合物



Photochemical Smog
光化學煙霧





Tackling Regional Air Pollution

解決區域空氣污染

- Drew up an **Emission Reduction Plan for the PRD region up to 2020** with GD Government
與廣東省政府共同制訂了珠三角地區直至2020年的減排方案
- HK emission reduction targets 香港減排目標

HK VOC



Compared with 2010
與2010年比較



Major VOC Sources

主要VOC排放源

Cap 311W VOC Regulation 規例

- VOC containing products: paints, printing inks, consumer products, adhesives and sealants

含VOC的產品：漆料、印墨、消費品、黏合劑及密封劑

- Petrol and LPG vehicles 汽油及石油氣車輛
- Small boats 小型船隻





VOC Regulation

VOC規例

- Air Pollution Control (Volatile Organic Compounds) Regulation

空氣污染管制（揮發性有機化合物）規例

- Implemented since 2007 in phases

自2007年起分階段實施

- Controlling 170 types of VOC containing products

管制170種含VOC的產品



Proposed Extension of Scope

建議擴大規管範圍

- **FS and PMCA imported to or manufactured in Hong Kong** must not exceed the stipulated statutory limits

輸入或在香港生產的潤版液和印刷機清潔劑，其VOC含量不得超出訂明的法定限值

- Except goods in transit, in the course of transshipment and solely for export or re-export purpose



過境、轉運中及只供出口或再出口的貨品除外



Fountain Solution

潤版液

- FS : the solution used in lithographic printing which is applied to the image plate to maintain the hydrophilic properties of the non-image areas

潤版液是在平版印刷時使用的溶液，用於圖像印版，以維持非圖像部分的親水特性

- Proposed VOC Limit 建議的VOC限值
– 80 g/L (克/公升)



Printing Machine Cleansing Agent

印刷機清潔劑

- PMCA: a liquid used to remove printing ink and debris from the surfaces of the printing machine and its parts, such as blanket and roller

印刷機清潔劑是一種液體，用以清除印刷機及其部件(例如膠布及滾筒)表面的印墨及碎屑

- Proposed VOC Limit 建議的VOC限值
– 500 g/L (克/公升)



Relevant Study

相關研究

- In 2012-13, demonstration tests were done by HKPC in collaboration with the trade

本署委託生產力促進局在2012-13年間聯同業界進行示範測試

- Tests confirmed the proposed VOC limits are **technically** and **economically feasible**

測試結果確定建議的VOC限值在技術和經濟上均是可行



Relevant Study

相關研究

- Consulted several major suppliers and conducted survey
諮詢了數個主要供應商和進行調查
- Supply of compliant / low VOC FS and PMCA is available in local market
本地市場上已有符合標準/低VOC潤版液及印刷機清潔劑供應
- Estimated cost increase for using low VOC products < 1% of the total production cost
估計使用低VOC產品所增加的成本少於總生產成本1%



Major Requirements

主要要求

- For importers or local manufacturers
入口商或本地生產商
 - Display of product information
顯示產品資料
 - Annual reporting
年度報告
 - Keeping record
記錄保存



Display of Product Information

顯示產品資料

- Product information 產品資料
 - product application 產品應用
 - date of manufacture 生產日期
 - recommended thinning, reducing or mixing of product, and recommended mixing ratios 建議的稀釋、調薄或與產品混合及其混合的比例 
 - maximum VOC content in a **ready to use condition** 在處於**即用狀態**時最高的VOC含量



Display of Product Information

顯示產品資料

- Display on either 須顯示在
 - Material Safety Data Sheet (MSDS)
物料安全資料
 - Catalogue
商品目錄
 - Packaging or
包裝或
 - Container
容器上



Annual Reporting

年度報告

- Report sales information on a confidential basis to Authority (EPD) including
以機密資料形式向監督（環保署）提供相關產品的銷售資料，包括
 - name of importer/manufacturer 進口商／生產商名稱
 - type of product 產品的種類
 - brand and full name of the product 品牌和全名
 - weight or volume of the product sold 產品的重量或銷售量
 - VOC content in a ready to use condition
在處於即用狀態時的VOC含量



Annual Reporting

年度報告



EPD 311R

《空氣污染管制(揮發性有機化合物)規例》
受規管產品年度銷售及使用量報告

Air Pollution Control (Volatile Organic Compounds) Regulation
Annual Sales & Use Report for Regulated Products

(填報前請參閱「填寫須知」)

(Please read the guidance notes before completing this form)

致：空氣污染管制監督

To: Air Pollution Control Authority,

本欄不用填寫
For Official Use Only

Ref.:

No.:

Page _____ of _____

Annex A

Details of Annual Return for the Year _____

For Official Use Only

Item no, brand and full name of the product (Guidance Notes 6(a))	Regulated product code (Guidance Notes 6(b))	Unit size of product when it is sold (L or kg) (Guidance Notes 6(c)) <i>Mark "TBR" after the unit size if the product needs to be reprocessed by another company</i>	Total volume or weight of regulated product sold and/or used in Hong Kong (L or kg) (Guidance Notes 6(d)) <i>Mark "OU" after the total volume/weight for products used by the company</i>	Density (kg/L) or specific gravity of product when it is sold [#] (Guidance Notes 6(e))	VOC content of product [#] (g/L or weight %) (Guidance Notes 6(f))	
					In "ready-to-use" condition	In "ready-to-use" condition and with volume of water and exempt compounds taken to be zero

http://www.epd.gov.hk/epd/english/environmentinhk/air/prob_solutions/voc_reg.html#point_5



Keeping Record

記錄保存

- Keep the reported information for **at least three years** and produce for inspection if requested by the Authority

備存所報交的記錄至少三年，並在監督要求查閱時出示該等記錄



3 years



Determination of VOC Content

斷定VOC含量的方法

- VOC content in a ready to use condition calculated by

VOC含量處於即用狀態下須按以下公式計算

$$\frac{W_a - W_b - W_c}{V_d}$$

Parameter 參數	Representing 代表	Unit 單位	Testing Method 測試方法
W _a	the weight of volatile matters 揮發性物質重量	grams克	Method 24
W _b	the weight of water 水分重量	grams克	Method 24
W _c	the weight of exempt compounds 豁免化合物重量	grams克	Method 303
V _d	the volume of material 物料體積	litres公升	Method 24



Determination of VOC Content

斷定VOC含量的方法

- USEPA Method 24 美國環境保護局方法24
Determination of Volatile Matter Content, Water Content, Density, Volume Solids, and Weight Solids of Surface Coatings
「斷定表面塗料的揮發性物質含量、水分含量、密度、固體容量及固體重量」
- SCAQMD Method 303 南海岸空氣質素管理區方法 303
Determination of Exempt of Compounds 「斷定豁免化合物」
- The version most recently approved by the relevant authorities
以有關當局最新核准的版本為準





Exemption Mechanism

豁免機制

- The Authority may in response to an application in writing grant exemption if
監督可豁免以下產品受規管（需作書面申請）
 - the product is irreplaceable in serving a vital public health or security function 某產品在發揮某項關鍵性公眾衛生或保安功能方面，具有不可取代的地位
 - the exemption would be in the public interest 有關豁免會符合公眾利益
 - the product is manufactured or imported as a trade sample and is not intended for sale in Hong Kong 該產品是以貿易樣本生產或輸入，並非擬供在香港出售



Offences and Penalties

罪行和罰則

Offence 罪行	Maximum Penalty 最高刑罰
<p>Importing into or manufacturing in HK any FS or PMCA exceeding the relevant limit of VOC content 輸入香港或在香港生產任何VOC含量超出相關限值的潤版液或印刷機清潔劑</p>	<p>\$200,000 and 6 months' imprisonment 200 000元及監禁六個月</p>
<p>Failing to display product information 沒有顯示產品資料</p>	
<p>Failing to report annual sales amount, VOC content and other requested information requested by the Authority 沒有報交年度銷售量、VOC含量，以及監督要求的其他所需資料</p>	
<p>Failing to keep the reported records for at least three years or produce them upon request for inspection by the Authority 沒有備存所報交的記錄至少三年，或沒有在監督要求查閱時出示該等記錄</p>	<p>\$50,000 and 3 months' imprisonment 50 000元及監禁三個月</p>
<p>Knowingly or recklessly displaying, giving, reporting or recording any information that is misleading, false or incomplete 明知或罔顧實情地展示、提供、報告或記錄任何要項上屬具誤導性、虛假或不完整的資料</p>	



Timetable

時間表

February – April 2016 2016年2月至4月

Public consultation 公眾諮詢

2 Briefing sessions
2場簡介會

2016 Q2 2016年第二季

Finalize the proposal 建議定稿

Consult the Advisory Council on the Environment and
the Panel on Environmental Affairs of the Legislative Council

諮詢環境諮詢委員會及立法會環境事務委員會

Amend the VOC Regulation and seek Legislative
Council's approval

修訂VOC規例及提交立法會審議



Proposed Effective Date

建議生效日期

1 January 2018
2018年1月1日

- Proposed control (except reporting)
- 建議規管措施 (報告規定除外)

On or before 31 March 2019
2019年3月31日或之前

- Submission of 1st Annual Report covering the year 2018
- 提交第一份年度報告 涵蓋2018年

VOC Reduction

VOC減排成效



VOC

The proposal can
reduce **420 tonnes** VOC
annually

建議可每年減少
420公噸VOC排放

In 2013, **1,800 tonnes** VOC emitted
from FS and PMCA

在2013年，潤版液及印刷機清潔劑
釋出了**1 800公噸**VOC



Your Views 請提出意見

- On or before **30 April 2016**

請於**2016年4月30日**或之前



Environmental Protection Department

33/F, Revenue Tower, 5 Gloucester Road, Wanchai, Hong Kong
(Attn.: VOC Consultation)

環境保護署

香港灣仔告士打道5號 稅務大樓33樓

(請交：揮發性有機化合物管制諮詢)



VOCConsult@epd.gov.hk



2838 2155



- Consultation Paper:

http://www.epd.gov.hk/epd/english/environmentinhk/air/pub_consult/air_consult.html

- 諮詢文件

http://www.epd.gov.hk/epd/tc_chi/environmentinhk/air/pub_consult/air_consult.html

The screenshot displays the website of the Environmental Protection Department (EPD) of the Government of the Hong Kong Special Administrative Region. The page is titled 'Public Consultation' and features a navigation menu on the left with categories like 'AIR', 'Air Quality Objectives', 'AQHI & Air Quality', 'Indoor Air Quality', 'Ozone Layer Protection', 'Asbestos Control', 'Problems & Solutions', 'Data & Statistics', 'Public Consultation', 'Study Reports', 'Guidelines & References', and 'Advanced Search'. The main content area includes a 'Public Consultation' heading, a sub-heading 'Proposal to Control Volatile Organic Compounds (VOC) in Fountain Solutions and Printing Machine Cleansing Agents', and a 'Reply Slip for Briefing Session' link. There is also an 'Archives' link. The top of the page shows the EPD logo, the text 'Environmental Protection Department The Government of the Hong Kong Special Administrative Region', and a search bar. A 'Mobile / Accessible Version' link and 'A A' text size controls are also visible. The 'Air Quality Health Index' section shows a forecast for 14 Apr 2016 (Tue) 10:30 at General Stations, with 'Today P.M.' and 'Tomorrow A.M.' both showing 'Low' to 'Moderate' levels.



THANK YOU

謝謝

