

**A Proposed Scheme to Require Registration and Mandatory Labelling
of the Content of Volatile Organic Compounds
in Paints, Printing Inks and Selected Consumer Products**

Purpose

This paper outlines our proposed scheme to require registration and mandatory labelling of the content of volatile organic compounds (VOCs) in paints, printing inks and selected consumer products for sale in Hong Kong.

Background

Volatile Organic Compounds and Air Pollution

2. VOCs are emitted as gases from certain solids or liquids. They are found in a wide array of products. Examples include solvent-borne paints, printing inks and myriad of consumer products. VOCs play a significant role in the formation of ozone and respirable suspended particulates (RSPs) in the atmosphere. Under sunlight, they react with oxides of nitrogen (NO_x) to form ozone through a photochemical process. Ground level ozone is a highly reactive gas, and when in high concentration can irritate the eyes and bring upper and lower respiratory symptoms to healthy people. It may also provoke asthmatic attacks in people who already have asthma. There is also evidence that prolonged exposure to high concentration of ozone may cause permanent damage to lung tissue and interfere with functioning of the immune system. RSPs can penetrate deeply into the lung and interfere with functioning of the respiratory system. They can also exacerbate smog phenomenon and impair visibility of the region.

3. VOCs from paints, construction materials, and major furnishing, cleaning and maintenance materials have been identified as one of the factors contributing to indoor air quality problem. Key symptoms associated with occupant exposures to

VOCs include conjunctival irritation, nose and throat discomfort, headache, nausea and dizziness.

Overseas Practices

4. In view of the harmful effects of VOCs, some countries have introduced statutory VOC limits or labelling schemes on paints, printing inks and selected consumers products. For example, VOC limits are imposed nationwide for paints and selected consumer products in the United States (US), driven by a pioneering VOC control on products in California in the 1980s. Limits of VOCs in paints are legalised in Denmark, Netherlands and Sweden. In the European Union (EU), eco-labelling criteria have been set for paints since 1999, and the European Parliament, in March 2004, passed a directive to reduce VOC contents in decorative and vehicle paints and varnishes. The directive will take effect in two stages in 2007 and 2010.

Regional Air Quality

5. To improve the air quality of the Pearl River Delta Region, the Hong Kong Special Administrative Region Government and Guangdong Provincial Government reached a consensus in April 2002 to reduce, on a best endeavour basis, the regional emissions of four major pollutants, namely sulphur dioxide, nitrogen oxides, RSPs and VOCs by 40%, 20%, 55% and 55% respectively, by 2010, using the emission levels at 1997 as a base. Achieving the emission reduction targets will enable Hong Kong to meet its current air quality objectives. This will also significantly improve the smog problem.

6. For VOCs, the Joint Study on Pearl River Delta Region Air Quality completed in 2002 has identified paints, printing industry, VOC containing consumer products and motor vehicles to be the four major emission sources. They contributed to about 92% of the total VOC emissions in Hong Kong in 1997. The respective shares of these emission sources are 30%, 13%, 24% and 25%.

7. The Government has been implementing a series of programmes to reduce

pollutant emissions, including VOCs, from motor vehicles. Among many measures, a regulation was introduced in 1999 to require petrol filling stations and petrol delivery vehicles to be equipped with effective vapour recovery systems to reduce petrol vapour emissions (which are VOCs) during petrol unloading. Currently, we are planning to introduce into the Legislative Council within 2004 a legislative proposal to control the amount of VOCs emitted during vehicle refuelling at petrol filling stations. We will also continue to tighten the emissions standards of motor vehicles in keeping with EU requirements. Through these measures, VOC emissions from motor vehicles will be reduced to the practicable minimum. However, we will need to take further action to achieve the 55% VOC emission reduction target by 2010.

The Proposal

Overall Framework

8. In addition to control measures being planned for reducing VOCs from motor vehicles and petrol filling stations, we propose to adopt a two-stage approach to reduce VOC emissions from paints, printing inks and selected consumer products in Hong Kong. Stage 1, as outlined in the ensuing paragraphs, primarily proposes a mandatory registration and labelling scheme. After reviewing the effectiveness of the Stage 1 programme, we will map out the way forward for Stage 2, which may introduce additional control programmes for selected products or processes that emit VOCs.

Stage 1 – Mandatory Registration and Labelling Scheme

9. We propose to make legislative amendments to the Air Pollution Control Ordinance (Cap 311) to require importers or manufacturers of all paints, printing inks and selected consumer products to register with the Environmental Protection Department (EPD) the VOC contents of their products for sale in Hong Kong. We also propose mandatory labelling of the VOC contents of these products on their containers and/or packaging for retail sales. We plan to exclude trans-shipment and exported items.

10. Some products may contain less VOCs than other products or even do not contain any VOCs. The labelling requirement will enable consumers to make considered choices in product selection. We will tie this in with a publicity programme to encourage consumers to use products with low or no VOC contents.

Coverage

11. The proposed mandatory registration and labelling scheme covers all types of *paints* which include all liquid, liquefiable or mastic compositions that can be converted to solid protective, decorative, or functional adherent films after application. Varnishes and lacquer also fall under this definition.

12. We will cover *printing inks* commonly used in local printing processes, such as printing inks for flexographic printing, gravure printing, letterpress printing, lithographic printing and screen-printing. We propose to exclude printing inks for plateless printing, which covers xerographic, electrostatic, thermal, ink-jet, etc. as the VOC emissions are low from these printing processes, which are usually for home and office use and of very small scale.

13. *Consumer products* to be covered under the proposed scheme include insecticide, hair spray, air freshener, etc. (see **Annex A** for details). The list is drawn up on the basis of a survey on consumer products that are commonly found in Hong Kong conducted in 2002. We have also made reference to the practice of the California Air Resources Board of US, which has a comprehensive programme for controlling VOCs from consumer products.

Registration

14. Importers or manufacturers of paints, printing inks and selected consumer products for local sales in Hong Kong (hereafter collectively referred as “registrants”) will be required to register with EPD the VOC contents of each type of paints, printing inks and consumer products that they carry. Registrants will need to support their registration by producing relevant testing reports, product information and other data as

required. A registration fee will be levied.

Labelling

15. Any person who sells, supplies or offers to sell any products listed in paragraphs 11 to 13 above for local consumption will be required to ensure that a bilingual label is either printed upon or securely affixed onto individual containers and/or packaging of the concerned products. Each bilingual label should conspicuously incorporate the following information –

- VOC content of the product;
- an educational message : “VOCs cause air pollution (揮發性有機化合物引致空氣污染)”; and
- the registration number issued by EPD.

Reporting of sales records

16. To facilitate monitoring of VOC emissions in Hong Kong, registrants will be required to submit to EPD the annual local sales amounts of the products by the registration number which shall be in net weight or volume of the products sold. Registrants should submit the data by end of June of the following year either by letter, facsimile or electronic means in a format to be specified. Registrants shall also maintain sales records of the concerned products for three years for inspection by EPD when necessary. We will keep in confidence all sales data collected for this purpose.

Offences and Penalties

17. We recommend penalty from a fine of \$50,000 to \$100,000, and to imprisonment of up to six months for non-compliance with the proposed registration and labelling requirements (detailed at **Annex B**). They are in line with the penalties of other similar offences under the law. For example, Section 68(5) of the Air Pollution Control Ordinance imposes a fine of \$50,000 and imprisonment of one year for obtaining registration as registered personnel for asbestos work by submitting false

information. Regulation 5(1) of the Food and Drugs (Composition and Labelling) Regulations imposes a penalty of \$50,000 and six months imprisonment for failing to label food or drug for sale.

Transitional Period

18. To allow adequate transitional period for the trades such that they could make the necessary preparations, we propose that the registration and labelling scheme should take effect six months after enactment of the relevant legislation.

Cost Implication

19. The proposal may incur costs to the registrants due to the testing, labelling and reporting requirements. However, since importers and manufacturers should have detailed information about the composition of their products, and that a registrant should have kept sales information for accounting purpose, the cost implication to the price of the products should be small.

Stage 2

20. To further reduce the VOC emissions, we may introduce measures at Stage 2 to control the VOC contents of specified types of products or to discourage the use of certain products with higher VOC contents. Subject to the effectiveness of the proposed Stage 1 programme, we will consider how to proceed with Stage 2 in 2006-07. We will separately consult relevant stakeholders and the public about any proposed control measures. We will also consult this Council in due course.

Way Forward

21. We plan to embark on a two-month public consultation exercise beginning in September this year. During the public consultation period, we will organise briefing sessions to consult the relevant trades to be affected by the proposed scheme and publish pamphlets for distribution to the public. We will also make available information on

the Internet. We will report to this Council on the results of the consultation.

22. We will finalise details of the Stage 1 proposals after taking into account comments and views received from stakeholders and the community during the consultation period. We plan to introduce the proposed legislative amendment within 2005.

Advice Sought

23. Members are invited to comment on the proposed registration and labelling scheme as outlined above.

Environment, Transport and Works Bureau
August 2004

**LIST OF VOC CONTAINING CONSUMER PRODUCTS
TO BE REGULATED UNDER THE PROPOSED REGISTRATION AND
LABELLING SCHEME**

General Household Consumer Products

1. Adhesive : spray
2. Adhesive : others
3. Air freshener
4. Bathroom or tile cleaner
5. Carpet or upholstery cleaner
6. Dusting aid
7. Floor polish, wax
8. Floor wax stripper : non-aerosol
9. Footwear care product
10. Fabric care : in-dryer
11. Fabric or leather waterproofer, protectant
12. Furniture maintenance product
13. General purpose cleaner
14. General purpose degreaser
15. Glass cleaner
16. Heavy-duty hand cleaner, soap
17. Herbicide : non-aerosol
18. Insect repellent
19. Insecticide
20. Laundry pre-wash
21. Laundry starch product, wrinkle-releasing spray
22. Metal polish, cleanser
23. Multi-purpose lubricant, penetrant : (excluding solid or semi-solid products)
24. Oven cleaner
25. Paint remover, stripper
26. Rubber or vinyl protectant
27. Sealant, caulking compound
28. Spot remover
29. Toilet cleaner, deodoriser

Personal Care Products

- 30. Antiperspirant
- 31. Body wipe
- 32. Deodorant
- 33. Hair colouring
- 34. Hair conditioner
- 35. Hair product (others) : bleach, lightener, growth retardant, inhibitor, tonic, hair restorer, etc.
- 36. Hair shampoo
- 37. Hair shine
- 38. Hair styling product
- 39. Nail coating, solvent : base coat, undercoat, polish, thinner, topcoat, product drying enhancer
- 40. Remover of nail beautification product
- 41. Nail treatment product
- 42. Personal fragrance product
- 43. Shaving cream, gel

Car Care Products

- 44. Automotive brake cleaner
- 45. Automotive rubbing, polishing compound
- 46. Automotive wax, polish, sealant, glaze
- 47. Automotive windshield washer fluid
- 48. Carburettor or fuel-injection air intake cleaner
- 49. Engine degreaser
- 50. Tyre sealant, inflator

Aerosol Coatings – General

- 51. Top coat
- 52. Undercoat

Offences and proposed Penalty

	Offence	Proposed Penalty
1.	Submit false information at registration	First offence : a fine of \$50,000 and to imprisonment for three months Repeated offence : a fine of \$100,000 and to imprisonment for six months
2.	Fail to register products	First offence : a fine of \$50,000 Repeated offence : a fine of \$100,000 and to imprisonment for three months
3.	Sell, supply or offer for sale any products under the regulatory scheme for local consumption without adhering to the labelling requirements	First offence : a fine of \$50,000 Repeated offence : a fine of \$100,000 and to imprisonment for three months
4.	Fail to provide annual sales records	First offence : a fine of \$50,000 Repeated offence : a fine of \$100,000 and to imprisonment for three months
5.	Fail to maintain sales data for three years	First offence : a fine of \$50,000 Repeated offence : a fine of \$100,000 and to imprisonment for three months