



環保報告
Environmental
Report
2023

政 府 化 驗 所
Government Laboratory



香港特別行政區政府
The Government of the Hong Kong Special
Administrative Region



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報告摘要 Executive Summary

政府化驗所提供廣泛的分析、調查和諮詢服務，為政府決策局及部門在法治、食品安全、公眾衛生、環境保護和消費者權益等各方面的工作，提供支援。

由於政府化驗所的核心服務涉及化學品的使用和不同儀器的操作，為履行維護環境的責任，我們在化學品處理、廢物處置等方面，均制定妥善程序，防止污染。此外，為了配合政府節能減碳的環保政策，政府化驗所積極推行節能減廢的措施。

自 1998 年起，政府化驗所根據 ISO 14001 標準建立了一套環境管理系統，以維持高水準的環境績效，確保我們檢測服務的可持續發展。

2023 年標誌著政府化驗所的 110 周年紀念，是一個重要的里程碑，本報告總結了化驗所在這特別的一年裡的環保表現，涵蓋我們在環境管理方面所作出的努力。一如既往，我們會繼續秉承精益求精的專業態度，探索機遇，務求提升日常運作和實驗室設施，進一步提高我們的環境績效。

政府化驗師
李偉安博士
二零二四年八月

The Government Laboratory (GL) provides a wide range of analytical, investigatory and advisory services and support to enable government bureaux and departments to meet their responsibilities for law and order, food safety, public health, environmental protection, consumer protection and implementation of government policies.

As the GL's core services involve the use of chemicals and the operation of various types of instruments, we strive to fulfill our environmental obligations by establishing proper procedures for chemical handling and waste disposal to prevent pollution. Furthermore, in line with the Government's environmental policy of energy conservation and decarbonization, the GL put much effort into implementing energy saving and waste reduction measures.

Since 1998, the GL has established an environmental management system (EMS) in accordance with ISO 14001 standard to maintain a high standard of environmental performance for the sustainable development of our testing services.

The year 2023 marked the 110th anniversary of the GL, signifying a significant milestone. With our concerted efforts, this report summarises the GL's performance of environmental management in this special year. As always, we will continue to uphold our professionalism and seek opportunities to enhance our operation and laboratory facilities for further improvement of our environmental performance.

Dr. LEE Wai-on
Government Chemist
August 2024



主要職責概述 Profile of Key Responsibility

政府化驗所由政府化驗師領導，為政府決策局及部門提供廣泛而公正及可靠的法證、分析和諮詢服務。

為了保障公眾健康及保護消費者，政府化驗所恆常地為食物、藥物、中藥及商品等進行檢測；同時，我們亦提供有關環境保護的檢測及諮詢服務，以支持香港特區的可持續發展。此外，政府化驗所提供必要的法證服務，以支持香港特區的刑事司法制度。

截至 2023 年 12 月，政府化驗所的員工編制共 517 人，由 27 個專職組別負責提供服務。政府化驗所的組織圖及實驗室地點詳見後兩頁。

The GL, headed by the Government Chemist, offers a comprehensive range of impartial and reliable forensic, analytical and advisory services to various government bureaux and departments.

Analytical and advisory services are provided for surveillance programmes on food, drugs, Chinese medicines and commodities, etc. to safeguard public health and protect consumers. We also provide testing and advisory services related to environmental protection to support the sustainable development of Hong Kong Special Administrative Region (HKSAR). In addition, the GL provides essential forensic science services to support the criminal justice system in HKSAR.

As at December 2023, the GL had a staff establishment of 517. Services were provided by 27 specialist Sections. The organisation chart and the locations of the GL's laboratories are shown on the next two pages.



組織圖 Organisation Chart



實驗室地點 Laboratory Locations

九龍石硤尾
公共衛生檢測中心
Public Health
Laboratory Centre
Shek Kip Mei, Kowloon



Headquarters

九龍何文田
何文田政府合署
Ho Man Tin Government Offices
Ho Man Tin, Kowloon



新界沙田
香港科學園
Hong Kong Science Park
Sha Tin, New Territories

九龍荔枝角
荔枝角政府合署
Lai Chi Kok
Government Offices
Lai Chi Kok, Kowloon



九龍何文田
京士柏氣象站
King's Park Meteorological
Station
Ho Man Tin, Kowloon

香港薄扶林
食物安全檢測所
Food Safety Laboratory
Pok Fu Lam, Hong Kong



九龍長沙灣實驗室
Laboratory at Cheung Sha Wan, Kowloon



九龍九龍灣
工務中央試驗所大樓
Public Works Central
Laboratory Building
Kowloon Bay, Kowloon

環保政策

Environmental Policy

政府化驗所承諾，致力執行有效的環保管理系統，作為日常工作的一個重要部分。我們的政策是確保不論在何時何地，政府化驗所的工作程序和設施都能符合環保要求。具體而言，我們會遵從後兩頁所列的六大環保政策的原則：

The GL is committed to maintaining a sound environmental management system in its daily operation. It is our policy to ensure all operating processes and facilities of the GL complying with the environmental requirements at all times and in all places. Specifically, we adhere to the six principles of our environmental policy shown on the next two pages:



環保政策 Environmental Policy

(a) 防止污染

政府化驗所在提供服務的過程中，致力遏制釋放污染物，並減輕其對環境的有害影響。

(b) 保護資源

我們提倡綠色採購和管理，遵照“減少、重用、再造、及替代”原則，採取所有切實可行的措施節約能源，以及減少耗損淨水、物料和自然資源。

(c) 履行合規義務

我們確保運作過程完全符合相關的環保法例及其他適用要求。



(a) Prevent Pollution

We strive to prevent the release of pollutants that the Laboratory may cause during service delivery, and to mitigate their detrimental effects to the environment.

(b) Preserve Resources

We promote green procurement and management, and take all practicable measures to conserve energy, water, materials and natural resources by adopting the principle of “reduce, reuse, recycle and replace”.

(c) Fulfil Compliance Obligations

We fulfil the obligations to comply with all relevant regulatory and other applicable requirements on environmental performance in our operation.

環保政策 Environmental Policy

d) 加強溝通和意識

- 我們透過發布年度報告匯報我們的環境表現，以提高對公眾的透明度；
- 我們定期向所有員工提供培訓及發放指引，培養綠色文化和增強員工的環保意識。

(e) 支持可持續發展

我們致力透過可持續方式提供優質的化驗服務，並在追求科技進步時，竭力降低對環境的影響。

(f) 追求持續改進

我們決意持續不斷改進，全方位追求環境表現的提升。



(d) Enhance Communication and Awareness

- We facilitate transparency to the public through annual reporting of our environmental performance;
- We foster green culture and staff awareness through providing regular training and guidelines to all staff.

(e) Support Sustainable Development

We are committed to providing quality laboratory services in a sustainable manner with due consideration for minimising environmental impacts while achieving technology advancement.

(f) Promote Continual Improvement

We are determined to seek continual improvement to enhance our environmental performance on all fronts.

環境管理系統 Environmental Management System

員工責任

政府化驗所轄下的環境、安全及保安委員會負責制定及推行環保政策和指引，並監察我們的環保表現。委員會由一位首長級人員領導，成員包括政府化驗師委派的人員及各職級員工代表，定期商討環境管理的工作。

各組主管及部門主任秘書均獲委派為「環境、安全及保安督察」，負責監督屬下員工工作時遵守環保政策、指引及措施。

另外，分析及諮詢事務部轄下的環境管理系統工作小組由環境經理領導及各組別的代表組成，負責協助環境經理，監察六個組別 (即環境化學A組、環境化學B組、殘留組、微量元素化驗組、外判管理組及品質管理組) 根據 ISO 14001 標準所推行的環境管理。此外，為準備擴展 ISO 14001 認證範圍，環境管理系統工作小組亦會向其他組別提供支援。

Staff Responsibility

The Laboratory Environment, Safety and Security Committee (LESSC) is responsible for formulating our environmental policy and guidelines, overseeing the implementation and monitoring our environmental performance. Chaired by a directorate-grade officer and comprised of officers appointed by the Government Chemist and staff representatives at different ranks, the LESSC meets regularly to discuss EMS-related matters.

Section Heads and the Departmental Secretary are designated to be the Environment, Safety and Security Inspectors, who are responsible for supervising their staff to work under the established environmental policy, guidelines and measures.

Moreover, the Environmental Management System Working Group (EMSWG) under the Analytical & Advisory Services Division, led by the Environmental Manager (EM) and comprised of sectional representatives, assists the EM in overseeing the implementation of the EMS in the Environmental Chemistry A (ECA) Section, Environmental Chemistry B (ECB) Section, Residues (RE) Section, Trace Elements (TE) Section, Outsourcing Management (OM) Section and Quality Management (QM) Section according to ISO 14001 standard. In addition, the EMSWG also provides support to other Sections to prepare for the extension of ISO 14001 certification.



環境管理系統 Environmental Management System



教育及培訓

所有新聘用的員工都須參加環境管理入職培訓，認識一般實驗室安全措施及政府化驗所的環境管理系統。此外，政府化驗所亦定期舉行緊急事故處理的培訓及演習，當中包括溢出水銀事件、氣樽泄漏事件及抽風櫃故障事件，預防環境污染。在 2023 年，我們共舉辦了 36 次環境突發事故演習。

另外，我們舉辦了一節EMS培訓課，讓同事們對化驗所的環境管理系統和其根據 ISO 14001 標準制訂的操作程序，以及政府的綠色政策，有較深入的認識。此外，我們還為負責環境管理系統內部審計的同事安排了一節審計培訓課。

Education and Training

Induction training on environmental management was given to all new recruits, introducing general laboratory safety practices and the GL's EMS. Furthermore, training and drills were organised regularly on the topics related to environmental emergencies, including spillage of mercury, gas leakage from gas cylinder and breakdown of fume cupboard, to prevent environmental pollution. In total, 36 drill sessions were conducted in 2023.

Besides, an EMS Introduction Training was arranged for colleagues with a view to enabling them to have a more in-depth understanding of the GL's EMS and its operating procedures according to ISO 14001 standard, as well as the Government's green policy. In addition, an Auditor Training was also arranged for colleagues who were responsible for EMS internal audit.



環境管理系統 Environmental Management System



環境管理系統監測及評審

為了評估政府化驗所的環境績效及表明我們履行合規的義務，化驗所實施年度環境監測計劃，為已獲 ISO 14001 認證的組別所排放的污水與廢氣，檢測其污染物含量。2023 年的環境監測計劃已經順利完成，當中所有監測數據均符合相關法例規定。

在 2023 年 12 月，化驗所亦進行了該年度的環境管理系統內部審核。結果顯示，化驗所的環境管理系統運作良好，能有效地達致環境政策的各項目標。

此外，香港品質保證局於 2024 年 1 月為化驗所的環境管理系統進行審核，並確認化驗所的環境管理系統及有關運作程序持續符合 ISO 14001 標準的要求，而環境化學A組、環境化學B組、微量元素化驗組、殘留組、外判管理組和品質管理組亦能維持原有認證。

Environmental Monitoring and Audits

To evaluate the GL's environmental performance, and to demonstrate compliance with our obligations, a yearly environmental monitoring programme was conducted to check the levels of pollutants in the effluent and air discharge produced from the Sections implementing ISO 14001. The environmental monitoring programme for 2023 was completed, in which the results of all test parameters were found to comply with relevant regulatory limits.

The annual internal audit was carried out in December 2023. The findings of the internal audit indicated that the EMS adopted in the GL had been well implemented and met the goals of the environmental policy effectively.

Moreover, a surveillance visit conducted by the Hong Kong Quality Assurance Agency was carried out in January 2024. The audit team concluded that the GL's environmental management system and relevant operating procedures continued to fulfil the requirements of ISO 14001 standard. The ECA Section, ECB Section, TE Section, RE Section, OM Section and QM Section were granted continuity of certification status.



碳管理 Carbon Management

大部份設有政府化驗所實驗室的建築物均與其他政府部門共用，並由有關管理辦事處或政府產業署管理。而位於香港島薄扶林域多利道 800 號的食物安全檢測所，則由政府化驗所獨立管理。目前，檢測所設有殘留組，負責檢測食品中的獸藥殘留和農藥殘留。

政府化驗所根據由環境保護署及機電工程署聯合出版的「香港建築物（商業、住宅或公共用途）的溫室氣體排放及減除的核算和報告指引」為食物安全檢測所進行碳審計評估，結果顯示檢測所在 2022-23 財政年度的溫室氣體排放量為 1273 公噸二氧化碳當量，相比 2021-22 財政年度，減少了大約 8 %。

政府承諾與社會緊密合作，一同致力減少溫室氣體的排放，共同達成減碳目標。在未來日子，政府化驗所會繼續尋求並採取有效可行的環保措施，減少碳排放。

Most premises housing the laboratories of the GL are shared with other government departments and hence co-managed by the respective building management office or the Government Property Agency. On the other hand, the Food Safety Laboratory (FSL) located at 800 Victoria Road, Pokfulam in the Hong Kong Island is a premise solely managed by the GL. Currently, the FSL houses the Residues Section which is responsible for testing residues of veterinary drugs and pesticides in food.

The GL has conducted a “Paper Approach” carbon audit on the FSL in accordance with the “Guidelines to Account for and Report on Greenhouse Gas Emissions and Removals for Buildings (Commercial, Residential or Institutional Purpose) in Hong Kong” compiled by the Environmental Protection Department (EPD) and the Electrical and Mechanical Services Department (EMSD). The audit results indicated that the amount of greenhouse gas (GHG) emissions in the fiscal year 2022-23 was 1273 tonnes of CO₂-equivalent, which was around 8 % reduction compared to that in the fiscal year 2021-22.

It is the commitment of the Government to work closely with the community to reduce GHG emissions to meet the decarbonization targets. In the future, the GL will continue to explore and adopt practicable green measures to reduce carbon emissions.

節能綠建 Energy Saving and Green Buildings

政府在《2019年施政報告》制定了一個五年「綠色能源目標」，期望在2020-21至2024-25年間，以2018-19年為基準年，在運作環境相若的基礎上，能達致6%的「綠色能源目標」。為響應政府節約用電的政策，食物安全檢測所已完成了三項能源管理機會項目，總結2022-23財政年度內的用電量，比2018-19基準年的水平減少了5.1%。

另外，食物安全檢測所在兩個辦公室和一個會議室的窗戶安裝了太陽隔熱膜後，房間溫度平均下降了大約2°C，有助節省空調能源。政府化驗所將繼續探討更多節能方案，以達到既定的目標。

The Government formulated a five-year “Green Energy Target” in the 2019 Policy Address which set a 6% “Green Energy Target” for the period of 2020-21 to 2024-25 under comparable operating conditions using 2018-19 as the baseline. In order to support the government policy on electricity saving, the FSL had completed three items of Energy Management Opportunities. The electricity consumption of the FSL in the fiscal year 2022-23 was reduced by 5.1% compared with that of the baseline year in 2018-19.

Moreover, the installation of solar control window films in two office rooms and one conference room resulted in a room temperature decrease by an average of around 2°C, thereby saving air conditioning energy. The GL will continue to explore more energy-saving measures to achieve the established target.



資源耗用 Resource Consumption

政府化驗所環境安全及保安小組不僅制訂環保指引，更不時提醒員工遵守相關指引和守則。就此，我們按時監察信封、影印機紙張和電力的耗用量，作為年度環保成效的指標。

政府化驗所在不斷為客戶部門擴展化驗服務的情況下，除了影印機紙張在2023年的耗用量或因建立新實驗室而略為增加外，各項資源的耗用量大致保持平穩。我們會繼續透過運用科技，盡可能減少資源耗用。

The LESSC has prepared the environmental guidelines and frequently reminds colleagues to implement the green housekeeping measures stipulated therein. In this connection, the consumption of envelopes, photocopier paper and electricity was monitored as the indicators of annual environmental performance.

The resource consumption by the GL was relatively steady despite the continuous expansion of new analytical services offered to client departments, with the exception of an increase in photocopier paper consumption in 2023 due to the setup of new laboratories. The GL will keep making use of technology to minimize resource consumption as far as practicable.

年度環保成效指標
Annual Environmental Performance Indicators

	2019	2020	2021	2022	2023
信封 (個) Envelope (No.)	5085	3324	4244	3380	4103
影印機紙張 (千克) Photocopier paper (kg)	2743	2041	2265	2875	3262
電力* (10 ³ kWh) Electricity (10 ³ kWh)	2403	2692	2690	2570	2351

*政府化驗所總部的用電量

*Electrical consumption of the Government Laboratory Headquarters



廢物減量 Waste Reduction

在現行的環境管理系統下，政府化驗所實施有效的廢物管理，定期監測日常運作所產生的污水與廢氣，確保其污染物含量符合有關法例規定。此外，所有員工必須接受培訓，並定期予以提醒需按照既定的環境指引妥善處理各種廢物。

政府化驗所產生的化學廢物全部由專責機構收集和處理。化學廢物的產生總量在 2023 年為 8629 升。我們會繼續透過提升檢測方法的環境績效，務求減少化學廢物的產生量。

Under the existing EMS, GL has implemented effective waste management to ensure compliance with relevant regulatory limits by regularly monitoring the level of pollutants in the effluent and air discharge generated in daily operations. Moreover, all staff members are trained and constantly reminded to dispose of different kinds of wastes properly in accordance with the established environmental guidelines.

All chemical wastes generated in the GL are collected by authorised agents for treatment. The total amount of chemical wastes generated was reported to be 8629 L in 2023. The GL will continue to reduce the generation of chemical wastes through the enhancement of the environmental performance of testing methods.

ISO 14001 認證組別所產生的化學廢物量
Amounts of Chemical Wastes Generated by Sections Implementing ISO 14001

	2019	2020	2021	2022	2023
酸性化學廢物 (升) Acidic Waste (L)	5274	4541	4859	4137	4077
鹼性化學廢物 (升) Alkali Waste (L)	109	147	202	64	52
鹵化有機化學廢物 (升) Halogenated Waste (L)	1667	1541	1573	1482	1534
非鹵化有機化學廢物 (升) Non-Halogenated Waste (L)	2215	2282	2247	2526	2966
總量 (升) Total (L)	9265	8511	8881	8209	8629



室內空氣質素 Indoor Air Quality



政府化驗所

Government Laboratory

政府化驗所一向致力在多方面改善工作環境的質素。現時，我們有六個實驗室處所參與「室內空氣質素認證計劃」，包括何文田政府合署的政府化驗所總部、荔枝角政府合署、工務中央試驗所大樓、食物安全檢測所、香港科學園及公共衛生檢測中心，並獲得「卓越級」或「良好級」的認證。

The GL takes every opportunity to improve the quality of our working environment. Regarding Indoor Air Quality, our laboratories in six locations, including the Headquarters at the Ho Man Tin Government Offices, Lai Chi Kok Government Offices, FSL, Public Works Central Laboratory Building, Hong Kong Science Park and Public Health Laboratory Centre, have attained the "Excellent" or "Good" Class in the Indoor Air Quality Certification Scheme.



環境管理改善措施

Initiatives on Environmental Improvement

繼品質管理組和外判管理組於 2023 年 1 月成功取得 ISO 14001 認證後，政府化驗所合共有六個組別已經獲取認證。政府化驗所會透過持續優化資源，繼續逐步擴大認證範圍，以涵蓋其他組別。在這方面，策略性發展組計劃在短期內獲取 ISO 14001 認證。

政府化驗所繼續採用無紙化的環境管理系統，系統內的文件及記錄均為電子版本。另外，化驗所亦會為實行電子檔案保管系統作準備，藉此進一步減少用紙。

此外，政府化驗所根據政府的環境政策，推廣切實可行的綠色採購，鼓勵各組別人員在採購政府環保採購清單上的物品和服務時，採用相關通函制訂的綠色規格。化驗所亦會探討提升資訊科技系統的可行性，以促進綠色採購。

After the QM Section and OM Section successfully obtained ISO 14001 certification in January 2023, the GL has totally 6 Sections that have been certified. The GL will continue to extend the certification scope progressively to cover other Sections through optimising existing resources. In this regard, the Strategic Development Section plans to seek ISO 14001 certification in the near future.

The GL continues to adopt a paper-free EMS, in which the environmental documents and records are maintained in electronic format. Furthermore, the GL will also prepare for the implementation of Electronic Recordkeeping System to further reduce paper usage.

In addition, the GL will continue to promote green procurement in accordance with the Government's environmental policy. Sections are encouraged to adopt the green specifications when procuring goods and services in the green procurement list stipulated in the relevant government circular. The GL will also explore the feasibility of upgrading its IT system to facilitate green procurement.

展望 Way Forward

一如既往，我們為了不斷提升環境績效，會持續審視其運作。所有組別將繼續檢討其分析方法，精簡工作流程，及尋找非環境友善化學品的替代物，確保既定的環境指引和程序得以有效實施。同時，我們會繼續發掘和推行可行的節能減廢措施，以減少碳排放。

展望未來，為進一步提高政府化驗所的環境績效及配合未來發展，我們會努力優化現有資源的使用，逐步擴大環境認證範圍，以涵蓋整個部門。

As always, in pursuit of continuous improvement in environmental performance, we will constantly review our operation. All Sections will continue to examine their analytical methods, streamline processes and explore alternatives for replacing non-environmental friendly chemicals to ensure that the established environmental guidelines and procedures are fully implemented. Meanwhile, we will continue to explore and adopt practicable energy saving and waste reduction measures to minimize carbon emissions.

Looking forward, to further enhance the GL's environmental performance and cope with future development, we strive to extend the scope of environmental certification progressively across the department through optimizing the utilisation of existing resources.





意見及查詢 Feedback and Enquiries

如對本報告有任何意見及查詢，請聯絡政府
化驗所部門主任秘書。

Please direct all feedback and enquiries
concerning this report to the Departmental
Secretary of the GL.



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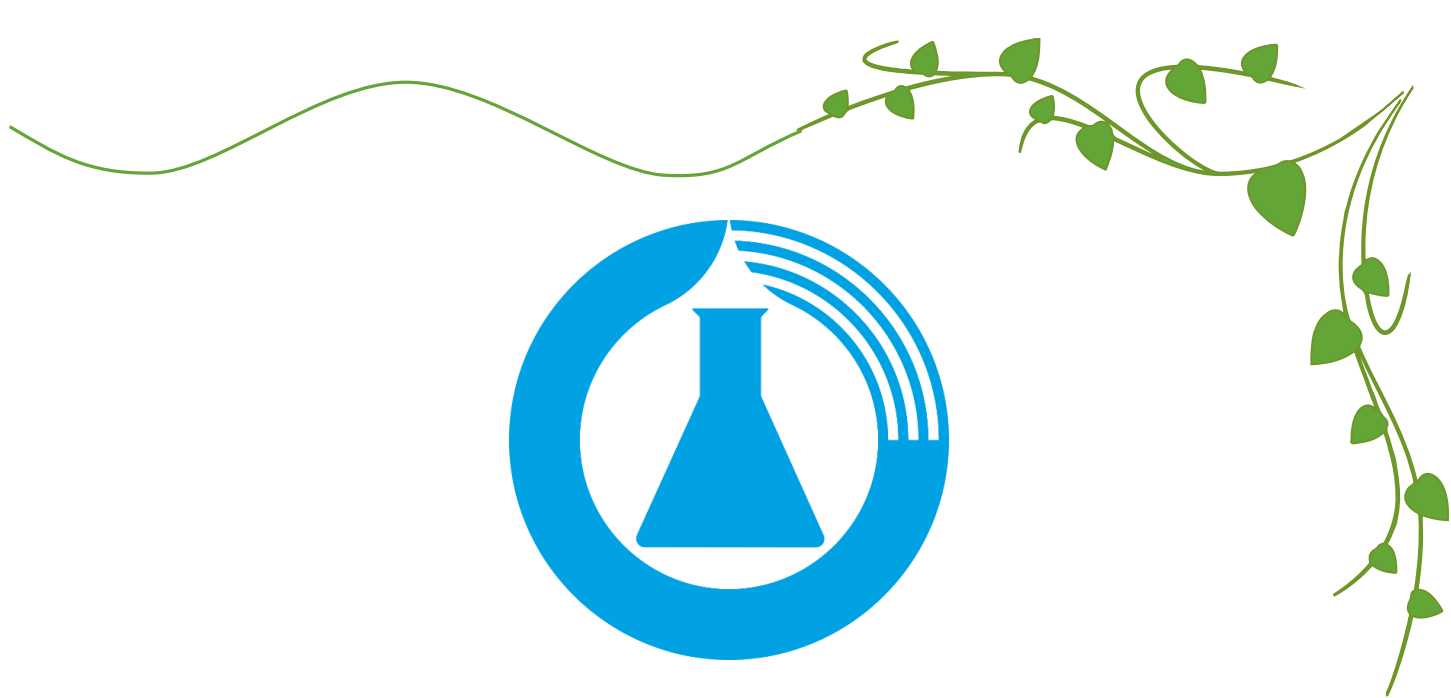
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香港九龍何文田忠孝街 88 號何文田政府合署7樓
7/F, Ho Man Tin Government Offices,
88 Chung Hau Street, Ho Man Tin, Kowloon, Hong Kong



政府化驗所

Government Laboratory

香港特別行政區 政府化驗所

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