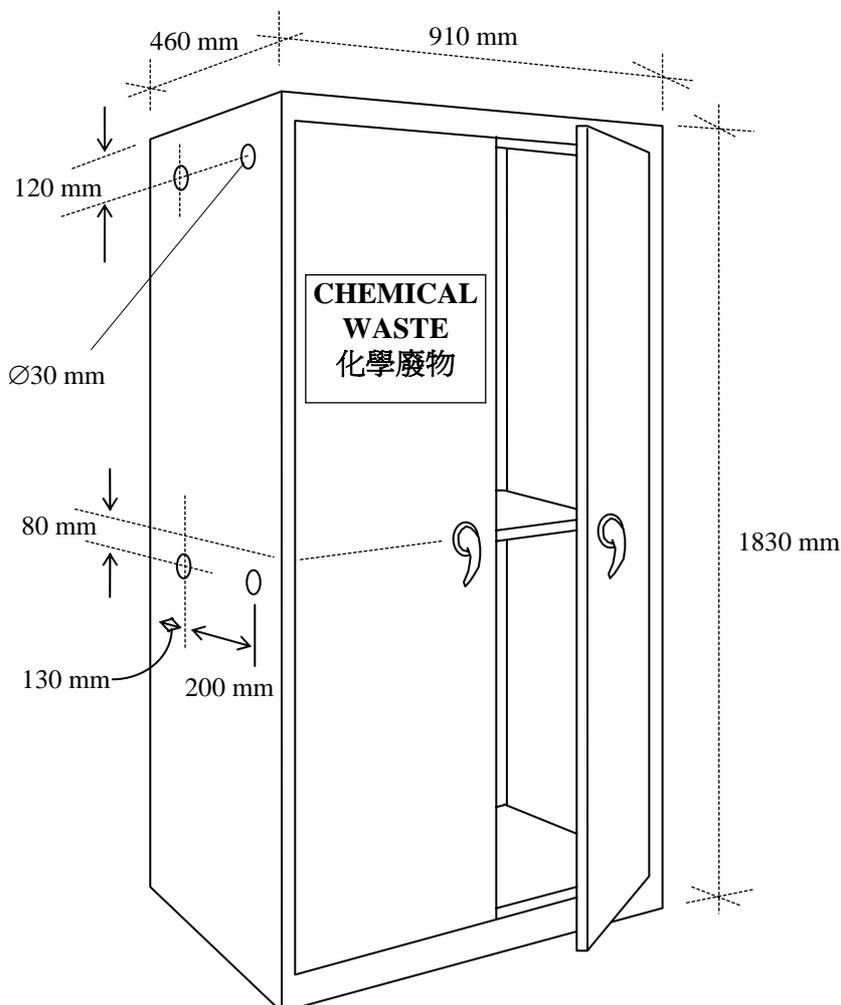


Sketch A
圖 A

Chemical Waste Storage Cupboard
化學廢物貯存櫃

Cupboard, steel,
double-door, fitted with 3
point locking espagnolette
bolt, controlled by 6-lever
lock with one adjustable
shelf.



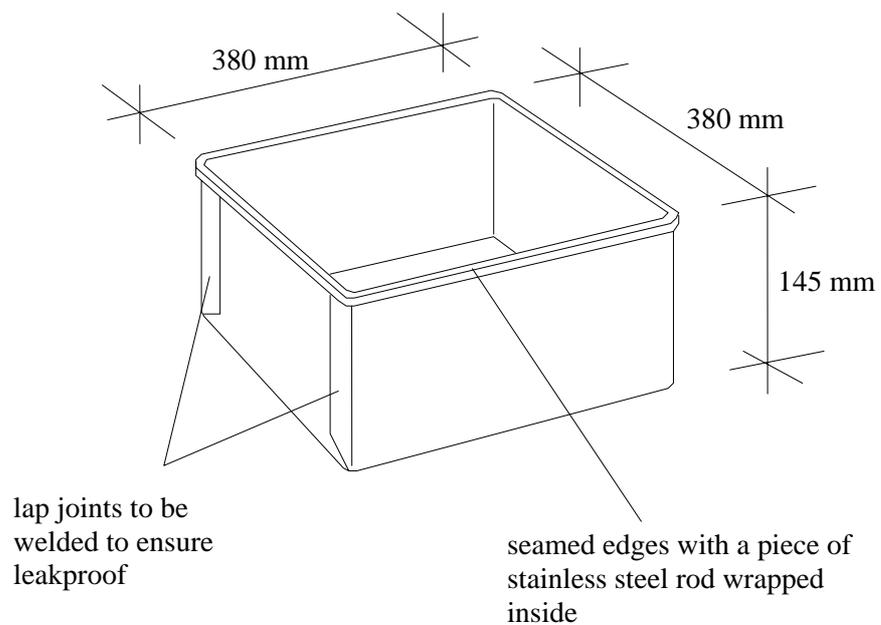
External Dimension	:	910mm wide x 1830mm high x 460mm deep
Doors and Sides	:	1.2mm (minimum) thickness of steel
Ventilation Holes	:	4 holes of diameter 30mm on each side as shown
Marking	:	Words "CHEMICAL WASTE 化學廢物" should be printed clearly and boldly in red on a white background with letters/characters of not less than 60 mm in height.
Adjustable Shelf and Bottom	:	1.2 mm (minimum) thickness of steel, strengthened with two U-shape ribs welded along the width underneath the adjustable shelf and bottom of the cupboard, stiff and strong enough to stand the weight of at least 70 kilograms
Top and Back	:	0.7 - 0.8mm thickness of steel
Lock	:	Union or Yale
Finish	:	Rust proof with "FOSCOTE" or equivalent preparation and sprayed with three coats of cellulose lacquer
Colour	:	Olive brown

Sketch B

圖 B

Stainless Steel Spill Catcher Tray

不銹鋼儲漏盤



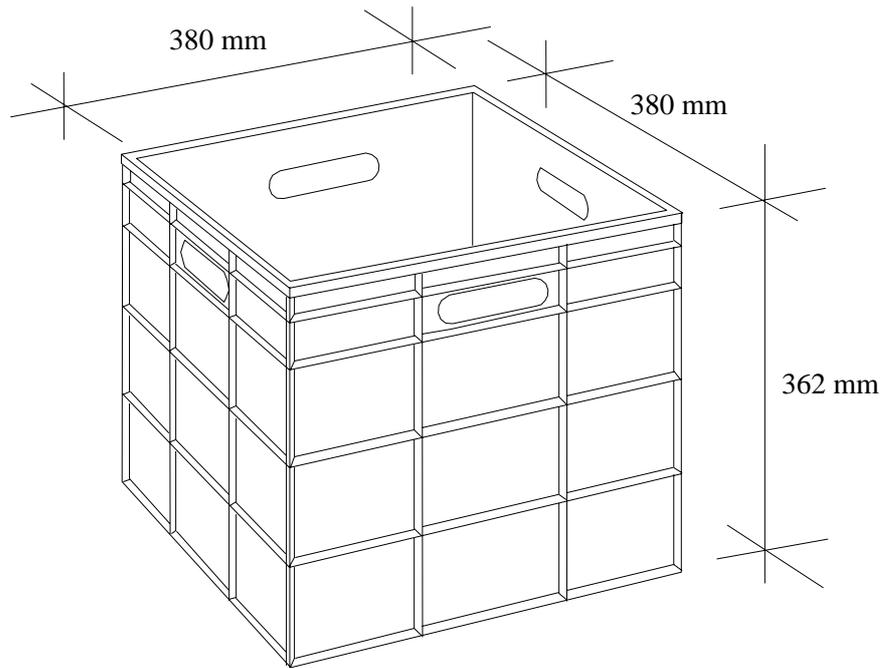
Overall dimension 380 mm x 380 mm x 145 mm, to be made of a SWG 24 stainless steel (type 316) sheet. All edges should be seamed with a piece of stainless steel rod (dia. 5 mm) to stiffen and avoid sharp edges. The lap joints should be welded to ensure that the whole tray is leakproof.

Sketch C

圖 C

Heavy-Duty Plastic Spill Catcher Tray

耐用塑膠儲漏盤



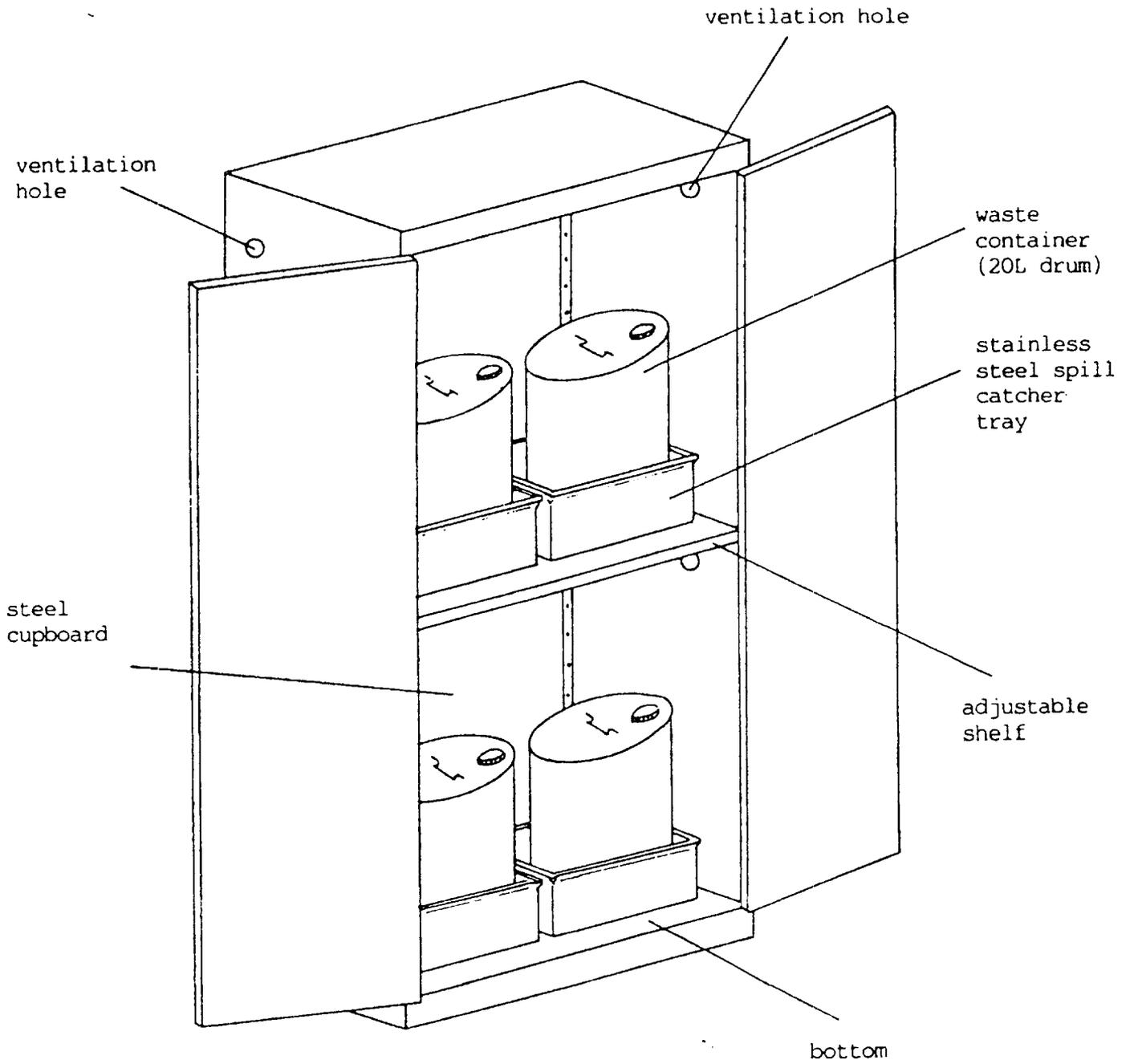
Overall dimension : 380 x 380 x 362 mm
Material dimension : Top 360 x 360 x 355 mm
Bottom 351 x 351 x 355 mm

Sketch D

圖 D

Storage of Organic Chemical Wastes

有機化學廢物的存放



11 March 1998

SCHOOLS MISCELLANEOUS CIRCULAR NO. 1/98

CONTROL OF CHEMICAL WASTES IN SECONDARY SCHOOLS

(Note : This circular should be read by -

- (a) Heads of all Secondary Schools -
for necessary action**
- (b) Heads of Sections/Government Primary
Schools - for information)**

This circular informs schools about the recent development in the implementation of the Waste Disposal (Chemical Waste) (General) Regulation of the Waste Disposal Ordinance (Cap. 354) on school establishments; and provides revised guidelines on the control and handling of chemical wastes in secondary schools.

2. Heads of secondary schools are requested to take note and to inform their teachers and laboratory technicians in charge of science laboratories and technical subjects workshops of the contents of this circular.

3. The control of chemical waste under the Waste Disposal (Chemical Waste) (General) Regulation (hereafter, the Regulation) of the Waste Disposal Ordinance (Cap. 354) has commenced with effect from 3 May 1993. The Environmental Protection Department (EPD) has advised that according to the Regulation, all educational establishments (including secondary schools) with science laboratories and/or technical subjects workshops are required to register with EPD as chemical waste producers and to store up, prior to collection for disposal by licensed collectors, the following three main types of chemical wastes which arise as a result of practical work in science laboratories and technical subjects workshops:

- (a) strong acids and alkalis with concentrations as defined in Schedule 1 to the Regulation (an abstract of Schedule 1 is at APPENDIX I);
- (b) spent organic solvents; and
- (c) surplus or expired chemicals.

Since 3 May 1993, secondary schools are required to comply with the Regulation with respect to the registration as chemical waste producers and the storage and disposal of these chemical wastes.

4. Through General Schools Miscellaneous Circular No. 69/92 and No. 97/92, secondary schools have been advised on the acquisition of the storage facilities for chemical wastes recommended by EPD (viz. steel cupboards, steel and plastic trays and 20 L pails or drums)

and to register with EPD as chemical waste producers. Consequently all secondary schools with science laboratories and/or technical subjects workshops should have now registered with EPD as chemical waste producers and acquired adequate storage facilities. The schools registered as chemical waste producers should also have received 20 L pails, free of charge, from Enviropace Limited, the contractor of the Chemical Waste Treatment Centre (CWTC) at Tsing Yi Island. New schools not yet registered with EPD as chemical waste producers should do so as soon as possible by submitting a completed registration form (obtainable from all offices of EPD) to EPD. They should also acquire appropriate storage facilities according to the specification given in the latest Chemistry or Integrated Science Standard Equipment and Furniture Lists.

5. When the CWTC initially commenced operation in April 1993, its service was free of charge. But since March 1995, chemical waste producers are required to pay for the collection and disposal services offered by CWTC. Schools which are non-profit making can apply in writing to EPD for reduction or a waiver of charges for disposal of chemical waste by CWTC.

6. For more information concerning the handling of chemical wastes, schools should refer to APPENDIXES II to IV. APPENDIX II is a revised guideline on the general requirements for segregation, packaging, labelling and storage of chemical wastes in schools as suggested by EPD. APPENDIX III spells out the requirements on the design of chemical waste storage facilities recommended by EPD, and APPENDIX IV is a revised guideline on the storage and collection of chemical wastes prepared by the Enviropace Limited in collaboration with EPD.

7. According to the requirement of the Regulation, the door of each chemical waste storage cupboard should be marked with the English words and Chinese characters “CHEMICAL WASTE 化學廢物” clearly and boldly in red on a white background. The height of each letter/character should not be less than 60 mm. It is noted, however, that the chemical waste storage cupboards of many schools do not meet this requirement. To help schools comply with the above requirement, the Education Department has produced appropriate laminated labels for use by schools on their storage cupboards. Schools wishing to obtain the labels should complete the collection form at APPENDIX V and send a member of their staff to collect the labels at **Science Education Resources Centre, Room 301, 4 Pak Fuk Road, North Point, Hong Kong** during the period **23 - 27 March 1998**.



8. Enquiries about this circular may be directed, as appropriate, to the Physical Sciences Section of the Education Department on 2892 6535 or 2892 6539, the Waste and Water Management Group of the Environmental Protection Department on 2755 3554, or the Enviropace Limited on 2434 6452.

9. This circular supersedes General Schools Miscellaneous Circular No.51/93 dated 26 May 1993 on the same subject.

C K TAM
for Director of Education

**An Abstract of Schedule 1 to
Waste Disposal (Chemical Waste) (General) Regulation 1992**

(Prepared by Environmental Protection Department)

Acids, alkalis and corrosive compounds

Acetic acid above 10% acetic acid by weight

Chromic acid above 1% chromic acid by weight

Fluoboric acid above 5% fluoboric acid by weight

Formic acid above 10% formic acid by weight

Hydrochloric acid above 5% hydrochloric acid by weight

Hydrofluoric acid above 0.1% hydrofluoric acid by weight

Nitric acid above 5% nitric acid by weight

Perchloric acid above 5% perchloric acid by weight

Phosphoric acid above 5% phosphoric acid by weight

Sulphuric acid above 5% sulphuric acid by weight

Ammonia solution above 10% ammonia by weight

Potassium hydroxide solution above 1% potassium hydroxide by weight

Sodium hydroxide solution above 1% sodium hydroxide by weight

Potassium hypochlorite solution above 5% active chlorine

Sodium hypochlorite solution above 5% active chlorine

Hydrogen peroxide solution above 8% hydrogen peroxide by weight

Acids or acidic solutions, NES with acidity equivalent to above 5% nitric acid by weight

Bases or alkaline solutions, NES with alkalinity equivalent to above 1% sodium hydroxide by weight

NES = Not Elsewhere Specified

Guide on the Segregation, Packaging, Labelling and Storage of Laboratory Chemical Wastes for Schools

(Prepared by Environmental Protection Department)

1. Introduction

The Waste Disposal (Chemical Waste) (General) Regulation (hereafter, the Regulation) is introduced under the Waste Disposal Ordinance (Cap. 354) (hereafter, the Ordinance) to control the handling, collection, transport and disposal of chemical wastes.

This guide outlines the standards and essential requirements on the segregation, packaging, labelling and storage of laboratory chemical wastes from schools taking into account of the varied nature of such wastes and the relatively small quantities of their arisings. The Regulation should however be referred to for the detailed requirements. The information booklet '*Code of Practice on the Packaging, Labelling, and Storage of Chemical Wastes*' can also provide more general guidance for complying with the requirements of the Regulation, and is available from the Environmental Protection Department (hereafter, EPD) free of charge.

2. Requirements of the Chemical Waste Regulation

2.1 Registration of Chemical Waste Producers

Laboratories and workshops of schools that generate chemical wastes are required under the Regulation to register as chemical waste producer with EPD, and comply with the statutory requirements on the disposal of chemical wastes. Any school which intends to set up a laboratory has to apply for registration before engaging in such operation. Existing laboratories should apply for chemical waste producer registration immediately if they have not done so.

2.2 Definition of Chemical Waste

The Regulation defines chemical waste as any scrap material, effluent, or an unwanted substance or by-product arising from the application of or in the course of any process or trade activity, and which is or contains any substances or chemical specified in Schedule 1 of the Regulation, and if such substance or chemical occurs in such form, quantity or concentration so as to cause pollution or constitute a danger to health or risk of pollution to the environment.

2.3 Treatment and Disposal of Chemical Wastes

Laboratories and workshops are required to arrange for their chemical wastes to be treated or disposed of at licensed disposal facilities. In the situation where no licensed facility is available for the treatment and disposal of such waste, the person in charge of the laboratory will have to make alternative arrangement for the proper disposal of the waste subject to the approval of EPD.

Only licensed chemical waste collector may collect and transport the waste from laboratories to licensed disposal facilities for disposal.

To track all movement of chemical waste, a trip ticket system is used. Before the waste will be accepted for collection from the premises by the licensed chemical waste collector, a trip ticket must be prepared and completed by the laboratory and the collector. The teacher or laboratory technician in charge should ensure that all information on the trip ticket is correct. After collection, the laboratory has to keep one copy as a record that the waste has been properly consigned to a licensed waste collector.

2.4 Notification of Part A Chemical Waste for Disposal

In the unlikely event that a school laboratory has to dispose of any substance listed in APPENDIX IV Part A of ANNEX I (e.g. Calcium Carbide, Potassium Metal, Sodium Metal, White or Yellow Phosphorous), EPD must be notified using Form EPD-132 (See ANNEX II for copy). The notification are generally required to be sent to EPD at least ten working days before any intended waste disposal operation. The contact person referred to in the Form EPD-132 is preferably a graduate teacher with degree in Chemistry.

Upon notification, EPD would issue directions on disposal using Form EPD-131. The directions would specify the appropriate disposal facilities (i.e. Enviropace) for the waste, and the date and time when the collection and delivery of such waste should be made. Additional requirements on the handling and transport arrangements, and any other special precautions may also be included. Once the school laboratory obtained the directions from EPD (Form 131), if Enviropace is the specified authorized disposal facility as stated in the directions, Enviropace will collect the Part A waste.

The procedure is necessary because special care is required to handle particularly hazardous waste, and the disposal facilities have to prepare in advance for the reception and disposal of these wastes.

2.5 Packaging, Labelling and Storage of Chemical Waste

The Regulation requires chemical wastes to be properly packaged, labelled and stored temporarily at the producer's premises before collection for off-site treatment and disposal.

The general requirements are set out in the "*Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*".

3. Chemical Waste Storage Requirements for Laboratories of Schools

3.1 Classification of Laboratory Chemical Waste

Chemical wastes generated from laboratories of schools are generally of very small quantities and relatively dilute in nature. However, a few common waste types are particularly hazardous and harmful, and are classifiable as chemical waste. They include the following:

- (a) strong acids and alkalis (as defined in Schedule 1 to the Regulations, also listed in APPENDIX I);
- (b) spent organic solvents;
- (c) surplus or expired chemicals.

Any laboratory which generates the above mentioned waste types has to comply with the Regulation in respect of the packaging, labelling and storage requirements, as well as transport and disposal arrangements.

3.2 Segregation of Chemical Waste for Storage

Given the varied nature of chemical wastes generated by school laboratories, laboratory workers should segregate their wastes according to the following classification:

- A: acids plus wastes compatible with acids;
- B: alkalis plus wastes compatible with alkalis;
- O: organic solvents; and
- S: wastes that require special handling. These include ammonia, hydrogen peroxide and hypochlorite solutions. Chemical wastes falling into this category must be segregated for storage and should be individually packaged and labelled.

For laboratory chemical waste which also contains other very reactive substances or chemicals (including strong oxidizing and reducing agents), the waste should be stabilized prior to storage in the same container of compatible waste type.

The disposal of surplus or expired chemicals has also to comply with the requirements set out in the Regulation in respect of packaging, labelling and storage of chemical wastes. In general, surplus or expired chemicals should be segregated, individually packaged and labelled for storage.

3.3 Packaging

(a) Standard of containers

Chemical wastes should be packed and held in containers of suitable design and construction so as to prevent leakage, spillage or escape of the contents under normal conditions of handling, storage and transport.

(b) Number and capacity of containers

Laboratory workers should ensure that chemical waste containers are of such number and of such capacity as to be capable of holding all the chemical waste that may be generated or produced at their premises during such period prior to collection by a licensed waste collector.

(c) Containers to be securely closed and with clean external surface

Every chemical waste container should be properly closed or sealed and correctly placed. No chemical waste should adhere to the external surface of the container.

(d) Containers to be in good conditions

The containers should be in good conditions and free from corrosion, contamination, damage or any other defects which may impair the performance of the container. Laboratory workers are required to check and ensure that the containers are in good conditions before use.

(e) Separate containers for different waste categories

Laboratories should use separate containers for different waste categories. Inorganic wastes should be separated from organic wastes and separate containers should also be provided for the storage of acid or alkali wastes.

(f) No mixing of incompatible wastes

Laboratories workers should not mix or permit the mixing of incompatible types of wastes in the same container. Chemical wastes that are incompatible generally include those that will react with each other

- violently;
- with evolution of substantial heat;
- with evolution of toxic or harmful gases;
- to produce flammable products; or
- to produce toxic products.

For more detailed information, refer to Appendix C of the “*Code of Practice on the Packaging, Labelling and Storage of Chemical Wastes*” for the ‘Hazardous Waste Compatibility Chart’.

(g) Sufficient airspace to be left when filling containers

When filling the container with liquid chemical wastes, sufficient ullage (air space) should be allowed for to ensure that neither leakage nor permanent distortion of the container occurs as a result of liquid expansion caused by changes in temperature or other physical conditions which are likely to occur under normal conditions of handling, storage and transport. Generally 10 cm air space should be sufficient.

- (h) Material of container to be resistant to its contents

The material of construction of containers and their closures for storage should not be affected by the chemical waste. The material should not be liable to any reaction with the chemical waste so as to form any product which would create any hazard or dangerous consequences.

Where necessary, the containers and their closures should be protected by an inner liner or coating to ensure compatibility with the chemical wastes (e.g. steel containers should be protected by plastic liner if used for acid storage).

(Note: Where the waste will be collected by the Enviropace, the Chemical Waste Treatment Centre (CWTC) contractor, suitable containers will be supplied by the contractor to the school laboratories.)

3.4 Labelling

- (a) Every container for chemical waste storage should be provided an appropriate label in both English and Chinese in the form specified in the Regulation.
- (b) The label should include the following particulars:
- the words and characters ‘CHEMICAL WASTE 化学废物’;
 - name, address and contact telephone number of the waste producer;
 - chemical name(s), or common name(s) or waste type(s) and waste code(s) (refer to the *Guide to the Registration of Chemical Waste Producers* issued by the EPD);
 - appropriate hazard warning symbol;
 - a statement of the risk(s) arising on contact with / exposure to or otherwise in relation to the chemical waste; and
 - safety precautions to be taken.

The dimensions of the label should not be less than 90 mm × 100 mm. Refer to APPENDIX IIA for a sample of the label as required by the Regulation.

- (c) The laboratory workers should ensure that the information contained on the label is accurate and sufficient so as to enable proper and safe handling, storage and transport of the chemical waste.

- (d) The label should be securely attached to a suitable part of the container, which allows the information on the label to be easily read, be kept clean and positioned so that it is clearly visible and is not obstructed.

3.5 Storage of Waste

- (a) Chemical wastes can be stored in a storage cupboard which is preferably located inside a laboratory or in a store room secured with a lock or with restricted access. The storage cupboard should be fitted with leakproof sill or spill catcher trays in its base to retain, in case of spillage or leakage from the containers, the capacity of the largest container or 20% by volume of the total storage capacity in that cupboard, whichever is the greater.
- (b) The material used for the construction of the leakproof sill or spill catcher trays should be able to withstand the chemical action of the stored chemical waste. Examples of a stainless steel spill catcher tray to be used with containers of organic wastes, and a heavy-duty plastic spill catcher tray to be used with containers of inorganic wastes (including strong acids and alkalis), are shown in APPENDIX III, Sketches B and C respectively.
- (c) Incompatible chemical wastes when in contact with one another may produce dangerous consequences. They should either be stored separately, or in a cabinet provided with compartments separated from each other by impermeable partitions.
- (d) The storage cupboard should be provided with adequate ventilation by means of openings to prevent the formation of any dangerous or harmful concentration of vapour. An example of such a cupboard, and illustrations of how it could be used to store chemical wastes are shown in Sketches A, D and E of APPENDIX III.
- (e) The storage cupboard should be used for chemical waste storage only.

4. Provision of Collection Service

To assist school laboratories and workshops in complying with the requirements of packaging and storage of chemical wastes, EPD has made the following arrangements with the CWTC contractor on the storage and collection of chemical waste:

- (a) where the chemical waste will be collected by the CWTC contractor, suitable containers with proper labels will be supplied by the contractor to the school laboratories and workshops;

- (b) for school laboratories, arrangement can be made with the CWTC contractor to collect the stored chemical wastes on a yearly basis or when the pails are full, as appropriate. For small quantities of laboratory chemical wastes that need immediate disposal, special arrangement can be made with the CWTC contractor for collection;
- (c) waste collection can also be arranged with the CWTC contractor when a total quantity of 200 litres or more chemical waste stored at his premises; and
- (d) generally, collection can be arranged within three working days upon request. For those waste producers who have very large or frequent arisings, alternative arrangement may be made with the CWTC contractor.
- (e) a trip ticket in triplicate must be used to record the collection service. The laboratory would need to furnish all necessary information about the chemical waste to allow completion of the trip ticket by the CWTC contractor. During collection of the chemical waste, the contractor will provide trip tickets that have been filled out based on the information supplied by the laboratory. The laboratory should ensure that the waste to be delivered is correctly classified, described, quantified and labelled. It should also ensure all information on the trip ticket is correct and then certify to this effect on the ticket. Two copies of the certified trip ticket should be handed over to the CWTC contractor. The laboratory is required by law to keep a copy of the completed ticket for a period of 12 months, and provide it for inspection by EPD officers if so required.

5. Safety Procedures

Necessary arrangements should be made and adequate supervision should be provided in school laboratories and workshops to prevent any danger or injury arising from the handling of chemical waste.

5.1 General Requirements

- (a) Laboratory workers handling chemical waste should be competent and possess relevant training.
- (b) Regular inspection of the storage cupboard, storage area and its access should be made to ensure that it is free from obstruction and is kept dry and clean.
- (c) Containers should be checked for leakage or spillage before use, and regularly thereafter.
- (d) Incompatible wastes should be stored separately.
- (e) Inventory of the types and quantities of chemical wastes being stored should be kept and regularly updated.

- (f) No person should be allowed to eat, drink or smoke in the chemical waste storage area or near the storage cupboard. Warning signs indicating “NO SMOKING, NO EATING, NO DRINKING” should be posted on the door of the storage cupboard or near the storage area.
- (g) Unauthorized access to the storage cupboard should not be allowed.

5.2 Safety Training and Equipment

Adequate safety information and equipment for laboratory workers or any other persons involved in the handling of chemical waste should be provided.

- (a) Make available ‘Safety data sheets’ of all the chemicals which result in chemical waste generation, for easy reference by the persons concerned.
- (b) Ensure that all laboratory workers understand the hazard symbols and the safety precautions in relation to the chemical wastes generated.
- (c) Provide the necessary safety equipment and ensure that such equipment is used by the laboratory workers in handling chemical waste. Safety equipment should also be kept in good condition and be cleaned regularly. Adequate first aid equipment should also be kept near the storage cupboard or area. A list of essential safety equipment is given in APPENDIX IIB.

5.3 Emergency Procedures

Written procedures for dealing with emergencies due to spillage, leakage or accidents arising from the handling and storage of chemical waste should be prepared and made available. General guidance for dealing with spillage and leakage of chemical waste is given in APPENDIX IIC. The person in charge of the school laboratory should ensure that all laboratory workers and students have received adequate instruction for implementing the procedures in the event of such emergencies. He should also provide adequate and suitable equipment to deal with such emergencies (see APPENDIX IIB).

化學廢物容器上的標籤式樣
Sample of Label on Container for Chemical Waste

CHEMICAL WASTE 化學廢物	
 <p>CORROSIVE 腐蝕性</p>	<p>Chemical name/Common name 化學名稱或普通名稱</p>
	<p>Waste type and Code 廢物種類及代號</p>
	<p>Particular Risks 危險情況</p>
<p>Name, Address and Telephone No. of Waste producer 廢物產生者姓名、地址及電話</p>	<p>Safety Precautions 安全措施</p>

Safety Equipment for Safe Handling of Chemical Waste in School Laboratories

1. Personal Safety and Protective Equipment

Safety glasses or goggles

Chemical-resistant gloves or gauntlets

Rubber or plastic boots

Protective clothing or overalls

Appropriate respirators, gas masks

Eye-wash bottle or device

Face shield

First aid kits

2. Equipment for Handling Emergencies and Spillage

Fire extinguishers

Dustpan and brush

Dry soft sand

Mop and bucket

Paper tissue and towelling

Plastic bags, empty containers or drums

Absorbent e.g. vermiculite, sawdust, etc.

Scoop

Tweezers or forceps

Hand-operated pumps

Suitable sampling device

General Guidance for Handling Chemical Waste Spillage / Leakage

1. Instruct students and untrained personnel to keep at a safe distance well away from affected area.
2. If necessary, open windows, provide forced ventilation and close the door/doors of the room where the spillage / leakage has taken place.
3. If the spillage / leakage involves highly toxic, volatile or hazardous waste, initiate emergency evacuation and call the emergency service.
4. Only trained persons equipped with suitable protective clothing and equipment should be allowed to enter and clean up the waste spillage / leakage area.
5. (a) Spillage / leakage of liquid waste at storage area

Where the spillage / leakage is contained in the enclosed storage area, the waste can be transferred back into suitable containers by suitable handheld equipment, such as hand operated pumps, scoops or shovel. If the spillage / leakage quantity is small, it can be covered and mixed with suitable absorbing materials such as tissue paper, dry soft sand or vermiculite. The resultant slurry should be treated as chemical waste and transferred to suitable containers for disposal.

- (b) Spillage / leakage at other areas

For spillage / leakage in other areas, immediate action is required to contain the spillage / leakage. Suitable liquid absorbing materials such as tissue paper, dry soft sand or vermiculite should be used to cover the spill. The resultant slurry should be treated as chemical waste and transferred into containers for proper disposal.

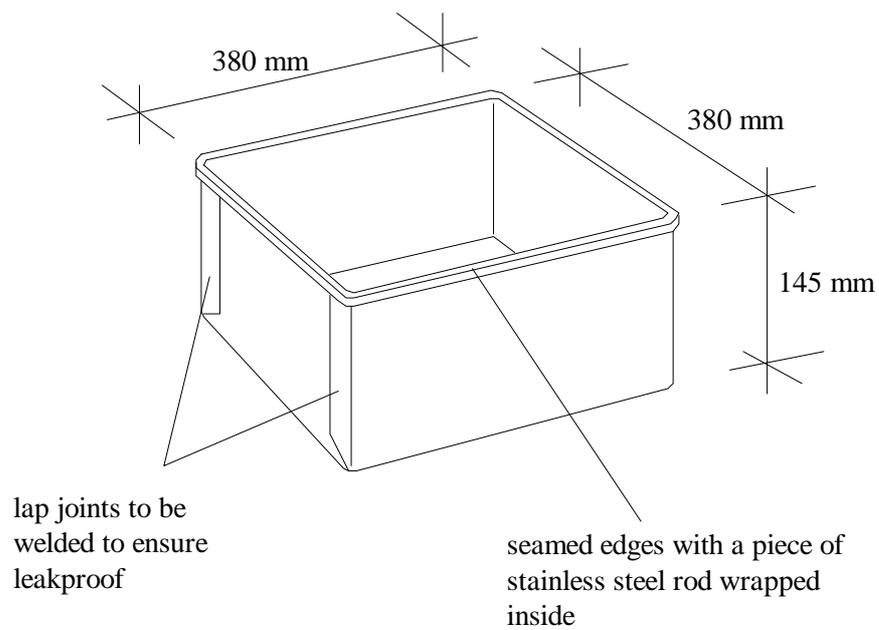
6. Areas that have been contaminated by chemical waste spillage / leakage should be cleaned. While water is a suitable solvent for aqueous chemical wastes and water soluble organic waste, kerosene or turpentine should be used for organic chemical wastes that are not soluble in water. The waste from the cleanup operation should be treated and disposed of as chemical waste.
7. In incidents where the spillage / leakage may result in significant contamination of an area or risk of pollution, dial 999 or contact the Fire Services Department for help. EPD should also be informed immediately in case the services from the CWTC Emergency Response Team is required.

Sketch B

11 B

Stainless Steel Spill Catcher Tray

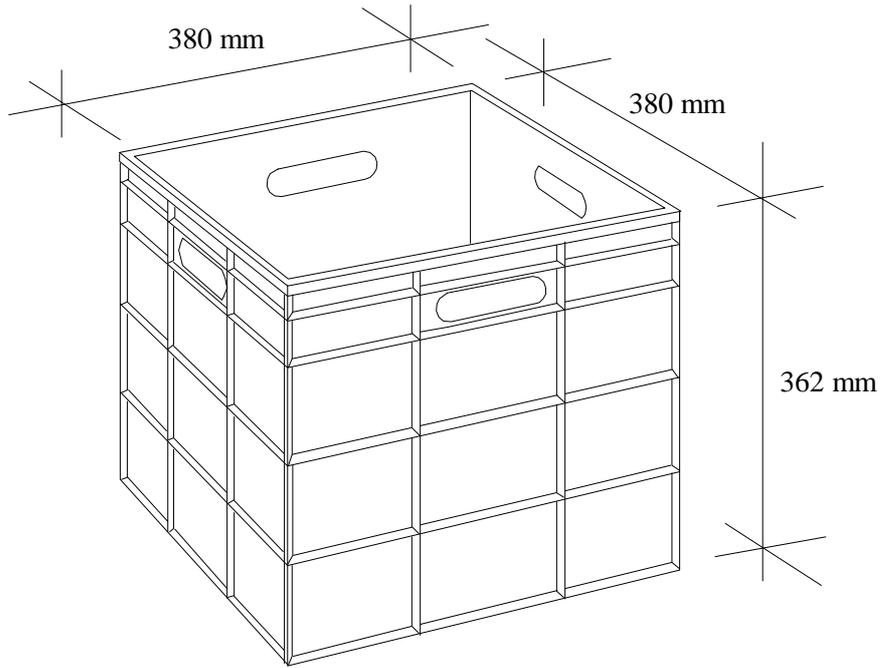
380 mm x 380 mm x 145 mm



Overall dimension 380 mm x 380 mm x 145 mm, to be made of a SWG 24 stainless steel (type 316) sheet. All edges should be seamed with a piece of stainless steel rod (dia. 5 mm) to stiffen and avoid sharp edges. The lap joints should be welded to ensure that the whole tray is leakproof.

Sketch C
1 Ĩ C

Heavy-Duty Plastic Spill Catcher Tray
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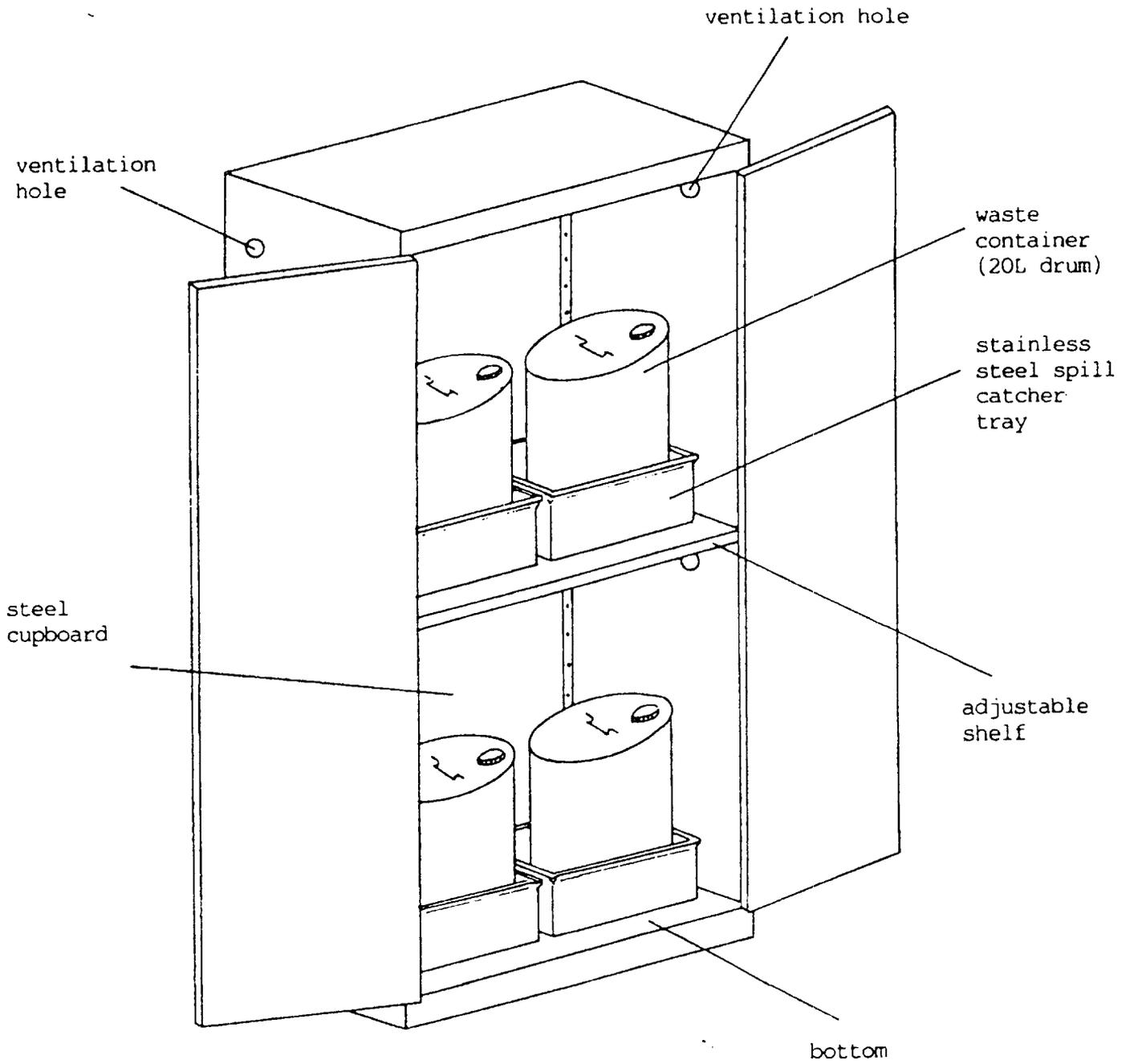
Overall dimension	:	380 x 380 x 362 mm
Material dimension	:	Top 360 x 360 x 355 mm
	:	Bottom 351 x 351 x 355 mm

Sketch D

圖 D

Storage of Organic Chemical Wastes

有機化學廢物的存放

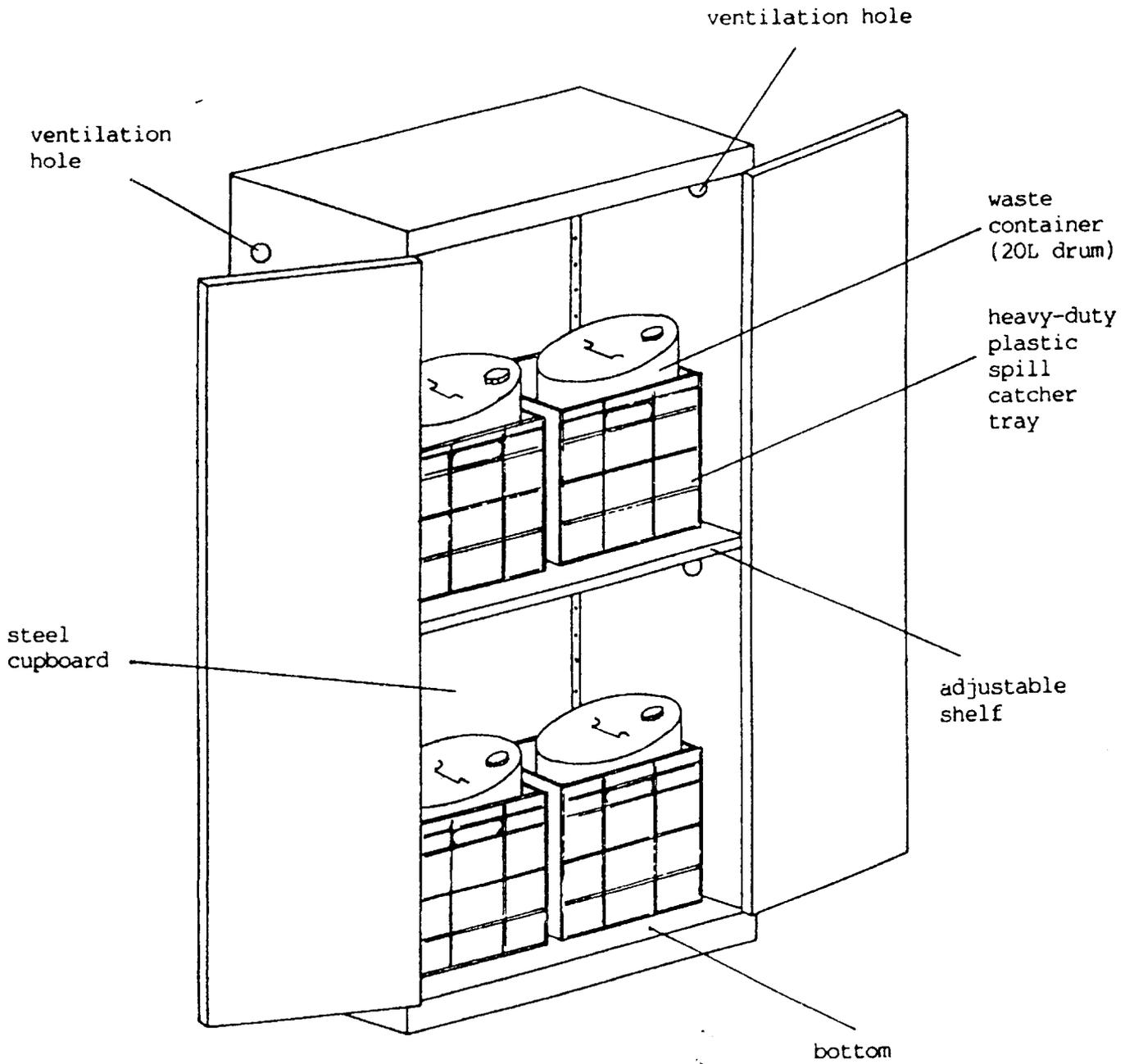


Sketch E

圖 E

Storage of Inorganic Chemical Wastes

無機化學廢物的存放



Chemical Waste Handling Procedures for Secondary School Science Laboratories

(Prepared by Enviropace Limited in collaboration with
Environmental Protection Department)

1. Background

Upon the full implementation of the Waste Disposal (Chemical Waste) (General) Regulation with effect from 3 May 1993, the disposal of "chemical waste" has been strictly controlled. (See ANNEX I for list of substances that qualifies 'chemical waste'). The Regulation sets out requirements in containerization, labelling, storage, collection, transportation and disposal of chemical waste, in accordance with the Environmental Protection Department's "Cradle to Grave" control strategy. In line with the Regulation, the Tsing Yi Chemical Waste Treatment Centre (CWTC), a public owned facility, provides centralized disposal service for all chemical waste producers in Hong Kong. When CWTC initially commenced operation in April 1993, its service was free of charge. Since March 1995, chemical waste producers are required to pay for the collection and disposal services offered by CWTC. Schools can apply in writing to EPD for reduction or waiver of charges for disposal of chemical waste by CWTC. EPD has already waived the chemical waste charge for many government, aided and non-profit making schools.

Enviropace Limited, the contracted operator of the CWTC, provides a comprehensive chemical waste service package for science laboratories and technical subject workshops of all secondary schools in Hong Kong. This package is formulated in consultation with the Education Department (ED) and the Environmental Protection Department (EPD). The Package sets out standard procedures on handling and storage of science laboratory chemical wastes. Such procedures, as presented in this document, should be followed by teachers and laboratory technicians of schools using Enviropace's service package.

2. Service Scope

- 2.1 Enviropace collects and disposes: (i) surplus chemicals, (ii) expired chemicals, (iii) spent chemical mixtures resulting from experiments, provided that such chemicals (i) meet regulatory definition of "chemical waste", and (ii) can be accepted by the CWTC for treatment.
- 2.2 The Regulation targets at specific substance in forms or concentrations that pose significant threat to our health and the environment. The following examples, according to the Regulation and EPD's guidelines, are **not** chemical wastes:
 - (a) Neutralised salts that do not contain compounds listed in ANNEX I
 - (b) Apparatus rinse water and wiping tissue with low chemical contents
 - (c) Elemental heavy metals in stable form (e.g. lead, copper, chromium, nickel)
 - (d) Household chemicals used in laboratories for cleaning (e.g. soap, detergents)

- (e) Dilute acids & alkalis with concentration below those stipulated in ANNEX I
- 2.3 In the unlikely event that a school laboratory has to dispose of any substance listed in Part A of ANNEX I (e.g. Calcium Carbide, Potassium Metal, Sodium Metal, White or Yellow Phosphorus), EPD must be notified using Form EPD-132 (See ANNEX II for copy). Upon notification, EPD would issue directions on disposal using Form EPD-131. Enviropace collects Part A waste only if the laboratory can produce a copy of Form EPD-131 citing treatment at CWTC as an authorized disposal option.
- 2.4 Enviropace does not provide service for the following substances as they are not accepted at the CWTC: asbestos, radioactive materials, explosives, gaseous materials. These includes mixtures of spent chemicals that poses explosion hazard. Please consult EPD for proper disposal procedures of such materials.
- 2.5 Enviropace provides properly labelled 20 litre pails for collection of spent chemical mixtures. Enviropace do not provide small bottles needed for the collection of chemical wastes requiring separate storage.

3. Chemical Waste Manager

- 3.1 Each school should appoint a Chemical Waste Manager to direct and co-ordinate the handling of chemical wastes. This person should normally be either a chemistry teacher or an experienced chemistry laboratory technician. In this article, the Chemical Waste Manager or his/her delegate(s) would be referred to as 'the CWM'.
- 3.2 An acting CWM should also be appointed in case the CWM is not on duty. The names of the CWM and the acting CWM should be supplied to Enviropace as the primary and secondary contact person.

4. Handling of Spent Chemical Mixtures

- 4.1 For each school, Enviropace will initially provide a set of three 20 litre pails. These are for storage of spent organics, acids and alkalis respectively. Additional pails will be made available as and when necessary (e.g. for schools with technical subject workshops that generates larger volume of spent solvents).
- 4.2 These pails are delivered with completed chemical waste labels and colour dot labels. The colour dot label is a useful aid for easy identification of wastes. Waste names and dot colours correspond as follows:

<i>Waste Name</i>	<i>Colour Dot Label</i>
Mixed Spent Organics	Violet
Mixed Spent Acids	White
Mixed Spent Alkalis	White

- 4.3 The CWM initiates a Waste Log Sheet (See ANNEX III for sample) for each pail. Every waste entering the pail must be properly logged. The filled log sheet must accompany the pail at time of collection by Enviropace. Enviropace will refuse collection of pails that do not carry a legible log sheet.
- 4.4 Spent chemicals containing the followings should never be mixed with other chemical waste, and should be stored separately in smaller bottles: highly reactive compounds, water reactive compounds, concentrated strong oxidizing or reducing agents. These bottles should bear an individual log sheet, be labelled and stored as described per Sections 5.2 and 5.3.
- 4.5 Mixtures of organics and inorganics should, upon passing the compatibility test as outlined in Section 6, be stored according to following guidelines:

<i>Mixture</i>	<i>Pail to Use</i>
Halogenated + Non-halogenated Organics	Organic
Heavy Metal Salts & Precipitates	Alkali
Water Soluble Organics	Organic
Emulsions	Organic
Polymers & Partial Polymers	Organic

For mixtures with two distinctive liquid phases, the phases should be separated for storage in respective appropriate containers. In general, non-acidic substances that are not hydrophobic should be mixed into the alkali pail, as an alkali medium is usually a chemically less reactive environment. Hydrophobic material should be mixed into the organics pail. Solid precipitates can be mixed into the proper container for the co-existing liquid.

- 4.6 At the end of each experimental session, spent chemicals should be collected using 3 beakers of appropriate size, one for each of organics, acids and alkalis. Mixtures of these should be collected according to guidelines given in Section 4.5 above.
- 4.7 The beakers must be placed in a fume hood with the sash half lowered (i.e. below eye level). Spent chemicals should be added slowly, and in small portions, into the beakers. Stop if excess heat or gas bubbles are generated during the process. Store un-added portion separately in a bottle, compile separate log sheet for the bottle. Follow labelling and storage procedures per Sections 5.2 and 5.3.
- 4.8 After all spent chemicals are collected in the beakers, perform compatibility test between contents of the beakers and respective chemical waste pails. Procedures of the compatibility test are described in Section 6. To assure proper safety precaution, check pail log sheet against beaker content before each compatibility test.
- 4.9 Add beaker content into the corresponding pail if individual compatibility test is passed. Otherwise store separately. Follow procedures per Section 5.2 and 5.3 for

storage of incompatible waste.

- 4.10 Upon passing the compatibility test, the new waste can be added to the pail outside the fume hood and with sufficient ventilation. For example, this can be performed near the chemical waste storage area or cupboard. If waste solvent is added to the pail, please ensure there is no naked flame around. Always check the liquid level of the waste pail before adding new waste each time. Use a funnel and a catch tray for spill prevention and control. Enter new waste information onto the log sheet. Ensure that all fields of an entry must be carefully completed in an legible way.
- 4.11 Without first performing the compatibility test, if a teacher or a technician has any doubt on mixing a new waste into a pail, then the waste should be stored separately. Follow procedures per Section 5.2 and 5.3 for storage of incompatible waste.
- 4.12 Additional pails(s) will be provided for schools with technical subject workshops specifically for storage of spent solvents. Compatibility test is not required before mixing of spent solvents.
- 4.13 Chemical waste pails should always be stored in stainless steel (organics) or plastic (inorganics) catch trays, and be placed inside the storage cabinet. The storage cabinet should be kept in a cool area.

5. Handling of Surplus or Expired Chemicals

- 5.1 Leave chemical in original packing and label. If the original packing is not in good condition and presents a risk of leakage, wrap and seal the bottle in a polythene plastic bag, or other overpack of compatible nature.
- 5.2 On each bottle, attach a second label bearing the following items: (i) name of school, (ii) name and contact telephone number of laboratory person-in-charge, (iii) chemical name, (iv) quantities, (v) particular risks and safety precautions. Enviropace does not collect any item without this label.
- 5.3 Store these chemicals in stainless steel (organics) or plastic (inorganics) catch trays in chemical waste storage cabinet.

6. Compatibility Test Procedures

- 6.1 The test should be performed by a chemistry teacher or a laboratory technician, under a fume hood with the sash half lowered.

- 6.2 Using a pipette or other suitable sampling device, draw a 50 ml sample of the content from the target waste pail and move to a beaker. Insert a thermometer into the beaker.
- 6.3 Slowly, mix in a portion of the new chemical waste that is to be added to the pail. The volumetric ratio of the test reagents should be similar to that between the original pail content and the new waste.
- 6.4 If bubbling, fuming or noticeable temperature rise of 10 degrees C or more occurs during mixing or within 5 minutes, stop further mixing. Store new waste separately in a bottle, compile separate log sheet. Follow Section 5.2 and 5.3 for storage and labelling procedures.
- 6.5 If no adverse reaction occur in 5 minutes, the new waste can be added to the corresponding pail.

7. Personal Protective Equipment

Splash-proof goggles and lab coats must be used at all times when handling or mixing chemical wastes, irrespective of whether the operation is performed in a fume hood. For mixing of chemical waste outside a fume hood, a cartridge type respirator equipped with acid gas and organics cartridge should be used.

8. Collection Service

- 8.1 Initially, empty 20 litre pails will be delivered to each school.
- 8.2 Thereafter, Enviropace will schedule routine collection for each school every twelve months. Non-routine collection is scheduled only if: (i) any of the three pails are full before the scheduled routine collection, (ii) under very special circumstances, and upon Enviropace's discretion.
- 8.3 At time of collection, Enviropace's Customer Service personnel contacts the CWM of each school to arrange for collection time and to obtain necessary waste information. The CWM should advise us, in the form of a telefaxed Summary Report, the estimated volume of each pail, as well as the name, volume of each bottle of separately stored waste. The latter includes surplus chemicals, expired chemicals and spent mixtures incompatible with the bulk material. (See ANNEX IV for sample Summary Report)
- 8.4 According to the information provided, Enviropace prepares the Trip Ticket (see ANNEX V for sample) in triplicate for each collection. Enviropace's collection personnel arrives with the Trip Ticket. The CWM should verify the information on the Trip Ticket before signing on the document to acknowledge the correctness of the information.

- 8.5 Before physical collection of the pails/bottles, Enviropace's collection personnel verifies the Trip Ticket information against the labels on the pails and bottles. Upon collection, the CWM retains the pink copy of the Trip Ticket, and Enviropace keeps the other two copies.
- 8.6 At time of collection, Enviropace replaces each collected pail with an empty one. Bottles which are not supplied by Enviropace are, upon collection, destroyed at the CWTC, and are not returned to the school.
- 8.7 The CWM should closely monitor the filling rate, thus the remaining capacity of each pail. The CWM should contact Enviropace no less than two days before the pail is expected to fill up. Enviropace will schedule a non-routine collection.
- 8.8 Enviropace will provide additional pails to laboratories that, by experience, use more than 3 pails between the twelve month collection interval.

ANNEXES

- ANNEX I: Schedule 1 of the "Waste Disposal (Chemical Waste) (General Regulation"
- ANNEX II: Form EPD-132 "WDO (Cap. 354) Notification under Section 17 for 'Part A' Chemical Waste"
- ANNEX III: Waste Log Sheet
- ANNEX IV: Sample Chemical Waste Summary Report
- ANNEX V: Trip Ticket

Schedule 1 of the Waste Disposal (Chemical Waste) (General) Regulation

SCHEDULE OF SUBSTANCES AND CHEMICALS

Part A	Code	
Any substance to which the Antibiotics Ordinance (Cap. 137) applies	30	
Asbestos	09	
Dangerous drugs (as defined in the Dangerous Drugs Ordinance (Cap. 134))	10	
Dangerous goods, category 2, NES ..	(As defined in the Dangerous Goods Ordinance (Cap. 295))	..02
Dangerous goods, category 6, NES04
Dangerous goods, category 9, NES14
Dibenzofurans	19	
Dioxins	19	
Pesticides (as defined in the Register referred to in Section 4(b) of the Pesticides Ordinance (Cap. 133))	06	
Poisons (Part I) (as defined in the Pharmacy and Poisons Ordinance (Cap. 138))	20	
Polychlorinated biphenyls	29	
Part B		
Antimony and its compounds	66	
Arsenic compounds	66	
Barium compounds	66	
Beryllium and its compounds	66	
Boron compounds	66	
Cadmium and its compounds	66	
Chromium bearing solid tannery waste	56	
Chromium and its compounds, NES	66	
Cobalt and its compounds	66	
Copper compounds/copper etchant	66/76	
Cyanides	96	
Dangerous goods, category 3, NES ..	(As defined in the Dangerous Goods Ordinance (Cap. 295))	..38
Dangerous goods, category 4, NES36
Dangerous goods, category 5, NES33
Dangerous goods, category 7, NES35
Dangerous goods, category 8, NES34
Dangerous goods, category 10, NES39
Halogenated organic solvents and compounds	49	
Lead and its compounds	66	
Manganese and its compounds	66	
Mercury and its compounds	66	
Mineral oils employed for engine lubrication	73	
Mineral oils, NES	63	
Nickel and its compounds	66	
Non-halogenated organic solvents and compounds	43	
Organo lead compounds	86	
Organo mercury compounds	86	
Organo tin compounds	86	
Paints	53	
Pesticides (as defined in the Register referred to in Section 4(a) of the Pesticides Ordinance (Cap. 133))	46	
Pharmaceutical products and medicines, NES	40	
Phosphorus compounds excluding phosphates	68	
Selenium compounds	66	
Silver compounds	66	
Sulphides	98	
Thallium and its compounds	66	
Tin compounds	66	
Vanadium compounds	66	
Zinc compounds	66	
Acids, alkalis and corrosive compounds		
Acetic acid above 10% acetic acid by weight	48	
Acids or acidic solutions, NES with acidity equivalent to above 5% nitric acid by weight	48	
Ammonia solution above 10% ammonia by weight	58	
Bases or alkaline solutions, NES, with alkalinity equivalent to above 1% sodium hydroxide by weight	58	
Chromic acid above 1% chromic acid by weight	78	
Fluoroboric acid above 5% fluoroboric acid by weight	48	
Formic acid above 10% formic acid by weight	48	
Hydrochloric acid above 5% hydrochloric acid by weight	48	
Hydrofluoric acid above 0.1% hydrofluoric acid by weight	48	
Hydrogen peroxide solution above 8% hydrogen peroxide by weight	55	
Nitric acid above 5% nitric acid by weight	48	
Perchloric acid above 5% perchloric acid by weight	48	
Phosphoric acid above 5% phosphoric acid by weight	48	
Potassium hydroxide solution above 1% potassium hydroxide by weight	58	
Potassium hypochlorite solution above 5% active chlorine	88	
Sodium hydroxide solution above 1% sodium hydroxide by weight	58	
Sodium hypochlorite solution above 5% active chlorine	88	
Sulphuric acid above 5% sulphuric acid by weight	48	

NES = Not elsewhere specified

Environmental Protection Department 環境保護署 Waste Disposal Ordinance (Chapter 354) 香港法例第354章廢物處理條例 Notification under Section 17 for 'Part A' Chemical Wastes 根據條例第17條的規定呈報指定(甲類)化學廢物通知書		For Official Use 本欄不用填寫 Reference No. 編號:																																																																							
A. WASTE PRODUCER (廢物產生者) Full Name (全名): _____ Waste Producer No. (廢物產生者編號): _____ Address for Correspondence (通訊地址): _____ Tel. No. (電話): _____		C. ACTIVITY OR PROCESS WHICH PRODUCES 'PART A' CHEMICAL WASTE(S) (產生甲類廢物機構經營的主要業務) Brief description of the activity(ies) or process(es). Attach flowchart or diagram if necessary. 簡介指定(甲類)化學廢物的生產工序,可附上有關流程图或圖解。																																																																							
B. LOCATION OR PREMISES WHERE THE WASTE IS PRODUCED (產生廢物的地點或樓宇) Name of Establishment (機構名稱): _____ Major chemical waste type(s) (主要化學廢物種類): _____ Address (地址): _____ Tel. No. (電話): _____ Nature of Business (業務性質): _____ Full Name of Contact Person (聯絡人全名): _____ Capacity (職位): _____		_____ _____ _____ _____																																																																							
D. WASTE DESCRIPTION (廢物的描述) List all 'PART A' chemical wastes which are produced at the above location or premises and which are intended for disposal. Please also indicate the frequency of production and estimated quantity for disposal. 詳列上述地點或樓宇產生的及擬予棄置的所有甲類化學廢物。請同時說明其生產的頻率及估計棄置的數量。 (*State the appropriate one 選擇適用者)																																																																									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th rowspan="3">Waste Type/Chemical Name (廢物種類/化學名稱)</th> <th rowspan="3">Waste Code (廢物代號)</th> <th colspan="2">Previous Notification (先前的通知書)</th> <th colspan="2">Dangerous Goods (危險物品)</th> <th colspan="3">Physical Form (廢物形態)*</th> <th rowspan="3">Frequency of Waste Production (廢物產生的頻率)</th> <th colspan="2">Estimated Quantity for Disposal (估計棄置的數量) (L or kg)* (升或公斤)</th> </tr> <tr> <th rowspan="2">Y 有</th> <th rowspan="2">N 否</th> <th rowspan="2">Reference No. (編號)</th> <th rowspan="2">Y 有</th> <th rowspan="2">N 否</th> <th rowspan="2">Category (類別)</th> <th>Solid 固體</th> <th>Liquid 液體</th> <th rowspan="2">Others 其他</th> </tr> <tr> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>1.</td> <td>_____</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>L 升 kg 公斤</td> </tr> <tr> <td>2.</td> <td>_____</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>L 升 kg 公斤</td> </tr> <tr> <td>3.</td> <td>_____</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>L 升 kg 公斤</td> </tr> <tr> <td>4.</td> <td>_____</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>L 升 kg 公斤</td> </tr> </tbody> </table>			Waste Type/Chemical Name (廢物種類/化學名稱)	Waste Code (廢物代號)	Previous Notification (先前的通知書)		Dangerous Goods (危險物品)		Physical Form (廢物形態)*			Frequency of Waste Production (廢物產生的頻率)	Estimated Quantity for Disposal (估計棄置的數量) (L or kg)* (升或公斤)		Y 有	N 否	Reference No. (編號)	Y 有	N 否	Category (類別)	Solid 固體	Liquid 液體	Others 其他			1.	_____										L 升 kg 公斤	2.	_____										L 升 kg 公斤	3.	_____										L 升 kg 公斤	4.	_____										L 升 kg 公斤
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4.	_____										L 升 kg 公斤																																																														
E. PROPOSED DISPOSAL ARRANGEMENT (處理廢物的方案) Describe briefly any on-site treatment or other disposal arrangement for each waste type set out in D. 簡述在原址處理及其他棄置D欄內各廢物種類之辦法。																																																																									
F. REMARKS (註釋) (Include any additional information for safe handling of the waste(s)) (填上其他附加資料以確保廢物的安全處理)																																																																									
G. DECLARATION (聲明) I hereby certify that the particulars given above are correct and true to the best of my knowledge and belief. 特此證明,就本人所知及所信,表格內填報的資料全屬真實無訛。																																																																									
Signature (簽署) _____ *on behalf of 代表		Name in Block Letters (正楷姓名) _____ Capacity (職位) _____																																																																							
Company Name and Chop as appropriate (公司名稱及印鑑)(如適用者)		Date (日期) _____																																																																							

WARNING: Any person(s) who fails to give notice to the Director of Environmental Protection as required under Section 17 of the Waste Disposal Ordinance commits an offence punishable with a maximum fine of \$100,000 for the first offence, and \$200,000 for a second or subsequent offence.
警告: 任何人士若不按廢物處理條例第十七條的規定通知環境保護署署長,即屬違法,初犯者最高可被判罰款港幣\$100,000元,次犯或其後再犯可被判罰款港幣\$200,000元。

Please carefully read the instructions overleaf before completing this form. 請細讀背頁所載指示以正確地填寫此表格。

WASTE Import 入口 Part A 甲類
DECLARATION: (廢物聲明) Export 出口 Part B 乙類

Environmental Protection Department
環境保護署
Waste Disposal Ordinance (Chapter 354)
香港法例第354章廢物處理條例

Waste Disposal Site's
(Original) Copy
廢物處理設施(原本)存根

Part A Waste
Notification
Reference No.
(甲類化學廢物
通知書編號): _____

Waste Disposal (Chemical Waste) (General) Regulation
廢物處理(化學廢物)(一般)規例

TRIP TICKET
運載紀錄

Ticket Number
(運載紀錄編號): 0045074

A. WASTE PRODUCER (廢物產生者)		B. WASTE COLLECTOR (廢物收集者)		C. RECEPTION POINT (廢物收集處)		D. WASTE DESCRIPTION (廢物資料)																																																																																																																																																	
Full Name 全名		Contact Person 聯絡人姓名		Company Name 公司名稱		Operator 運載員姓名		Tel. No. 電話		Address 地址		Identify Card No. or Vehicle Driving Licence No. or Certificate of competency No. 身份證號碼或駕駛執照編號或執照編號		Vehicle Registration or Vessel Licence No. 車輛登記編號或船隻牌照編號		Waste Collection Licence Number 廢物收集牌照編號		Intended Disposal Site 擬運往的處理設施		Company Name 公司名稱		Contact Person 聯絡人姓名		Address 地址		Capacity 職位		Tel. No. 電話		Waste Disposal Licence Number 廢物處理牌照編號																																																																																																																									
I certify in my best knowledge and belief that the information given in the Waste Declaration, A, D(I), E(I) sections is correct and the waste described in D(II) has been properly labelled and consigned to the waste collector at B.		I certify in my best knowledge and belief that I have checked and then collected the waste set out in D(I) and the information given in B, D(III), and E(III) is correct.		I (Reception Point Manager) certify that the waste set out in D(II) has been received by this reception point and the information given in C, D(III) and E(III) is correct.		(*State the appropriate one 選擇適用者)																																																																																																																																																	
Signed 簽名: _____ Name 姓名: _____		Signed 簽名: _____ Name 姓名: _____		Signed 簽名: _____ Name 姓名: _____		Quantity Notified 報稱的數量 (Part A Waste only) (只適用於甲類化學廢物) (L or kg)* (升或公斤)										Quantity Collected 收集的数量 (L or kg)* (升或公斤)		Quantity Received 接收的数量 (L or kg)* (升或公斤)																																																																																																																																					
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In handling Part A chemical waste, Waste Producer, Waste Collector and Reception Point must strictly follow the Directions for Disposal issued by the Director of Environmental Protection under Section 17 of the Waste Disposal Ordinance. 廢物產生者、廢物收集者及廢物收集處在處理甲類化學廢物時，必須遵守環境保護署署長根據廢物處理條例第17條所發出的指令。

WARNING: Any person(s) who knowingly or recklessly provide incorrect or misleading information or omit material particulars or information or knowingly or recklessly certify as correct anything which is incorrect, in relation to any requirement in the Regulation, commits an offence punishable with a maximum fine of \$200,000 and imprisonment for 6 months.

警告: 根據廢物處理(化學廢物)(一般)規例的規定，任何人士填報本表格時故意或罔顧後果地提供不確或誤導資料或遺漏重要事項，又或故意或罔顧後果地證明任何不確事項為正確，即屬違法，最高可被判罰款港幣200,000元及入獄6個月。

Collection Form
Labels for Chemical Waste Storage Cupboard

Schools are requested to send a member of their staff to collect the captioned labels according to the following arrangement:

Date : 23 - 27 March 1998

Time : 9:30 a.m. - 12:00 noon and 2:30 p.m. - 4:30 p.m.

Place : Science Education Resources Centre,
 Room 301, 4 Pak Fuk Road,
 North Point, Hong Kong:

Note: The Waste Disposal (Chemical Waste) (General) Regulation requires that the door of each Chemical Waste Storage Cupboard should be marked with the English words and Chinese characters "CHEMICAL WASTE 化學廢物" clearly and boldly in red on a white background. Schools with cupboards not complying with this requirement should make use of the labels provided by the Education Department and display them properly on their cupboards.

Name of School : _____

Address : _____

Telephone No. : _____

Signature of Principal : _____

Name of Principal (in BLOCK letters) : _____

Name of staff authorised to collect the labels: Mr/Ms _____

Date : _____

For Office Use

Signature of Collector : _____

Date : _____