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LEGISLATIVE COUNCIL BRIEF

Waste Disposal Ordinance
(Chapter 354)

WASTE DISPOSAL (CLINICAL WASTE) (GENERAL) REGULATION

WASTE DISPOSAL (CHARGE FOR DISPOSAL OF CLINICAL WASTE) REGULATION

INTRODUCTION

At the meeting of the Executive Council on 8 June 2010, the Council ADVISED and the Chief Executive ORDERED that the Waste Disposal (Clinical
A Waste) (General) Regulation ("General Regulation") at **Annex A** and the Waste Disposal (Charge for Disposal of Clinical Waste) Regulation ("Charging
B Regulation") at **Annex B** should be made.

BACKGROUND AND JUSTIFICATIONS

2. Clinical waste is potentially dangerous because it may contain infectious materials and sharps. It is important for the concerned parties to handle and manage their clinical waste with due care so as to minimize any danger to public health or risk of pollution to the environment.

3. To safeguard public health and safety, we proposed under the Waste Disposal (Amendment) Ordinance 2006 ("the Amendment Ordinance") enacted on 7 April 2006 to implement the Clinical Waste Control Scheme ("Control Scheme") which comprises the following key elements:

(a) requiring clinical waste producers to properly manage their clinical waste by segregating those waste from other municipal solid waste and consigning the clinical waste to licensed waste collectors for disposal;

(b) establishing a statutory licensing requirement for clinical waste collectors;

(c) promulgating to the parties concerned two sets of Code of Practice ("CoP") to provide guidance on the handling and management of clinical waste;

(d) setting up a trip ticket system to track clinical waste from source to disposal facility;

(e) designating the Chemical Waste Treatment Centre ("CWTC") as the Government facility to treat clinical waste; and

(f) levying a charge on the clinical waste to be disposed of at the CWTC.

General Regulation and the Code of Practice under the Control Scheme

4. The Amendment Ordinance is a piece of enabling legislation for implementing the Control Scheme. The details of the control are partly set out in licence conditions and partly set out in the General Regulation made, the latter include the following :

(a) in general, clinical waste producers will be required to dispose of the waste through licensed waste collector or the collection authority and to keep records of the waste consigned to licensed waste collectors for inspection when so required;

(b) licensed waste collectors will be required to deliver the collected clinical waste within 24 hours to a licensed disposal facility so as to minimize the potential risk associated with the movement of the waste;

(c) a small clinical waste producer may collect small quantities of clinical waste from other small waste producers for consigning to a licensed waste collector collectively if authorization is obtained from the Director of Environmental Protection ("The Director") to set up an on-site collection point;

(d) healthcare professionals[1] are exempted from licensing when delivering clinical waste of not more than five kilograms per trip to a licensed disposal facility or an authorized collection point set up by waste collectors or individual waste producers; and

(e) under an emergency involving clinical waste, the Director is empowered to authorize, with terms and conditions, the collection or removal of clinical waste without licence, or the disposal of clinical waste at a specified land or premises without licence.

5. In order to provide the clinical waste producers and waste collectors with detailed guidance on the segregation, packaging, labelling, storage, collection, transportation and disposal of clinical waste, the Secretary for the Environment will issue, under section 35 of the Waste Disposal Ordinance, two sets of CoP to complement the control set out in the General Regulation. The two sets of CoP targeting major waste producers (e.g. hospitals) and waste collectors, and small waste producers (e.g. private clinics) are at **Annex C** and **Annex D** respectively.

C

D

Charge for Disposal of Clinical Waste

6. Under the Control Scheme, the CWTC will be used to treat clinical waste. Disposal of clinical waste at the CWTC will be subject to a charge to be set out under the Charging Regulation.

7. In accordance with the "user pays" principle, we will levy a charge on the clinical waste to be received and treated at the CWTC. In August 2009, we consulted the relevant stakeholders on the estimated charging level on the basis of 100% variable operating cost[2] ("VOC") recovery, using $3 per kilogram as the estimated rate. The stakeholders were in general receptive to the estimated charge and no objection has been received. Having regard to the level of charges for chemical waste and our assessment of acceptance by the affected trades, we recommend setting the charge to recover 100% VOC. The charge will be $2.715 per kilogram.

[1] A healthcare professional will be defined to mean a registered medical practitioner, dentist or veterinary surgeon; a registered or listed Chinese medicine practitioner; or a registered or enrolled nurse.

[2] The variable operating cost is the payment to the contractor based on the quantity of clinical waste received and treated at the facility.

THE REGULATIONS

Waste Disposal (Clinical Waste) (General) Regulation

8. The main provisions of the General Regulation are as follows -

(a) sections 3 to 7 set out the requirements on disposal, delivery and handling of clinical waste;

(b) sections 9 to 11 provide for the setting up of on-site collection points for receipt of clinical waste, and the collection and disposal of clinical waste under special circumstances without a licence; and

(c) sections 12 to 14 set out the requirements on records keeping and furnishing information to the Director.

Waste Disposal (Charge for Disposal of Clinical Waste) Regulation

9. The main provisions of the Charging Regulation are as follows -

(a) section 3 provides that any person who delivers clinical waste to the CWTC for disposal must pay a charge; and

(b) the Schedule sets out the unit rate for the charge for delivery of clinical waste to the CWTC for disposal.

LEGISLATIVE TIMETABLE

10. The upgrading work of CWTC is underway to receive and treat clinical waste by high-temperature incineration, which can meet the latest emission standard of the European Union. The upgrading work is scheduled to be completed by early 2011.

11. In order to allow clinical waste collectors and disposal facilities operator to obtain the relevant licences before the commencement of the Control Scheme, we intend that the licensing provisions stipulated in the Amendment Ordinance and the General Regulation will take effect on 19 November, 2010. The commencement notice for relevant provisions of the Amendment Ordinance is to be gazetted also on 18 June 2010. The remaining provisions of the General

Regulation and the Charging Regulation will take effect when the Control Scheme is fully implemented in early 2011.

12. The legislative timetable will be –

Publication in the Gazette	18 June 2010
Tabling at the Legislative Council	23 June 2010
Commencement	
- Licensing provision	19 November 2010
- Remaining provisions	Early 2011

IMPLICATIONS OF THE PROPOSAL

E

13. The financial and civil service implications are listed at **Annex E**. The proposal is in conformity with the Basic Law, including the provisions concerning human rights, and will not affect the current binding effect of the Waste Disposal Ordinance.

PUBLIC CONSULTATION

14. In 2001-02, we launched a public consultation on the Control Scheme and consulted the Panel on Environmental Affairs of the LegCo, Kwai Tsing District Council ("K&TDC"), medical professionals and other stakeholders. After taking into the account the views received during the public consultation, we introduced the Waste Disposal (Amendment) Bill 2005 to LegCo and it was subsequently passed by LegCo in March 2006.

15. In August 2009, we consulted the relevant stakeholders, including key stakeholders such as the Hospital Authority, Hong Kong Medical Association, Hong Kong Doctors Union, Practising Estate Doctors' Association, Hong Kong Dental Association, the College of Nursing and waste collectors, on the two sets of draft CoP and informed them of the estimated charge for disposing of clinical waste at the CWTC. The stakeholders are generally receptive to the draft CoP and the charging level. We submitted a paper to the K&TDC in October 2009 and also attended its meeting in December 2009 to brief K&TDC members on the timetable for implementing the Control Scheme, the emissions monitoring arrangements by independent experts and the monthly reporting of the monitoring

results to the K&TDC. K&TDC raised no objection.

16. On 12 January 2010, we consulted the ACE and members supported the proposed implementation of the Control Scheme and promulgation of the CoP.

17. We further consulted Panel on Environmental Affairs of the LegCo on 22 February 2010 on the proposal to introduce the two regulations under the Waste Disposal Ordinance to set out the detailed regulatory control for the implementation of the Control Scheme. Panel on Environmental Affairs supported the proposal.

PUBLICITY

18. We will issue a press release on 18 June 2010. A spokesman will be available to answer media enquiries.

ENQUIRIES

19. Enquiries about this Brief may be directed to Dr. Lawrence WONG, Principal Environmental Protection Officer (Special Duties) of the Environmental Protection Department at 2594 6270 or by fax at 2136 3304.

Environmental Protection Department
18 June 2010

L.N. 83 of 2010

WASTE DISPOSAL (CLINICAL WASTE) (GENERAL) REGULATION

CONTENTS

PART 4

MISCELLANEOUS

WASTE DISPOSAL (CLINICAL WASTE) (GENERAL) REGULATION

(Made by the Chief Executive in Council under section 33 of the Waste Disposal Ordinance (Cap. 354) after consultation with the Advisory Council on the Environment)

PART 1

GENERAL

1. Commencement

(1) This Regulation (except section 8) comes into operation on the day appointed for the commencement of sections 5, 6 and 20 of the Waste Disposal (Amendment) Ordinance 2006 (6 of 2006) or, if different days are appointed, the latest of those days.

(2) Section 8 comes into operation on the day appointed for the commencement of sections 14 and 20 of the Waste Disposal (Amendment) Ordinance 2006 (6 of 2006) or, if different days are appointed, the latest of those days.

2. Interpretation

In this Regulation—

"authorized waste collector" (獲授權廢物收集者) means a person who is authorized under section 10(1) to collect or remove clinical waste;

"collection point" (收集站) means—

(*a*) any land or premises authorized to be used by a licensed waste collector or authorized waste collector for the receipt of clinical waste, under a waste collection licence or an authorization granted under section 10(1); or

(*b*) any land or premises authorized to be used as an on-site collection point under section 9(1);

"healthcare professional" (醫護專業人士) means—

(*a*) a registered dentist within the meaning of the Dentists Registration Ordinance (Cap. 156);

(*b*) a registered medical practitioner within the meaning of the Medical Registration Ordinance (Cap. 161);

(*c*) a registered nurse or enrolled nurse within the meaning of the Nurses Registration Ordinance (Cap. 164);

(*d*) a registered veterinary surgeon within the meaning of the Veterinary Surgeons Registration Ordinance (Cap. 529); or

(*e*) a registered Chinese medicine practitioner or listed Chinese medicine practitioner within the meaning of the Chinese Medicine Ordinance (Cap. 549);

"licensed waste collector" (持牌廢物收集者) means a person who is permitted under a waste collection licence to provide services for the collection or removal of clinical waste;

"off-site reception point" (場外接收站) means any land or premises—

(*a*) that are not used for the purposes of any practice, establishment, research or laboratory practice referred to in the definition of "clinical waste" in section 2(1) of the Ordinance; and

(*b*) that are authorized, under a waste disposal licence or an authorization granted under section 10(3), to be used for the disposal of clinical waste that is produced elsewhere;

"reception point" (接收站) means any land or premises that are authorized, under a waste disposal licence or an authorization granted under section 10(3), to be used for the disposal of clinical waste;

"sharps container" (利器容器) means a container for clinical waste that consists of any substance, matter or thing belonging to Group 1 (Used or contaminated sharps) in Schedule 8 to the Ordinance;

"waste collection licence" (廢物收集牌照) means a licence granted under section 10 of the Ordinance in relation to clinical waste;

"waste disposal licence" (廢物處置牌照) means a licence granted under section 16 of the Ordinance in relation to clinical waste.

PART 2

Disposal and Delivery of Clinical Waste

3. Proper disposal of clinical waste

(1) A person who produces or causes to be produced any clinical waste, or who has possession or custody of any clinical waste, must dispose of it in a proper manner or cause or arrange for it to be disposed of in a proper manner.

(2) A person complies with subsection (1) in relation to clinical waste that the person produces or causes to be produced, or of which the person has possession or custody, at any land or premises only if—

(*a*) the person consigns the clinical waste to a licensed waste collector for delivery from the land or premises to a reception point;

(*b*) the person, being a healthcare professional, delivers the clinical waste from the land or premises to a reception point or collection point;

(*c*) a healthcare professional, acting in his or her capacity as an employee of the person, delivers the clinical waste from the land or premises to a reception point or collection point;

(*d*) the person consigns the clinical waste to an authorized waste collector for removal from the land or premises;

(*e*) the person consigns the clinical waste to the collection authority that provides services for the collection and removal of clinical waste under section 9A of the Ordinance, or to a public officer authorized to provide those services under section 23A of the Ordinance, for removal from the land or premises; or

(*f*) if a waste disposal licence is in force in respect of the land or premises and the clinical waste may be disposed of at the land or premises in accordance with the licence, the person—

(i) disposes of the clinical waste at the land or premises in accordance with the licence; or

(ii) causes or arranges for the clinical waste to be disposed of at the land or premises in accordance with the licence.

(3) Subsection (1) does not apply to—

(*a*) a person who has possession or custody of any clinical waste in the person's capacity as—

(i) a licensed waste collector;

(ii) an authorized waste collector; or

(iii) the collection authority that provides services for the collection and removal of clinical waste under section 9A of the Ordinance, or a public officer authorized to provide those services under section 23A of the Ordinance;

(*b*) clinical waste at an off-site reception point; or

(*c*) clinical waste that is imported into, or is to be exported out of, Hong Kong under a permit issued under section 20A(3) or 20B(3) of the Ordinance.

(4) A person charged with an offence under this section may rely on subsection (3) only if—

(*a*) there is sufficient evidence to raise an issue that the person had possession or custody of the clinical waste in circumstances specified in subsection (3)(*a*) or the clinical waste fell within the description in subsection (3)(*b*) or (*c*); and

(*b*) the contrary is not proved by the prosecution beyond reasonable doubt.

(5) A person who contravenes subsection (1) commits an offence and is liable on conviction to a fine of $200,000.

4. Delivery of clinical waste by healthcare professional

(1) A healthcare professional may deliver clinical waste to a reception point or collection point under section 3(2)(*b*) or (*c*) without a waste collection licence but any such delivery must comply with the requirements specified in subsection (2).

(2) The requirements are—

(*a*) the clinical waste must not exceed 5 kg in weight on any one occasion;

(*b*) the clinical waste must not consist of any substance, matter or thing belonging to Group 4 (Infectious materials) in Schedule 8 to the Ordinance;

(*c*) the healthcare professional must not use, for the purpose of delivering the clinical waste, a means of transport other than a private car within the meaning of the Road Traffic Ordinance (Cap. 374);

(*d*) the clinical waste must be delivered directly to a reception point or collection point within 24 hours after the clinical waste begins to be so delivered;

(*e*) the clinical waste must not be left unattended while it is being delivered;

(*f*) the clinical waste must be packed or stored—

(i) in the case of clinical waste consisting of any substance, matter or thing belonging to Group 1 (Used or contaminated sharps) in Schedule 8 to the Ordinance, in containers that are puncture-resistant, shatter-proof and leak-proof; and

(ii) in all other cases, in containers that are made of rigid material, impervious to moisture and leak-proof, and that will not rip, tear or burst under normal conditions of handling;

(*g*) the containers referred to in paragraph (*f*) must each bear on the outside of the container a label of the dimensions specified in Part 1 of the Schedule, which label must contain the symbol specified in Part 2 of the Schedule;

(*h*) the containers referred to in paragraph (*f*) must each be properly and securely packaged, closed and sealed to prevent spillage or leakage;

(*i*) the healthcare professional must, in the course of delivering the clinical waste, carry—

(i) adequate and appropriate first aid equipment for use in the event the clinical waste causes injury to any person; and

(ii) adequate and appropriate cleaning equipment for use in the event any clinical waste is spilled; and

(*j*) if any clinical waste is spilled while it is being delivered, the healthcare professional must remove the spilled clinical waste and clean the area of the spillage by using the equipment specified in paragraph (*i*)(ii).

(3) If any requirement under subsection (2) is contravened in respect of a delivery, the healthcare professional commits an offence.

(4) If any requirement under subsection (2) is contravened in respect of a delivery and the healthcare professional was acting in his or her capacity as an employee of another person, that other person also commits an offence.

(5) A person who commits an offence under subsection (3) or (4) is liable on conviction to a fine at level 6.

(6) It is a defence to a charge under subsection (4) for the person charged to prove that the person took all reasonable measures and exercised all due diligence to avoid the commission of the offence.

5. Delivery of clinical waste by licensed waste collector

(1) Unless subsection (2) applies, a licensed waste collector who collects any clinical waste must, within 24 hours of collecting it, deliver the clinical waste to a reception point.

(2) The Director may give a direction in writing to a licensed waste collector requiring the licensed waste collector to deliver any clinical waste collected by the licensed waste collector to the reception point, and within the period, specified in the direction; and the licensed waste collector must deliver the clinical waste to that reception point within that period.

(3) A licensed waste collector who is unable to comply with subsection (1) or (2) must, as soon as reasonably practicable, inform the Director.

(4) A person who contravenes subsection (1), (2) or (3) commits an offence and is liable on conviction to a fine at level 6 and to imprisonment for 6 months.

(5) In any proceedings for an offence under subsection (4) in respect of a contravention of subsection (1) or (2), it is a defence for the person charged to prove that—

(*a*) the person took all reasonable measures and exercised all due diligence to avoid the commission of the offence;

(*b*) the contravention was due to circumstances beyond the person's control; and

(*c*) the person informed the Director as required by subsection (3).

6. Director's power to require removal of clinical waste

(1) If the Director is of the opinion that any clinical waste located on or in any land or premises is, or is likely to be, a danger to public health or safety, a source of pollution to the environment or a source of nuisance to the neighbouring area, the Director may, by notice in writing served on an owner or occupier of the land or premises, require the owner or occupier—

(*a*) to remove the clinical waste or cause or arrange for it to be removed, within the period specified in the notice, to a particular facility or a facility of a particular class or description specified in the notice; and

(*b*) immediately after the removal, to establish to the satisfaction of the Director that the clinical waste has been removed in accordance with the notice.

(2) The reference in subsection (1) to occupier includes—

(*a*) in relation to clinical waste found in the common parts of a building within the meaning of the Building Management Ordinance (Cap. 344), any corporation registered under section 8 of that Ordinance for that building; and

(*b*) in relation to clinical waste found in those parts of any land or premises used in common by, or for providing common services to or common facilities for the occupiers of the land or premises, a person responsible for the management of the land or premises.

(3) A person who fails to comply with a requirement made under subsection (1) commits an offence and is liable on conviction to a fine of $200,000 and to imprisonment for 6 months.

7. Precautions for public health or safety

(1) A person who stores, collects, removes, delivers, transports, receives, transfers, disposes of, imports, exports or otherwise handles clinical waste must take all such precautions as are necessary to prevent danger to public health or safety, pollution to the environment and nuisance to the neighbouring area.

(2) The duty imposed on a person under subsection (1) is independent of any other duty imposed on that person under any other provision of this Regulation.

(3) A person who contravenes subsection (1) commits an offence and is liable on conviction to a fine of $200,000 and to imprisonment for 6 months.

PART 3

Licences and Authorizations

8. Circumstances under which waste disposal licence is to be granted

The Director must not grant a waste disposal licence under section 21(4) of the Ordinance in respect of the disposal of clinical waste unless the Director is satisfied that the land or premises in respect of which the licence is sought has a waste disposal facility that is capable of—

(*a*) reducing the harmful effect of clinical waste on the environment by serving as a facility for the disposal of clinical waste at the land or premises where the clinical waste is produced and avoiding the movement of clinical waste; or

(*b*) disposing of clinical waste in any other manner that is beneficial to the environment.

9. Authorization for on-site collection point

(1) The Director may, on application by a person referred to in subsection (2), by notice in writing served on the person, authorize the person to use the land or premises specified in the notice as an on-site collection point for any period and subject to any terms and conditions the Director considers appropriate and specifies in the notice.

(2) An application for the purposes of subsection (1) may only be made by a person who—

(*a*) uses the land or premises for the purposes of any practice, establishment, research or laboratory practice referred to in the definition of "clinical waste" in section 2(1) of the Ordinance;

(*b*) produces or causes to be produced clinical waste at the land or premises; and

(*c*) is not a licensed waste collector.

(3) An authorization granted to a person under subsection (1) is an authorization for the person to do the following, without a waste collection licence—

(*a*) use the land or premises specified in the notice for the receipt of clinical waste (whether delivered by or on behalf of the person or by or on behalf of another person); and

(*b*) cause or arrange for the disposal of any clinical waste so received.

(4) Nothing in subsection (3)(*b*) affects the operation of section 3 or 4.

(5) Without limiting subsection (1) or section 11(1), a notice served under subsection (1)—

(*a*) may contain terms and conditions that require the person authorized under subsection (1) to do any or all of the following—

(i) ensure that clinical waste received at the land or premises specified in the notice—

(A) is limited to clinical waste of the nature specified in the notice; and

(B) does not exceed the quantity specified in the notice;

(ii) in respect of each consignment of clinical waste delivered to the land or premises specified in the notice, make a record containing—

(A) the names, addresses and telephone numbers of the person who produced or caused to be produced the clinical waste and the person by whom or on whose behalf the clinical waste is delivered to the land or premises;

(B) the date and time of the delivery of the clinical waste;

(C) the origin, nature and quantity of the clinical waste; and

(D) any other particulars relating to the clinical waste that are specified in the notice;

(iii) in respect of each consignment of clinical waste delivered by another person to the land or premises specified in the notice, provide that other person with a copy of the record made under subparagraph (ii);

(iv) keep the record made under subparagraph (ii) for a period specified in the notice, and produce it to the Director for inspection when so required; and

(*b*) may contain other terms and conditions relating to the matters set out in Schedule 10 to the Ordinance.

(6) The Director must not grant an authorization under subsection (1) if—

(*a*) the Director considers that the use of the land or premises in respect of which the authorization is sought for the receipt of clinical waste would be, or would be likely to be, a danger to public health or safety, a source of pollution to the environment or a source of nuisance to the neighbouring area; or

(*b*) the applicant is not the owner or lawful occupier of the land or premises.

(7) The Director may, by notice in writing served on a person to whom an authorization is granted under subsection (1), withdraw the authorization if—

(*a*) any of the terms or conditions to which the authorization is subject is not complied with; or

(*b*) the Director considers that further use of the land or premises in respect of which the authorization has been granted for the receipt of clinical waste would be, or would be likely to be, a danger to public health or safety, a source of pollution to the environment or a source of nuisance to the neighbouring area.

(8) A person to whom an authorization is granted under subsection (1) must comply with all the terms and conditions to which the authorization is subject.

(9) A person who contravenes subsection (8) commits an offence and is liable on conviction to a fine at level 5.

10. Collection, removal or disposal of clinical waste without licence

(1) If the Director is of the opinion that—

(*a*) an emergency involving clinical waste has arisen; or

(*b*) the circumstances are such that it would not be reasonably practicable to arrange for any clinical waste to be collected or removed by a licensed waste collector,

the Director may, by notice in writing served on a person, authorize the person to collect or remove clinical waste without a waste collection licence for any period and subject to any terms and conditions the Director considers appropriate and specifies in the notice.

(2) Without limiting subsection (1) or section 11(1), the Director may impose terms and conditions relating to the matters set out in Schedule 10 to the Ordinance.

(3) If the Director is of the opinion that—

(*a*) an emergency involving clinical waste has arisen; or

(*b*) the circumstances are such that it would not be reasonably practicable to use, for the disposal of any clinical waste, any land or premises in respect of which a waste disposal licence is in force,

the Director may, by notice in writing served on a person, authorize the person to use the land or premises specified in the notice for the disposal of clinical waste without a waste disposal licence for any period and subject to any terms and conditions the Director considers appropriate and specifies in the notice.

(4) Without limiting subsection (3) or section 11(1), the Director may impose terms and conditions relating to the matters set out in Schedule 11 to the Ordinance.

(5) A person to whom an authorization is granted under subsection (1) or (3) must comply with all the terms and conditions to which the authorization is subject.

(6) A person who contravenes subsection (5) commits an offence and is liable on conviction to a fine at level 5.

11. Amendment, revocation or imposition of terms or conditions

(1) The Director may amend or revoke any term or condition specified in an authorization granted under section 9 or 10(1) or (3), or impose any new term or condition on the authorization, if the Director is satisfied that it is appropriate to do so for the purposes of preventing danger to public health or safety, pollution to the environment or nuisance to the neighbouring area.

(2) In exercising the power under subsection (1), the Director must serve a notice in writing on the person to whom the authorization has been granted.

(3) If the Director amends or revokes any term or condition or imposes any new term or condition under subsection (1), the amendment, revocation or imposition takes effect at the time specified in the notice.

PART 4

MISCELLANEOUS

12. Records of consignment, etc. to be kept

(1) A person must keep records in accordance with this section in respect of clinical waste produced or caused to be produced by the person, or in the person's possession or custody, and must produce the records to the Director for inspection when so required.

(2) If the person consigns clinical waste to a licensed waste collector or authorized waste collector for delivery or removal, the person must, as soon as reasonably practicable, make a record of the consignment; and the record must include—

(*a*) the date of consignment;

(*b*) the name of the consignee;

(*c*) the quantity of the clinical waste consigned; and

(*d*) the address of the land or premises from which the clinical waste is delivered or removed.

(3) If—

(*a*) the person, being a healthcare professional, delivers clinical waste to a reception point or collection point; or

(*b*) a healthcare professional, acting in his or her capacity as an employee of the person, delivers clinical waste to a reception point or collection point,

the person must, as soon as reasonably practicable, make a record of the delivery.

(4) A record made for the purposes of subsection (3) must include—

(*a*) the date of delivery;

(*b*) the name of the person delivering the clinical waste;

(*c*) the address of the land or premises from which the clinical waste is delivered;

(*d*) the name and address of the reception point or collection point to which the clinical waste is delivered; and

(*e*) the quantity of the clinical waste delivered.

(5) The record of each consignment or delivery must be in the form determined by the Director.

(6) The record of each consignment or delivery must be kept for a period of 12 months after the consignment or delivery.

(7) To the extent that section 3(1) does not apply to a person or clinical waste by virtue of section 3(3), subsection (1) does not apply to that person or the clinical waste.

(8) A person who contravenes any requirement under this section commits an offence and is liable on conviction to a fine at level 6.

13. Director's power to require information

(1) The Director may require a person to furnish to the Director, in the form and within the time determined by the Director, any information in respect of—

(*a*) any clinical waste produced or caused to be produced by the person or in the person's possession or custody;

(*b*) any clinical waste consigned by the person to a licensed waste collector or authorized waste collector;

(*c*) any clinical waste delivered by the person, who is a healthcare professional, to a reception point or collection point; or

(*d*) any clinical waste delivered by a healthcare professional, in his or her capacity as an employee of the person, to a reception point or collection point.

(2) The Director may require a person to whom this subsection applies to furnish to the Director, in the form and within the time determined by the Director, any information in respect of any clinical waste collected, removed, delivered or transferred by the person.

(3) Subsection (2) applies to a person who is or was—

(*a*) a licensed waste collector;

(*b*) a person authorized under section 9 to use any land or premises as an on-site collection point; or

(*c*) an authorized waste collector.

(4) The Director may require a person to whom this subsection applies to furnish to the Director, in the form and within the time determined by the Director, any information in respect of any clinical waste delivered to a reception point.

(5) Subsection (4) applies to—

(*a*) in relation to a reception point in respect of which a waste disposal licence is or was in force, a person who is or was the holder of the licence;

(*b*) in relation to a reception point in respect of which an authorization under section 10(3) is or was granted, the person to whom the authorization is or was granted; and

(*c*) in relation to any reception point, a person who is or was in charge of it.

(6) A person who, without reasonable excuse, fails to comply with a requirement made under subsection (1), (2) or (4) commits an offence and is liable on conviction to a fine at level 6.

14. Offences in relation to incorrect or misleading information

(1) A person who knowingly or recklessly provides incorrect or misleading information in any statement or record made or produced by the person in purported compliance with a requirement under this Regulation commits an offence and is liable on conviction to a fine at level 6.

(2) A person who knowingly or recklessly omits material particulars or information from any statement or record made or produced by the person in purported compliance with a requirement under this Regulation commits an offence and is liable on conviction to a fine at level 6.

15. Exemptions

(1) The Director may, if satisfied that it is reasonable to do so, grant exemptions from this Regulation or any requirement under this Regulation, either of the Director's own volition or on application.

(2) The Director may impose any terms and conditions the Director considers reasonable on an exemption granted under subsection (1).

16. Terms and conditions of licences and authorization not affected

To avoid doubt, the requirements under this Regulation are in addition to, and do not affect, any term or condition of any waste collection licence or waste disposal licence or of any authorization granted under section 9 or 10(1) or (3).

SCHEDULE [s. 4]

Provisions Relating to Label on Clinical Waste Container

PART 1

Dimensions of Label

Type of container	Dimensions of label
Sharps container of a capacity of less than 2 litres	not less than 40 mm × 40 mm
Sharps container of a capacity of 2 litres or more	not less than 75 mm × 75 mm
Container other than sharps container	not less than 150 mm × 150 mm

PART 2

Symbol in Label

Division 1

Symbol

Division 2

Specifications of the Symbol

1. The colours of the symbol must be as follows:
   Border—black
   Background—white or primary colour of the container
   Words and characters—black
   International biohazard sign—black

2. The international biohazard sign appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 litres	16 mm
Sharps container of a capacity of 2 litres or more	30 mm
Container other than sharps container	60 mm

3. Each of the English words appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 litres	3 mm
Sharps container of a capacity of 2 litres or more	5 mm
Container other than sharps container	10 mm

4. Each of the Chinese characters appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 litres	4 mm
Sharps container of a capacity of 2 litres or more	7 mm
Container other than sharps container	15 mm

Manda CHAN
Clerk to the Executive Council

COUNCIL CHAMBER
8 June 2010

Explanatory Note

This Regulation provides for the control and regulation of the disposal and delivery of clinical waste.

2. Section 1 provides for the commencement of the Regulation.

3. Section 2 sets out the definitions necessary for the interpretation of the Regulation.

4. Sections 3 and 4 impose a duty to dispose of clinical waste properly and provide for the means by which clinical waste may be properly disposed of.

5. Section 5 requires a licensed waste collector to deliver the clinical waste that the licensed waste collector has collected to a reception point (as defined in section 2) within 24 hours or, where the Director of Environmental Protection ("the Director") by a direction requires the licensed waste collector to deliver any clinical waste collected by the licensed waste collector to a specified reception point within a specified period, to deliver the clinical waste to that reception point within that period.

6. Section 6 empowers the Director to require removal of clinical waste.

7. Section 7 requires a person handling clinical waste to take precautions to prevent danger to public health or safety, pollution to the environment and nuisance to the neighbouring area.

8. Section 8 provides for the circumstances under which a waste disposal licence may be granted.

9. Section 9 provides for the authorization for using land or premises used for certain purposes (such as a dental, medical, nursing or veterinary practice) as a collection point.

10. Section 10 provides for the Director's power to authorize a person to collect or remove clinical waste without a waste collection licence. That section also provides for the Director's power to authorize a person to use specified land or premises for the disposal of clinical waste without a waste disposal licence.

11. Section 11 provides for the amendment, revocation or imposition of terms or conditions subject to which an authorization is granted under section 9 or 10(1) or (3).

12. Section 12 requires a person to keep records in respect of clinical waste produced or caused to be produced by the person, or in the person's possession or custody.

13. Section 13 empowers the Director to require persons handling clinical waste to furnish information relating to the clinical waste.

14. Section 14 provides for the offences of furnishing incorrect or misleading information in statement or record made or produced in purported compliance with a requirement under the Regulation.

15. Section 15 empowers the Director to grant exemptions from the Regulation.

16. Section 16 makes it clear that the requirements under the Regulation are in addition to, and do not affect, the terms or conditions of a waste collection licence or waste disposal licence or of an authorization granted under section 9 or 10(1) or (3).

L.N. 84 of 2010

WASTE DISPOSAL (CHARGE FOR DISPOSAL OF CLINICAL WASTE) REGULATION

(Made by the Chief Executive in Council under section 33 of the Waste Disposal Ordinance (Cap. 354) after consultation with the Advisory Council on the Environment)

1. Commencement

This Regulation comes into operation on the day appointed for the commencement of sections 5, 6 and 20 of the Waste Disposal (Amendment) Ordinance 2006 (6 of 2006) or, if different days are appointed, the latest of those days.

2. Interpretation

In this Regulation—

"Centre" (中心) means the premises—

(*a*) known as the Chemical Waste Treatment Centre; and

(*b*) authorized by a waste disposal licence to be used for the disposal of clinical waste;

"facility operator" (設施經營人) means any person who is authorized in writing by the Government to operate or manage the Centre for the disposal of clinical waste.

3. Charge for disposal of clinical waste

Any person who delivers clinical waste to the Centre for disposal must pay to the Director the charge specified in the Schedule.

4. Director may appoint public officer, etc. to collect charge

(1) The Director may in writing appoint a public officer, a facility operator or a person employed by a facility operator for the purposes of collecting any charge payable under this Regulation.

(2) Payment of the charge to a public officer, facility operator or person appointed under subsection (1) is a sufficient discharge of the obligation to make the payment.

5. Reduction, waiver and refund of charge

(1) The Director may in any particular case reduce or waive, in whole or in part, any charge payable under this Regulation on being satisfied that the charge would, if imposed, be unduly burdensome or inappropriate in the circumstances of the case.

(2) The Director may in any particular case refund, in whole or in part, any charge paid under this Regulation if the person who paid the charge—

(*a*) lodges with the Director, not later than one month after the charge was paid, an application in writing for refund of the charge; and

(*b*) satisfies the Director that the imposition of the charge was unduly burdensome or inappropriate in the circumstances of the case.

SCHEDULE [s. 3]

Charge for Disposal of Clinical Waste

1. The charge is $2,715 per 1,000 kg of clinical waste.

2. Clinical waste of less than 0.1 kg is to be treated as if it were of 0.1 kg. The charge is calculated according to the weight of clinical waste measured to the nearest 0.1 kg, and is rounded to the nearest 10 cents.

Manda CHAN
Clerk to the Executive Council

Council Chamber
8 June 2010

Explanatory Note

This Regulation specifies the charge payable to the Director of Environmental Protection for the delivery of clinical waste to the Chemical Waste Treatment Centre for disposal.

Annex C

Code of Practice for the Management of Clinical Waste

- Major Clinical Waste Producers and Waste Collectors

(Published under Section 35 of the Waste Disposal Ordinance)

Environmental Protection Department
The Hong Kong Special Administrative Region Government
June 2010

PREFACE

This Code of Practice is a statutory document published under Section 35 of the Waste Disposal Ordinance (Cap. 354) by the Secretary for the Environment after consultation with the Advisory Council on the Environment. The purpose of this Code is to provide guidance to major clinical waste producers and waste collectors to assist them to comply with the legal requirements of the Waste Disposal Ordinance and the Waste Disposal (Clinical Waste) (General) Regulation. Clinical waste is potentially dangerous because it may contain infectious materials and sharps. It is important to exercise special caution in the handling and management of clinical waste so as to minimize any danger to public health or risk of pollution to the environment.

Enquiries concerning this Code or the regulatory requirements may be addressed to the Environmental Protection Department at :

Address: Territorial Control Office
Environmental Protection Department
25/F, Southorn Centre,
130 Hennessy Road,
Wanchai, Hong Kong.

Telephone: 2835 1055
Facsimile: 2305 0453
E-mail: enquiry@epd.gov.hk

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1. INTRODUCTION

Clinical waste arises from a number of sources, including hospitals and clinics, medical and dental surgeries, veterinary practices, medical teaching establishments, medical research and laboratories, and nursing homes. Clinical waste is potentially dangerous because it may contain infectious materials and sharps such as needles. In addition, clinical waste containing human organs and body parts may be offensive in nature. It is therefore important to exercise special caution in the handling and management of clinical waste in order to minimize its potential danger to public health or pollution to the environment.

This Code of Practice ("Code") is designed to provide guidance to major clinical waste producers ("waste producers") and clinical waste collectors to assist them to comply with the legal requirements of the Waste Disposal Ordinance (Cap. 354) and the Waste Disposal (Clinical Waste) (General) Regulation ("the Regulation"). As major and small waste producers have different modes of operation, a separate "*Code of Practice for the Management of Clinical Waste - Small Clinical Waste Producers"* has also been published to provide guidance to small waste producers. A list of major and small waste producers is given at Annex A.

2. THE DUTY OF CARE OF CLINICAL WASTE PRODUCERS

Waste producers have a duty of care to take the following measures in managing the clinical waste generated from their premises :

- Segregate clinical waste from other waste streams and prevent clinical waste from entering the disposal chain of municipal solid waste;
- Package and label clinical waste properly to enable easy identification, including information on the source of generation;
- Provide safe and secure temporary storage area for clinical waste;
- Ensure their staff take all necessary safety measures in handling clinical waste, and provide sufficient training for them; and
- Compile a Clinical Waste Management Plan for reference by their staff.

Specifically, the Regulation requires all waste producers to arrange for their clinical waste to be properly disposed of. Waste producers are deemed to have discharged the duty if they consign the waste to a licensed clinical waste collector ("licensed collector"), or arrange the waste to be delivered to a collection point or licensed clinical waste disposal facility ("licensed disposal facility") according to the requirements specified in the Regulation. The Regulation also requires waste producers to keep records of the clinical waste consigned to licensed collectors or delivered to a collection point or licensed disposal facility, and to produce such records for inspection upon request by the Director of Environmental Protection ("the Director").

3. DEFINITION OF CLINICAL WASTE

3.1 Types of Clinical Waste

Under the Waste Disposal Ordinance, clinical waste means waste consisting of any substance, matter or thing generated in connection with -

- a dental, medical, nursing or veterinary practice;
- any other practice, or establishment (howsoever described), that provides medical care and services for the sick, injured, infirm or those who require medical treatment;
- dental, medical, nursing, veterinary, pathological or pharmaceutical research; or
- a dental, medical, veterinary or pathological laboratory practice,

and which consists wholly or partly of any of the materials specified in one or more of the groups listed below :

Group 1 - Used or Contaminated Sharps

Syringes, needles[1], cartridges, ampoules and other sharp instruments which have been used or which have become contaminated with any other group of clinical waste.

[1] Needles include acupuncture needles.

Group 2 - Laboratory Waste

Unsterilized laboratory stock cultures, or cultures, of infectious agents and potentially infectious waste with significant health risk from dental, medical, veterinary or pathological laboratories.

Note: "potentially infectious waste with significant health risk from dental, medical, veterinary or pathological laboratories" refers to those unsterilized materials or devices used to culture, transfer, inoculate or mix the laboratory stock cultures, or cultures, of infectious agents. Examples include culture dish, bottle, flask, tube, pipette, pipette tip, inoculation loop and inoculation wire.

Group 3 - Human and Animal Tissues

All human and animal tissues, organs and body parts as well as dead animals, but excluding –

(a) dead animals and animal tissues, organs and body parts arising from a veterinary practice or a Chinese medicine practice; and

(b) teeth arising from a dental practice.

Note: Group 3 clinical waste is not intended to cover small quantities of human and animal tissues which cannot be completely separated from items such as dressings.

Group 4 - Infectious Materials

Infectious materials from patients with the following pathogens - Crimean/Congo haemorrhagic fever, Ebola, Guanarito, Hendra, Junin, Kyasanur forest disease, Lassa fever, Machupo, Marburg, Nipah, Omsk, Russian spring-summer encephalitis, Sabia, Variola viruses; Herpesvirus simiae (B virus); and Severe Acute Respiratory Syndrome Coronavirus. Any materials contaminated by the above infectious materials are also classified as Group 4 waste.

Note: The Director may, by notice published in the Gazette, amend the list of pathogens under this group.

Group 5 - Dressings

Surgical dressings, swabs and all other waste dribbling with blood, caked with blood or containing free-flowing blood.

Group 6 - Other Wastes

Such other wastes as specified by the Director by notice published in the Gazette if in his opinion such wastes -

(a) are likely to be contaminated with infectious materials from patients falling within such case definition as specified in the notice; and

(b) may pose a significant health risk.

3.2 What Are Not Clinical Waste

For the avoidance of doubt, the following wastes are not classified as clinical waste and waste producers should observe relevant legal requirements applicable to the handling of these wastes :

- Radioactive waste, whether arising from medical sources or not, as defined under the Radiation (Control of Radioactive Substances) Regulations (Cap. 303A);
- Chemical waste as defined under the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C) including cytotoxic drugs;

  Note: "Cytotoxic drug" means a drug which has the capability of selectively killing cells while they are dividing. Cytotoxic drugs in bulk or of significant residual volume in containers (e.g. unused or partially used drugs in ampoules or syringes) are regarded as chemical waste and should be disposed of according to the Waste Disposal (Chemical Waste) (General) Regulation. Significant residual volume means more than 3% volume of the container filled with the drugs. Ampoules or syringes with less than 3% volume filled with cytotoxic drugs can be placed in sharps boxes and disposed of as Group 1 clinical waste. Such sharps boxes (i.e. with sharps contaminated with residual amount of cytotoxic drugs) should be disposed of by incineration and not by any other methods.

- Dead animals and animal tissues, organs and body parts arising from veterinary practices, abattoirs, pet shops, farms, wholesale and retail markets, Chinese medicine practices, or domestic sources; and
- Human corpses.

4. SEGREGATION, PACKAGING AND LABELLING OF CLINICAL WASTE

4.1 Segregation

Clinical waste should be segregated from municipal solid waste or other waste streams at the point of arising. Different groups of clinical waste should be handled differently according to their packaging requirements as specified in section 4.2 of this Code. A sufficient number of appropriate and dedicated containers for holding clinical waste should be placed adjacent to the locations where clinical waste is generated so as to facilitate the segregation.

Clinical waste should be put into appropriate containers as quickly as possible so as to avoid contaminating other materials and to minimize potential human exposure. Containers for holding clinical waste should be covered by secure lids.

4.2 Packaging

4.2.1 General Requirements

Clinical waste must be placed in containers that are leak-proof, impervious to moisture and strong enough to prevent tearing or bursting under normal handling. Such containers should be of one-trip type and should not be reused. They should be capable of being sealed in a manner that can prevent spillage of the contents during transportation.

The containers should be in good condition and free from contamination, damage or any other defects which may impair their safe and secure use. A waste producer should carry out visual inspection of such containers to determine their condition before they are used.

4.2.2 Types of Containers

Different groups of clinical waste should be placed in the appropriate types of containers in accordance with Table 1. All containers should be securely closed and sealed in accordance with section 4.2.5 of this Code before collection.

Group 1 clinical waste should be put into sharps boxes. Group 2, 3, 4, 5 and 6 clinical wastes should be put into either heavy duty plastic bags or plastic drums that are strong enough to hold the waste without any leakage or breakage. Plastic drums should be used for clinical waste containing liquids.

Group 2, 4, 5 and 6 clinical wastes may be placed together in the same bag/drum. Group 3 clinical waste should be placed in separate bags/drums and should not be mixed with any other groups of clinical waste.

Groups of Clinical Waste	Type(s) of Container	Colour	Sealing
Group 1 - Used or contaminated sharps	Sharps box	YELLOW or combination of WHITE and YELLOW	Proprietary closure
Group 3 - Human and animal tissues	Heavy duty plastic bag	YELLOW	Plastic tie
	Plastic drum	YELLOW	Proprietary closure/tape
Group 2 - Laboratory waste Group 4 - Infectious materials Group 5 - Dressings Group 6 - Other wastes	Heavy duty plastic bag	RED	Plastic tie
	Plastic drum	RED	Proprietary closure/tape

Table 1: Packaging Requirements for Different Groups of Clinical Waste.

4.2.3 Specifications for Different Types of Containers

The design, materials and construction of different types of containers for clinical waste should follow the specifications set out in Annex B.

4.2.4 Colour-Coding of Packaging

To enable easy and unique identification of clinical waste which is essential for subsequent handling by licensed collectors and operators of licensed disposal facilities, the packaging of clinical waste should follow the colour-coding specified in Table 1.

4.2.5 Sealing of Containers

Containers of clinical waste should not be filled above the warning line indicating between 70% and 80% of their maximum volume before sealing. The packaging and sealing should be conducted with care to ensure that no clinical waste adheres to the external surface of the containers.

Sharps boxes should be properly sealed by the proprietary closure whereas plastic drums by the proprietary closure or tape as appropriate. Plastic bags should be sealed by tying the neck securely to prevent spillage. The swan-neck sealing method as shown in Figure 1 is recommended.

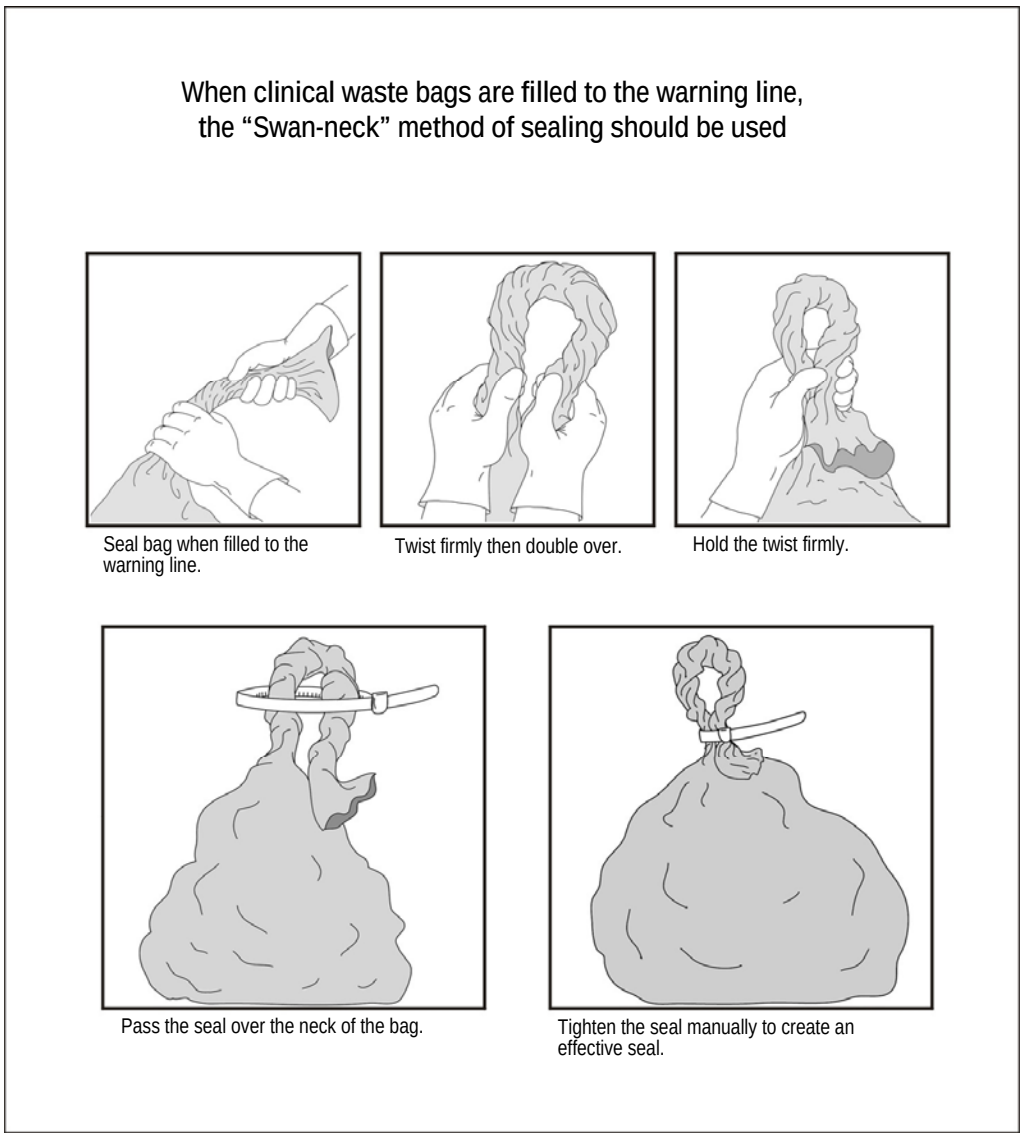

Figure 1: Sealing Method for Clinical Waste Bags.

No staple or unprotected metallic wire tie should be used for sealing or tagging of plastic bags with clinical waste, so as to prevent injury to waste handlers and damage to other bags. Metallic wire tie fully wrapped with plastic is acceptable for use in sealing plastic bags.

Plastic drums containing clinical waste with liquids should be securely sealed to prevent spillage. Absorbent materials may be added into the containers to prevent seepage of liquids as appropriate.

4.3 Labelling

Every container of clinical waste must bear a label as specified in Annex C. The label must be securely affixed or pre-printed on a prominent position of the container which allows the information on the label to be read easily. It is recommended to affix or pre-print a label on each of the opposite sides of the container wherever practicable.

In addition, each container should be marked using BLACK indelible ink, or a tag should be securely attached, to show the origin of the waste (i.e. the name and address of waste producer) and the date of sealing.

If a bag holder (e.g. an ordinary type rubbish bin) is used for holding the plastic bag which is in use, it should be in good condition and should follow the same labelling requirements as for the plastic bag itself. The colour of the bag holder should preferably be the same as that of the bag for easy identification.

4.4 Special Considerations for Handling Chemical Waste Arising from Medical and Dental Sources

Certain clinical waste may contain chemical residues which are classified as chemical waste. In such cases, the chemical residues should be segregated from the clinical waste at source wherever it is practicable. For example, broken thermometer containing mercury should be segregated from other clinical waste. Chemical waste arising from medical and dental sources does not fall within the definition of clinical waste (see section 3.2 of this Code).

Disposal of such waste is subject to the Waste Disposal Ordinance and the Waste Disposal (Chemical Waste) (General) Regulation.

If the chemical waste contains or is contaminated with any clinical waste, pre-treatment measures should be taken as far as practicable to render the waste non-infectious before it is collected by a licensed chemical waste collector.

5. HANDLING AND ON-SITE STORAGE OF CLINICAL WASTE

5.1 Transfer to On-Site Storage Area

5.1.1 General Requirements

Clinical waste containers after being properly sealed and labelled should be transferred from the place of waste generation to an on-site storage area for temporary storage before collection. The containers should be handled with care and should not be left unattended during the transfer of the waste.

5.1.2 Trolleys or Carts Used for the Transfer of Clinical Waste

Dedicated trolleys and carts should be used for the transfer of clinical waste on the premises. They should be designed and constructed according to the following specifications :

- The surfaces should be smooth, with no rough or sharp edges (which may damage the packaging of clinical waste);
- Impermeable materials should be used and the design should provide containment of any spillage of waste which may occur in transit;
- The trolleys or carts should be easily cleaned and drained; and
- The overall design should allow the bags and containers to be properly retained in the trolleys or carts, and to be safely loaded/unloaded and handled without difficulty.

The trolleys and carts should be cleaned at the end of each working day and thoroughly disinfected at regular intervals.

5.2 Storage of Clinical Waste

5.2.1 Provision of On-site Storage Area

Waste producers should provide suitable and adequate area for temporary on-site storage of clinical waste. The storage area should be located close to the sources of waste generation so as to minimize waste handling and to facilitate management control.

The storage area should be enclosed on at least three sides by wall, partition or fence. The enclosures should be rigidly erected and fixed to the area. An illustration of a storage area layout is shown in Figure 2. Depending on the waste generation quantity, a small lockable cupboard as shown in Figure 3 can also be used. Where possible, all clinical waste should be contained in transit skips inside the storage area.

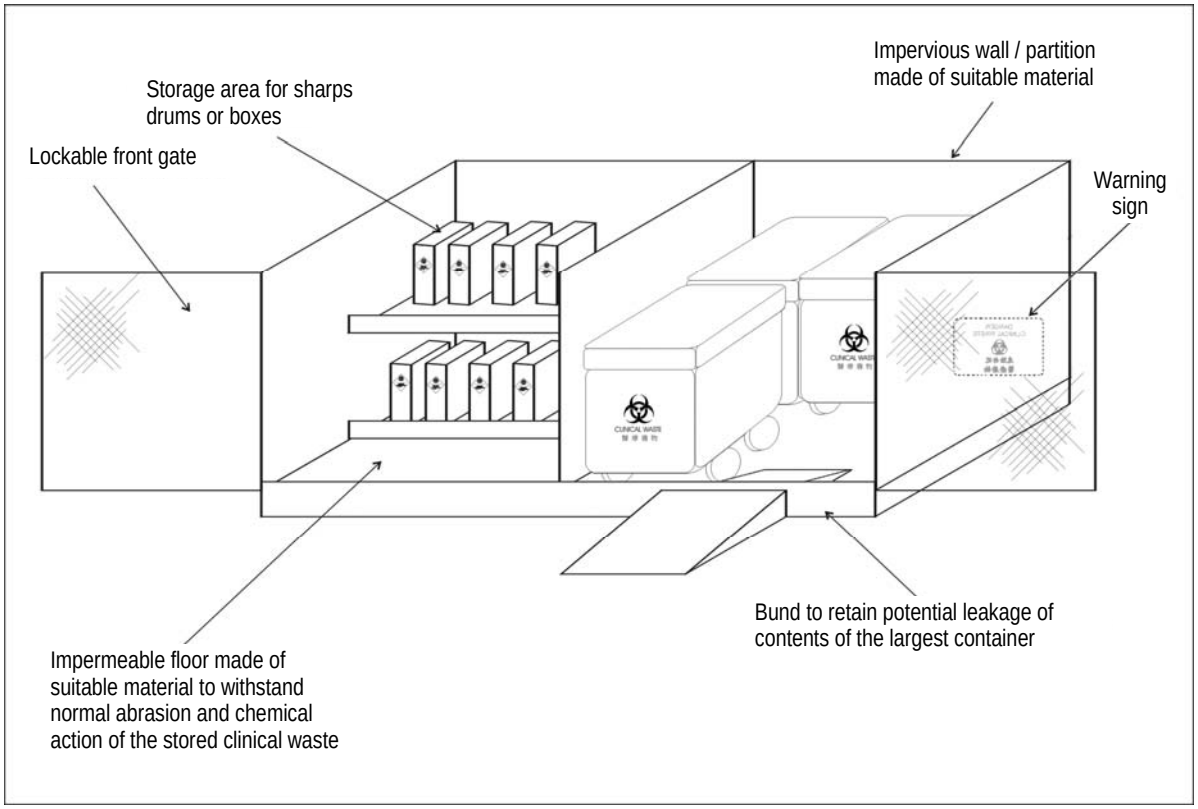

Figure 2: Schematic Drawing of a Storage Area for Clinical Waste.

5.2.2 Specifications of Storage Area

The design of storage area will depend on the quantity and types of clinical waste involved. In all cases, the storage area should be designed to meet the following requirements and specifications :

- Used for storage of clinical waste only;
- With an adequate capacity to cater for the quantity of waste produced and the frequency of waste collection;
- Exhibiting a warning sign on the external surface of the vertical structure of the area at or near its entrance. A warning sign is shown in Figure 4;

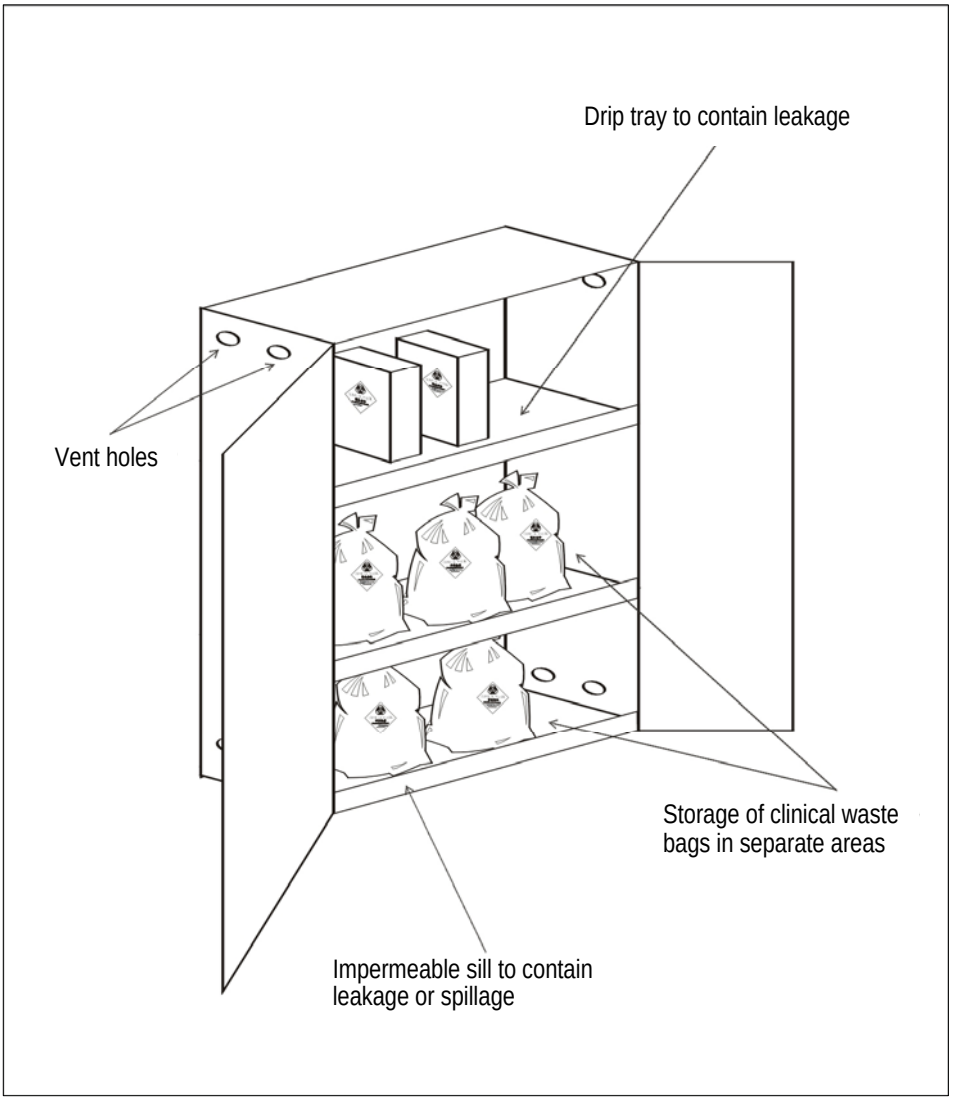

Figure 3: Schematic Drawing of a Clinical Waste Storage Cupboard.

- Protecting the integrity of the waste packaging;
- Protecting the waste containers therein from the weather (wind, rain, flooding, etc);
- With cover and lockable door to prevent access by unauthorized persons, animals, birds, and free from rodent and insect infestations;
- With adequate ventilation and lighting;
- Sited on a well-drained, impervious hard-standing area provided with wash down facilities, or as a lockable room or cupboard which can be cleaned and disinfected;

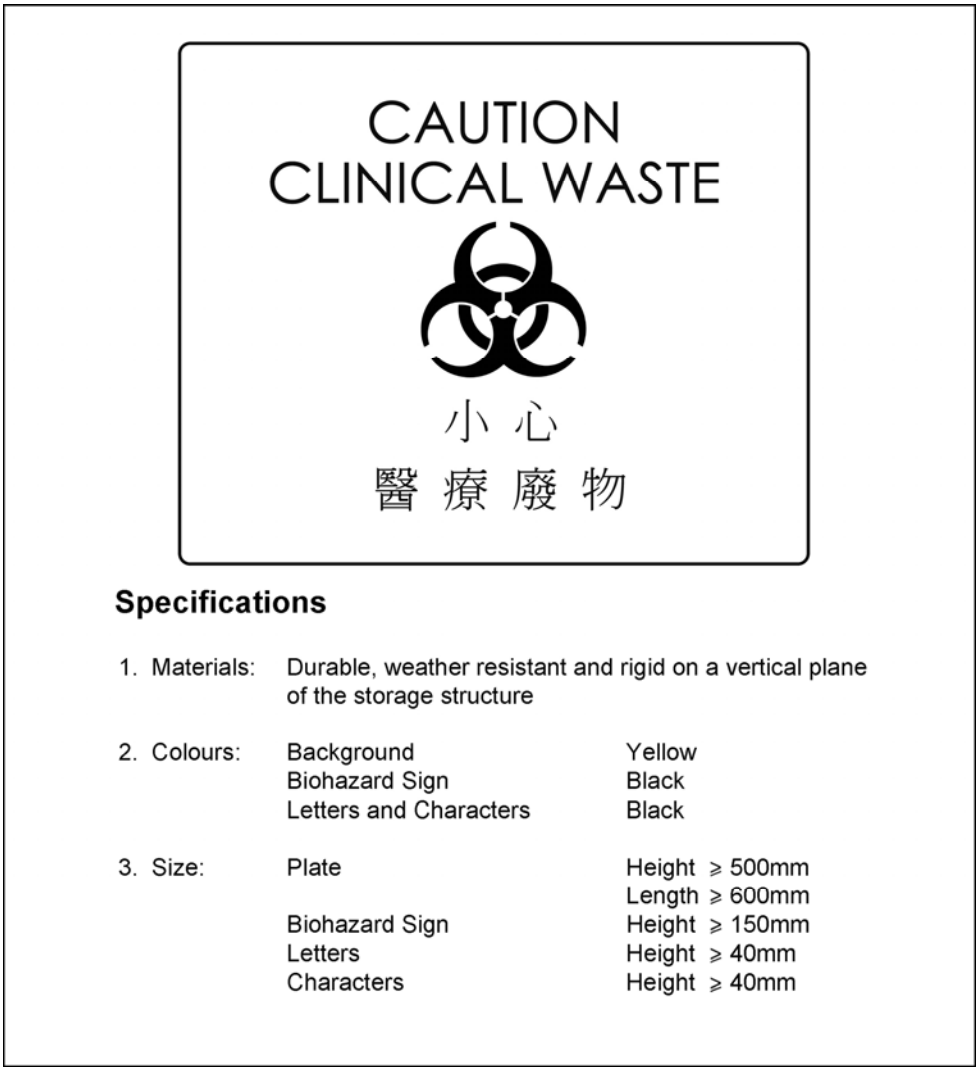

Figure 4: Warning Sign for Storage Area.

- Installed away from any air-intake of building ventilation;
- Not adjacent to any food stores or food preparation areas; and
- Accessible to waste collection vehicles where possible.

5.2.3 Refrigeration of Clinical Waste

Clinical waste that may rapidly decompose (e.g. waste containing human or animal tissues) should be stored under refrigeration to prevent nuisance such as obnoxious odour.

5.2.4 Other Requirements

Where any clinical waste with liquids is stored, the storage area should be designed to be capable of containing any spillage of liquids. The area should be cleaned and disinfected promptly and thoroughly in case any waste spillage occurs.

Clinical waste containers should not be compacted to avoid damaging their packaging when placed in the storage area. Stacking of bagged clinical waste should also be avoided as far as possible to avoid damage to the bags.

5.3 Collection Point

Subject to the authorization granted by the Director, a waste producer may use his premises where he produces clinical waste (e.g. hospital, clinic, medical laboratory) to provide temporary storage area as an "on-site collection point", for receiving clinical waste generated by him in other premises or delivered by other small waste producers.

Waste producers who intend to set up on-site collection points must obtain authorization from the Director and follow such terms and conditions specified in the authorization, and more details can be obtained from the Environmental Protection Department. The objective is to minimize the risks of pollution to the environment and the danger to public health that might be caused by the operation of these collection points.

Licensed collectors may also set up collection points for clinical waste if they are authorized to do so under their waste collection licences. The operation of such collection points must meet the requirements specified in the licence.

The delivery of clinical waste from the premises of other small waste producers to the collection point must be conducted by healthcare professionals in accordance with the requirements set out in section 6.4 of this Code. A waste producer who operates an on-site collection point must check and confirm the professional identity of the person who delivers the waste. The operator of an on-site collection point must prepare and issue a copy of the record of waste delivery to the person who delivers the waste. The operator of an on-site collection point must also keep the record and produce it to the Director for inspection upon request. The record must include the following information and as required in the authorization :

- The name, address and telephone number of the person who produced or caused to produce the clinical waste;
- The name, address and telephone number of the person who delivers the clinical waste to the collection point;
- The date and time of delivery of the clinical waste;
- The origin, nature and quantity of the clinical waste; and
- Other particulars relating to the clinical waste as may be specified by the Director in granting the authorization.

6. COLLECTION AND TRANSPORTATION OF CLINICAL WASTE

6.1 Collection Service

Collection of clinical waste to a licensed disposal facility must be conducted by licensed collectors in accordance with the requirements specified in waste collection licences and in full compliance with the Regulation.

Transit skips as specified in section 6.3.1 of this Code should be used to collect clinical waste from waste producers. Licensed collectors should check and ensure proper packaging, sealing and labelling of the waste containers with reference to the relevant requirements set out in this Code before placing them into transit skips. Group 3 clinical waste (Human and Animal

Tissues) should be put into dedicated transit skips without mixing with other groups of clinical waste. If the clinical waste has already been placed into transit skips during storage by waste producers as in the case of some hospitals, licensed collectors should ensure the transit skips are securely closed and fastened and properly labelled according to section 6.3.1 of this Code before collecting the skips.

No clinical waste should be transferred from one transit skip to another during waste collection under normal circumstances. Where the premises of certain waste producers are not accessible to the transit skips, it would be acceptable to use smaller skips to collect clinical waste from these waste producers and transfer the waste to the transit skips. Such transfer operation is governed by the terms and conditions of waste collection licence.

6.2 Frequency of Collection

The frequency of collection should be agreed between waste producer and licensed collector with due account of the nature and quantity of clinical waste generated. In order to minimize potential health hazards, prolonged storage of clinical waste should be avoided. Guidelines on the collection frequency for different groups of clinical waste are set out in Table 2.

Groups of Waste	Collection Frequency
Group 1 - Used and contaminated sharps	Once every 2 weeks(1)
Group 2 - Laboratory waste *Group 5* – Dressings	Daily(1)
Group 3 - Human and animal tissues	Daily (At least once every 10 days if stored below 5 ^{o}C; monthly if stored below 0 ^{o}C)
Group 4 - Infectious materials	Daily
Group 6 - Other wastes	Collected together with other groups of clinical waste or as soon as practicable
Note (1): At places where waste is generated in very small quantity, a lower collection frequency may be acceptable.	

Table 2: Collection Frequencies for Different Groups of Clinical Waste.

Where clinical waste is generated at very small quantity, a longer time interval between the collection trips of the waste is acceptable, upto a maximum of 1 month for Group 1 waste and a maximum of 1 week for Group 2 and 5 wastes.

6.3 Transportation of Clinical Waste

6.3.1 Transit Skips

The specification of transit skips used for the collection of clinical waste should meet the requirements of mechanical handling equipment of the collection vehicles and the licensed disposal facility. Each skip should bear words and characters of a minimum height of 40mm in BLACK stating, for clinical waste other than those requiring refrigeration, "CLINICAL WASTE" in English and "醫 療 廢 物" in Chinese, and, for clinical waste requiring refrigeration, "CLINICAL WASTE FOR REFRIGERATION" in English and "冷藏醫療廢物" in Chinese, and the international bio-hazard sign as given in Annex C with a minimum height of 240mm in BLACK. Transit skips for Group 3 clinical waste should be in YELLOW colour or with a prominent label in YELLOW to facilitate identification of the waste. Each skip should bear a unique serial number which should be displayed in prominent BLACK figures and/or letters for easy identification and recording purpose.

The transit skips should meet the following requirements :

- Dedicated for the purpose of storing packaged clinical waste only;
- Provided with lids and capable of being fastened;
- Proof against spillage of the contents and infiltration of rainwater through the lid or cover;
- Proof against harbourage for insects and vermin, and accumulation of clinical waste on edges or in crevices, etc.;
- Multiple-trip type and reusable; and
- Capable of being readily disinfected or decontaminated by steam.

The transit skips should be maintained in good condition and in a clean and sanitary state. The covers of transit skips should be closed and fastened at all times except during loading or unloading of clinical waste.

6.3.2 Loading of Transit Skips

Loading and unloading of transit skips onto and from the collection vehicle should be performed with care. Staff involved should -

- be competent, suitably trained, supervised, and authorized to perform such a duty; and
- wear appropriate protective clothing such as gloves, industrial safety shoes, aprons and masks (see Annex D).

A licensed collector should ensure that the covers of all transit skips are securely closed and fastened before loading the skips onto a collection vehicle. The door of the cargo compartment of the vehicle should be securely locked at all times except during loading or unloading.

6.3.3 Collection Vehicle/Vessel

Transportation of transit skips should be undertaken only when the covers of skips are securely closed and fastened. All transit skips whether loaded or not should be secured against movement inside the collection vehicle to avoid skidding or falling during transportation.

Transportation by road should be undertaken by dedicated vehicles only in accordance with the conditions specified in the waste collection licence. Vehicles employed for the transportation of clinical waste should have the following features :

- Equipped with mechanical handling equipment to enable the transit skips to be loaded and unloaded with minimal manual effort and human contact with the skips;
- Capable of providing secure retention of transit skips when travelling, and maintaining skips in a good and sanitary condition;
- Comprise either a fully enclosed lorry having a separated cab, or a unitary vehicle in which the driver's cab is permanently separated from the cargo compartment by a sealed fixed bulkhead;

- The cargo compartment should be provided with adequate lighting and ventilation, lockable doors, spillage-proof and capable of being hygienically cleaned and disinfected;
- Equipped with a tool kit for minor repairs;
- Equipped with sufficient safety gear, decontamination and cleaning equipment and materials for dealing with spillage (e.g. personal protective clothing, spare plastic bags and sharps boxes, disinfectant, absorbent granules, brushes, mops, shovels and buckets) (see Annex D); and
- Equipped with suitable equipment such as mobile telephone to facilitate communication with disposal facility operator and the Environmental Protection Department.

A proper warning panel should be displayed at both the front and rear ends of the vehicle to indicate the carriage of clinical waste (details in Annex E).

At least one portable fire extinguisher with a minimum capacity of 2 kg of dry powder, or other suitable extinguisher with an equivalent test fire rating of at least 5A and 34B as defined in *British Standard BS EN 3-7:2004*, should be provided in the vehicle at an accessible location.

Vehicles employed to collect, remove or transport clinical waste should be -

- maintained in sound condition and roadworthy and cleaned at least once per week;
- thoroughly cleaned and disinfected immediately following any spillage inside the vehicle or when contaminated with any clinical waste;
- prohibited from carrying food or pharmaceutical products or any materials which require good sanitary conditions;
- prohibited from carrying any material other than clinical waste unless thoroughly cleaned and disinfected beforehand; and
- prohibited from transportation of any other waste, material or substance during the course of the transportation of clinical waste.

Any vehicle being used for the carriage of clinical waste should not be left unattended unless it is properly locked up and safely parked in an isolated location such as an open space separated from public roads and dwellings.

Any marine vessel used for the transportation of transit skips should be equipped with the necessary facilities to store the skips securely and enable the embarkation and disembarkation of the skips in a safe and secure manner. The marine vessel should have similar safety precaution features as for transportation vehicles subject to necessary modifications.

The transportation of clinical waste should be supervised by trained operational personnel to ensure the waste is handled safely and properly.

6.3.4 Delivery of Clinical Waste to a Licensed Disposal Facility

Licensed collectors must deliver the clinical waste to a licensed disposal facility within 24 hours after collection from waste producers. Once clinical waste is loaded onto a collection vehicle, the waste should stay in the same vehicle until it is delivered to a licensed disposal facility. Transferring clinical waste from one collection vehicle to another should be avoided, unless during the transfer of clinical waste from a vessel to a vehicle (or vice versa) in the transportation of clinical waste from outlying islands, or in the event of accidents or emergencies, or otherwise authorized.

Licensed collectors should liaise in advance with the operator of licensed disposal facility on the appropriate delivery schedule, waste quantity, handling procedures and other arrangements as necessary for the reception of clinical waste by the facility.

If the delivery cannot be made within 24 hours, licensed collectors are required to inform the Director as soon as reasonably practicable. In such circumstance, licensed collectors should maintain the waste in sanitary conditions and prevent access by the public. Group 3 waste should be refrigerated below 5^{o}C. Licensed collectors should arrange to deliver the clinical waste to a licensed disposal facility as soon as practicable and report to the Director thereafter in writing. Licensed collectors should include in the report such particulars as the quantity of the waste, the date of collection,

the reason for failing to deliver the waste to a licensed disposal facility within 24 hours after collection, the particulars and manner in which such waste was stored prior to the delivery to disposal facility, and the date of delivery to disposal facility.

6.4 Delivery of Clinical Waste by Healthcare Professionals

Waste producers who are healthcare professionals[2] may deliver their clinical waste to a collection point or licensed disposal facility. They may ask their employees who are also healthcare professionals to deliver the waste on their behalf. A waste collection licence is not required for such delivery of clinical waste. However, the waste delivery is subject to the requirements specified in the Regulation, which include the following :

- They must not carry more than 5 kg of clinical waste at any one time;
- No Group 4 waste must be delivered;
- Group 1 waste must be packaged in containers that are puncture-resistant, shatter-proof and leak-proof (e.g. sharps boxes);
- Other groups of clinical waste must be packaged in containers that are made of rigid material, impervious to moisture and leak-proof, and that will not rip, tear or burst under normal conditions of handling;
- The clinical waste must be properly packaged to prevent spillage, and the containers must be labelled in accordance with the specifications set out in Annex C;
- Only private car[3] within the meaning of the Road Traffic Ordinance (Cap. 374) must be used as a means of transport in delivering the clinical waste; and

[2] Healthcare professionals include registered medical practitioners, dentists and veterinary surgeons, registered or listed Chinese medicine practitioners, and registered or enrolled nurses as defined in the Waste Disposal (Clinical Waste) (General) Regulation.

[3] Private car means a motor vehicle constructed or adapted for use solely for the carriage of a driver and not more than 7 passengers and their personal effects but does not include an invalid carriage, motor cycle, motor tricycle or taxi.

- The clinical waste must be delivered directly to a collection point or licensed disposal facility within 24 hours and must not be left unattended during the delivery.

In addition, the healthcare professionals must carry adequate and appropriate first-aid equipment for use in case of injury to any person caused by the clinical waste during the delivery. They must also carry appropriate equipment for cleaning up spilled clinical waste (e.g. spare red bags and sharps boxes) in case of spillage. A recommended list of equipment for cleaning up spilled clinical waste is provided at Annex D. The healthcare professionals should exercise professional judgment in carrying adequate quantity of such equipment by reference to the amount of clinical waste they deliver.

7. RECORD KEEPING

7.1 Trip Ticket

For the purpose of keeping track of the waste movement in a waste consignment, licensed collectors are required to record and certify on a trip ticket the quantity of clinical waste collected from a waste producer and provide the waste producer with a copy of the trip ticket (or a receipt in-lieu of the trip ticket) for each consignment of clinical waste. A waste producer should check the information recorded on the trip ticket or receipt prior to handing over his waste to a licensed collector and keep the trip ticket or receipt as record for the waste consignment.

The licensed collector should pass the trip ticket to the operator of a licensed disposal facility for certification upon delivery of the clinical waste and obtain a certified copy of the ticket for record.

Licensed collectors must keep copies of the trip tickets and the receipts issued, and produce such copies to the Director for inspection upon request as specified in their licences.

7.2 Record Keeping by Waste Producers

Waste producers must keep a record of the clinical waste consigned to a licensed collector or delivered to a collection point or licensed disposal facility, and produce the record to the Director for inspection when so required. The record must include the following information :

- The date of consignment/delivery;
- The quantity of clinical waste consigned/delivered;
- The address of the premises from which the clinical waste is delivered;
- For consignment to a licensed collector, the name of the licensed collector; and
- For delivery to a collection point or licensed disposal facility, the name of the person who delivers the waste, and the name and address of the collection point or disposal facility.

The Director may require a waste producer to produce records of waste consignment or delivery for inspection. Such records may include copy of trip ticket or receipt of waste consignment issued by a licensed collector, or receipt of waste delivery issued by the operator of a collection point or licensed disposal facility. Waste producers must keep such records for 12 months from the date of consignment/delivery.

8. CLINICAL WASTE MANAGEMENT PLAN

Waste producers should develop a Clinical Waste Management Plan to set out the detailed requirements and procedures for proper handling of clinical waste for reference by the staff; and identify a responsible person for co-ordinating the various activities relating to clinical waste management. The responsible person should have relevant experience and appropriate training. He should have sufficient authority to carry out the task of maintaining the necessary standards of safety and good practice for clinical waste management. He should be responsible for all aspects of clinical waste management but may delegate the responsibilities for day-to-day clinical waste management to other trained staff.

The Clinical Waste Management Plan should cover the following areas :

- The statutory requirements for management of clinical waste;
- Sources and types of clinical waste generated on the premises;
- Persons responsible for each element of the clinical waste management system and chains of authority, including their names, contact addresses and telephone numbers;
- Operational and maintenance procedures covering items or equipment used for clinical waste management (e.g. containers, storage areas, transport equipment, safety equipment), and procedures for the handling and management of clinical waste;
- Training programme for all relevant staff;
- Auditing procedures for compliance monitoring;
- Procedures for dealing with emergencies due to spillage, leakage or accidents arising from the handling and storage of clinical waste; and
- Documentation and record keeping, including trip tickets or receipts from licensed collectors and staff records, e.g. training, accident records.

A sample framework for a Clinical Waste Management Plan is given in Annex F. Waste producers should review and update the content of the Clinical Waste Management Plan regularly.

9. TRAINING, SAFETY AND EMERGENCY RESPONSE PROCEDURES

All waste producers and licensed collectors should make the necessary arrangement and provide adequate supervision to prevent any danger or injury to their staff arising from the handling of clinical waste. They should take all such precautions as are necessary for preventing any danger to public health or safety, any pollution to the environment and any nuisance to the neighbouring area in storing, removing, collecting, receiving, delivering and transporting of clinical waste.

9.1 General Requirements

Responsible personnel for the management of clinical waste and frontline staff involved in handling clinical waste should all receive proper training.

Direct handling of clinical waste containers should be minimized as far as possible through provision of bins on wheels, trolleys or carts, transit skips, etc.

Regular inspection of clinical waste storage area (and its access) should be conducted to ensure that it is free from obstruction and is kept dry and clean.

No person should be allowed to eat, drink or smoke during the handling of clinical waste. Warning signs indicating "NO SMOKING, NO EATING AND DRINKING" should be posted at all transportation vehicles and storage area.

Safety and health requirements under other relevant ordinances (e.g. Occupational Safety and Health Ordinance (Cap. 509)) and regulations should be observed.

9.2 Safety Equipment and Training

Employers should ensure that all employees involved in handling clinical waste are provided with adequate safety information, protective equipment and training.

All staff who may be required to handle or transfer clinical waste should be trained to -

- follow safety procedures and wear appropriate personal safety and protective gear before handling clinical waste (see Annex D);
- identify different types of clinical waste and know their packaging and handling requirements;
- seal different types of waste containers;

- label different types of waste containers;
- handle plastic bags by the neck only;
- avoid damaging the packaging;
- handle accidental spillage and leakage of clinical waste;
- check that waste containers and their seals are not broken or damaged after movement;
- know the precautions in dealing with special types of clinical waste (e.g. sharps, infectious waste); and
- observe personal hygiene practices, e.g. wash hands thoroughly after handling clinical waste.

9.3 Emergency Procedures

Employers should establish procedures for handling emergencies involving spillage or leakage of clinical waste and make available the procedures to their staff for reference.

In the event of emergencies involving spillage or leakage of clinical waste, the spillage or leakage should be stopped as soon as practicable and the spilled or leaked waste cleaned up promptly. The affected area should be properly cleaned and disinfected. Absorbent materials, disinfection chemicals, protective clothing, masks, eye protection, gloves should be used as appropriate in the clean-up and disinfection operations (see Annex D).

All materials arising from the clean-up of spilled or leaked clinical waste should be disposed of as clinical waste and should be properly packaged and labelled before disposal.

All spillage or leakage incidents should be recorded and reported to the responsible person according to the established procedures. Follow-up investigations of the incidents should be conducted so that improvement measures can be taken to avoid recurrence of similar incidents in future.

Annex A

List of Clinical Waste Producers

Major clinical waste producers:

- Public hospitals, clinics and institutions managed by the Hospital Authority;
- Private hospitals and maternity homes defined under the Hospitals, Nursing Homes and Maternity Homes Registration Ordinance (Cap. 165);
- The Prince Philip Dental Hospital; and
- Government clinics and medical laboratories (whether they are managed by the Department of Health or other Government departments).

Small clinical waste producers:

- Private medical clinics/practices;
- Private dental clinics/practices;
- Private dental, medical, veterinary or pathological laboratories;
- Private Chinese medicine clinics/practices;
- Residential care homes for the elderly;
- Universities with medical teaching or research (including Chinese medicine);
- Pharmaceutical companies with medical research;
- Private veterinary clinics/practices;
- Nursing homes;
- Health and beauty centres where medical practices are conducted; and
- Other relevant organizations.

Annex B

Specifications for Different Types of Containers for Clinical Waste

1. Sharps box

- Conform with *British Standard BS 7320:1990* in respect of resistance to penetration and resistance to leakage after vertical dropping and toppling or similar specification for sharps containers;
- Capable of being sealed;
- Provided with a handle that is not part of the closure device, wherever practicable;
- Combustible and capable of being safely incinerated, and should not be made from polyvinylchloride (PVC);
- Legibly marked with a horizontal line to indicate when the sharps box is filled to between 70% and 80% of its maximum volume, together with the words "WARNING – DO NOT FILL ABOVE THE LINE", wherever practicable;
- Coloured in yellow or combination of white and yellow; and
- Capable of being marked by indelible ink and securely attached by labels.

2. Heavy duty plastic bag

- With a maximum nominal capacity of 0.1 m^3;
- Of minimum gauge of 150 microns if made from low density polyethylene, or 75 microns if made from high density polyethylene or polypropylene, and should not be made from polyvinylchloride (PVC);
- Of suitable size and shape to fit the holder which supports the bag in use;
- Legibly marked with a horizontal line to indicate when the bag is filled to between 70% and 80% of its maximum volume, together with the words "WARNING – DO NOT FILL ABOVE THE LINE";
- Coloured in red (clinical waste other than Group 1 or 3 wastes) or yellow (for Group 3 waste); and
- Capable of being marked by indelible ink and securely attached by labels.

3. Plastic Drum

- Capable of being sealed;
- Proof against spillage of their contents;
- Combustible and capable of being safely incinerated, and should not be made from polyvinylchloride (PVC);
- Legibly marked with a horizontal line to indicate when the drum is filled to between 70% and 80% of its maximum volume, together with the words "WARNING – DO NOT FILL ABOVE THE LINE";
- Coloured in red (clinical waste other than Group 1 or 3 wastes) or yellow (Group 3 waste); and
- Capable of being marked by indelible ink and securely attached by labels.

Annex C

Labelling of Clinical Waste Containers

Each container must bear on the outside of the container a label of such dimensions as are specified in Part 1 below, and the label must contain the symbol specified in Part 2 below.

PART 1
DIMENSIONS OF LABEL

Type of container	Dimensions of label
Sharps container of a capacity of less than 2 Litres	not less than 40 mm x 40 mm
Sharps container of a capacity of 2 Litres or more	not less than 75 mm x 75 mm
Container other than sharps container	not less than 150 mm x 150 mm

PART 2
SYMBOL IN LABEL

Specifications of the symbol:

1. The colours of the symbol must be as follows :
   Border – black
   Background – white or primary colour of the container
   Words and characters – black
   International Biohazard sign - black

2. The International biohazard sign appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 Litres	16 mm
Sharps container of a capacity of 2 Litres or more	30 mm
Container other than sharps container	60 mm

3. Each of the English words appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 Litres	3 mm
Sharps container of a capacity of 2 Litres or more	5 mm
Container other than sharps container	10 mm

4. Each of the Chinese characters appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 Litres	4 mm
Sharps container of a capacity of 2 Litres or more	7 mm
Container other than sharps container	15 mm

Annex D

Safety Equipment and General Precautions for Clinical Waste and Spillage Handling

1. Personal Safety and Protective Gear

Disposable gloves and aprons
Heavy duty gloves
Safety glasses or goggles
Industrial aprons
Masks
Protective clothing
Safety shoes or boots
Eye-wash bottles or devices
First aid kits

2. Equipment

Fire extinguishers
Absorbent materials such as vermiculite or sawdust
Disinfectant
Plastic bags, drums and sharps boxes
Paper tissues and towelling
Dustpans and brushes
Mops, shovels and buckets
Scoops
Tweezers or forceps

3. General Precautions

Disposable gloves and apron should be worn to minimize the risk of skin contamination when clearing up body fluids. In certain circumstances, face visors may be necessary to protect employees from potential splashing.

Heavy duty gloves and industrial apron should be worn when handling clinical waste containers. Sharps boxes should be picked up and carried by the handle only, if available.

Safety shoes or boots should be worn to protect against the dropping of waste containers. The soles of such shoes or boots should be made of such material to offer protection against slippery and piercing through by any sharps on floor.

In case there is an injury inflicted during the handling of clinical waste, the person involved should seek medical advice and treatment or attend the emergency unit of a hospital as appropriate.

Annex E

Specifications for the Hazard Warning Panel for Clinical Waste Collection Vehicle

One of the two versions (Version A and Version B) of the hazard warning panel as shown in the following figure should be displayed at the front and rear of the clinical waste collection vehicle in a position that does not conceal any lights, licence plates or other legally required signs or markings. Both versions are acceptable, and the choice is mainly governed by the space available for the sign.

Specifications:

- **Material** : Aluminium plate (1-2 mm thick)
- **Finish** : Reflective background
- **Colour** : Border - Black
  Background - Yellow
  Words and Characters - Black
- **Size** : Words and Characters ≥ 40 mm in height
  Plate (Version A): Height ≥ 200 mm; Width ≥ 750 mm
  Plate (Version B): Height ≥ 340 mm; Width ≥ 500 mm

Version A

CAUTION: CLINICAL WASTE
小心　醫療廢物

Version B

CAUTION:
CLINICAL WASTE
小 心
醫療廢物

Annex F

Sample Framework for a Clinical Waste Management Plan

1 STAFF RESPONSIBILITIES UNDER THE LAW
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2 DEFINITION OF CLINICAL WASTE
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3 SEGREGATION PRACTICES
3.1 Identification of Clinical Waste Sources
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3.3 Clinical Waste vs Non-clinical Waste

4 PACKAGING
4.1 Bags and Bag-holders
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5 SEALING AND LABELLING
5.1 Sealing
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7 HANDLING OF CLINICAL WASTE

8 STORAGE OF CLINICAL WASTE PRIOR TO DISPOSAL

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9.1 Staff training programme and records
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10 ADMINISTRATIVE PROCEDURES AND RECORD KEEPING
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Annex D

Code of Practice for the Management of Clinical Waste

- Small Clinical Waste Producers

(Published under Section 35 of the Waste Disposal Ordinance)

Environmental Protection Department
The Hong Kong Special Administrative Region Government
June 2010

PREFACE

This Code of Practice is a statutory document published under Section 35 of the Waste Disposal Ordinance (Cap. 354) by the Secretary for the Environment after consultation with the Advisory Council on the Environment. The purpose of this Code is to provide guidance to small clinical waste producers to assist them to comply with the legal requirements of the Waste Disposal Ordinance and the Waste Disposal (Clinical Waste) (General) Regulation. Clinical waste is potentially dangerous because it may contain infectious materials and sharps. It is important to exercise special caution in the handling and management of clinical waste so as to minimize any danger to public health or risk of pollution to the environment.

Enquiries concerning this Code or the regulatory requirements may be addressed to the Environmental Protection Department at :

Address: Territorial Control Office
Environmental Protection Department
25/F, Southorn Centre,
130 Hennessy Road,
Wanchai, Hong Kong.

Telephone: 2835 1055
Facsimile: 2305 0453
E-mail: enquiry@epd.gov.hk

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1. INTRODUCTION

Clinical waste arises from a number of sources, including hospitals and clinics, medical and dental surgeries, veterinary practices, medical teaching establishments, medical research and laboratories, and nursing homes. Clinical waste is potentially dangerous because it may contain infectious materials and sharps such as needles. In addition, clinical waste containing human organs and body parts may be offensive in nature. It is therefore important to exercise special caution in the handling and management of clinical waste in order to minimize its potential danger to public health or pollution to the environment.

This Code of Practice ("Code") is designed to provide guidance to small clinical waste producers ("waste producers") to assist them to comply with the legal requirements of the Waste Disposal Ordinance (Cap. 354) and the Waste Disposal (Clinical Waste) (General) Regulation ("the Regulation"). As major and small waste producers have different modes of operation, a separate "*Code of Practice for the Management of Clinical Waste - Major Clinical Waste Producers and Waste Collectors*" has also been published to provide guidance to major waste producers. A list of major and small waste producers is given at Annex A.

2. THE DUTY OF CARE OF CLINICAL WASTE PRODUCERS

Waste producers have a duty of care to take the following measures in managing the clinical waste generated from their premises :

- Segregate clinical waste from other waste streams and prevent clinical waste from entering the disposal chain of municipal solid waste;
- Package and label clinical waste properly to enable easy identification;
- Provide safe and secure temporary storage area for clinical waste; and
- Ensure their staff take all necessary safety measures in handling clinical waste, and provide sufficient training to them.

Specifically, the Regulation requires all waste producers to arrange for their clinical waste to be properly disposed of. Waste producers are deemed to have discharged the duty if they consign the waste to a licensed clinical waste collector ("licensed collector"), or arrange the waste to be delivered to a collection point or licensed clinical waste disposal facility ("licensed disposal facility") according to the requirements specified in the Regulation. The Regulation also requires waste producers to keep records of the clinical waste consigned to licensed collectors or delivered to a collection point or licensed disposal facility, and to produce such records for inspection upon request by the Director of Environmental Protection ("the Director").

3. DEFINITION OF CLINICAL WASTE

3.1 Types of Clinical Waste

Under the Waste Disposal Ordinance, clinical waste means waste consisting of any substance, matter or thing generated in connection with -

- a dental, medical, nursing or veterinary practice;
- any other practice, or establishment (howsoever described), that provides medical care and services for the sick, injured, infirm or those who require medical treatment;
- dental, medical, nursing, veterinary, pathological or pharmaceutical research; or
- a dental, medical, veterinary or pathological laboratory practice,

and which consists wholly or partly of any of the materials specified in one or more of the groups listed below :

Group 1 - Used or Contaminated Sharps

Syringes, needles[1], cartridges, ampoules and other sharp instruments which have been used or which have become contaminated with any other group of clinical waste.

[1] Needles include acupuncture needles.

Group 2 - Laboratory Waste

Unsterilized laboratory stock cultures, or cultures, of infectious agents and potentially infectious waste with significant health risk from dental, medical, veterinary or pathological laboratories**.**

Note: "potentially infectious waste with significant health risk from dental, medical, veterinary or pathological laboratories" refers to those unsterilized materials or devices used to culture, transfer, inoculate or mix the laboratory stock cultures, or cultures, of infectious agents. Examples include culture dish, bottle, flask, tube, pipette, pipette tip, inoculation loop and inoculation wire.

Group 3 - Human and Animal Tissues

All human and animal tissues, organs and body parts as well as dead animals, but excluding –

(a) dead animals and animal tissues, organs and body parts arising from a veterinary practice or a Chinese medicine practice; and

(b) teeth arising from a dental practice.

Note: Group 3 clinical waste is not intended to cover small quantities of human and animal tissues which cannot be completely separated from items such as dressings.

Group 4 - Infectious Materials

Infectious materials from patients with the following pathogens - Crimean/Congo haemorrhagic fever, Ebola, Guanarito, Hendra, Junin, Kyasanur forest disease, Lassa fever, Machupo, Marburg, Nipah, Omsk, Russian spring-summer encephalitis, Sabia, Variola viruses; Herpesvirus simiae (B virus); and Severe Acute Respiratory Syndrome Coronavirus. Any materials contaminated by the above infectious materials are also classified as Group 4 waste.

Note: The Director may, by notice published in the Gazette, amend the list of pathogens under this group.

Group 5 - Dressings

Surgical dressings, swabs and all other waste dribbling with blood, caked with blood or containing free-flowing blood.

Group 6 - Other Wastes

Such other wastes as specified by the Director by notice published in the Gazette if in his opinion such wastes –

(a) are likely to be contaminated with infectious materials from patients falling within such case definition as specified in the notice; and

(b) may pose a significant health risk.

3.2 What Are Not Clinical Waste

For the avoidance of doubt, the following wastes are not classified as clinical waste and waste producers should observe relevant legal requirements applicable to the handling of these wastes :

- Radioactive waste, whether arising from medical sources or not, as defined under the Radiation (Control of Radioactive Substances) Regulations (Cap. 303A);
- Chemical waste as defined under the Waste Disposal (Chemical Waste) (General) Regulation (Cap. 354C) including cytotoxic drugs;

  Note: "Cytotoxic drug" means a drug which has the capability of selectively killing cells while they are dividing. Cytotoxic drugs in bulk or of significant residual volume in containers (e.g. unused or partially used drugs in ampoules or syringes) are regarded as chemical waste and should be disposed of according to the Waste Disposal (Chemical Waste) (General) Regulation. Significant residual volume means more than 3% volume of the container filled with the drugs. Ampoules or syringes with less than 3% volume filled with cytotoxic drugs can be placed in sharps boxes and disposed of as Group 1 clinical waste. Such sharps boxes (i.e. with sharps contaminated with residual amount of cytotoxic drugs) should be disposed of by incineration and not by any other methods.

- Dead animals and animal tissues, organs and body parts arising from veterinary practices, abattoirs, pet shops, farms, wholesale and retail markets, Chinese medicine practices, or domestic sources; and
- Human corpses.

4. SEGREGATION, PACKAGING AND LABELLING OF CLINICAL WASTE

4.1 Segregation

Clinical waste should be segregated from municipal solid waste or other waste streams at the point of arising and packaged properly for on-site temporary storage in a safe and secure manner pending delivery to a collection point or licensed disposal facility. Different groups of clinical waste should be handled differently according to their packaging requirements as specified in section 4.2 of this Code.

4.2 Packaging

Containers for packaging of clinical waste must be leak-proof, impervious to moisture and strong enough to prevent tearing or bursting under normal handling to ensure that waste handlers and the public are protected from exposure to the waste. Such containers should be of one-trip type and should not be reused. The containers should be sealed off before leaving the waste producers' premises. The appropriate types of containers with specified colour-coding for different groups of clinical waste are set out in Table 1.

Groups of Clinical Waste	Type(s) of Container	Colour	Sealing
Group 1 - Used or contaminated sharps	Sharps box	YELLOW or combination of WHITE and YELLOW	Proprietary closure
Group 3 - Human and animal tissues	Heavy duty plastic bag	YELLOW	Plastic tie
Group 2 - Laboratory waste Group 4 - Infectious materials Group 5 - Dressings Group 6 - Other wastes	Heavy duty plastic bag	RED	Plastic tie

Table 1: Packaging Requirements for Different Groups of Clinical Waste.

Group 1 Waste – Used or Contaminated Sharps

All used or contaminated sharps should be put into sharps boxes. The specifications of a typical sharps box are given in Annex B. Small waste producers may use other containers as sharps boxes provided that the containers are rigid, non-fragile, puncture-resistant, shatter-proof and leak-proof.

Group 3 Waste – Human and Animal Tissues

Human and animal tissues, organs and body parts should be put into YELLOW plastic bags. Such waste if generated in small quantity may be placed together with other groups of waste in RED plastic bags provided that they would not generate nuisance such as obnoxious odour. Specifications of the plastic bags are provided in Annex B.

Other Groups of Clinical Waste

Group 2, 4, 5 and 6 clinical waste may be placed together in RED plastic bags. Properly sealed sharps boxes may also be put into RED plastic bags for disposal.

4.3 Sealing of Containers

Containers of clinical waste should not be filled above the warning line indicating between 70% and 80% of their maximum volume before sealing. The packaging and sealing should be conducted with care to ensure that no clinical waste adheres to the external surface of the containers.

Sharps containers should be properly sealed by the proprietary closure/tape. Plastic bags should be sealed by tying the neck securely to prevent spillage. The swan-neck sealing method as shown in Figure 1 is recommended.

No staple or unprotected metallic wire tie should be used for sealing or tagging of plastic bags with clinical waste, so as to prevent injury to waste handlers and damage to other bags. Metallic wire tie fully wrapped with plastic is acceptable for use in sealing plastic bags. If the clinical waste contains liquids, thermal sealing of the plastic bags is recommended to prevent spillage.

4.4 Labelling

Every container of clinical waste must bear a label as specified in Annex C. The label must be securely affixed or pre-printed on a prominent position of the container which allows the information on the label to be read easily.

5. STORAGE OF CLINICAL WASTE

Waste producers should provide suitable area for temporary storage of clinical waste on the premises from which the waste is generated. A waste producer should not remove any clinical waste from his premises to another place for storage, except to a collection point.

Storage area for clinical waste should be designed to prevent unauthorized access and to maintain proper sanitary conditions free of pests and vermin. There should be impermeable sills in the area to contain any leakage or spillage of waste. The area should be adequately ventilated and dedicated for storage of clinical waste only. An example of a small clinical waste storage cupboard is provided in Figure 2.

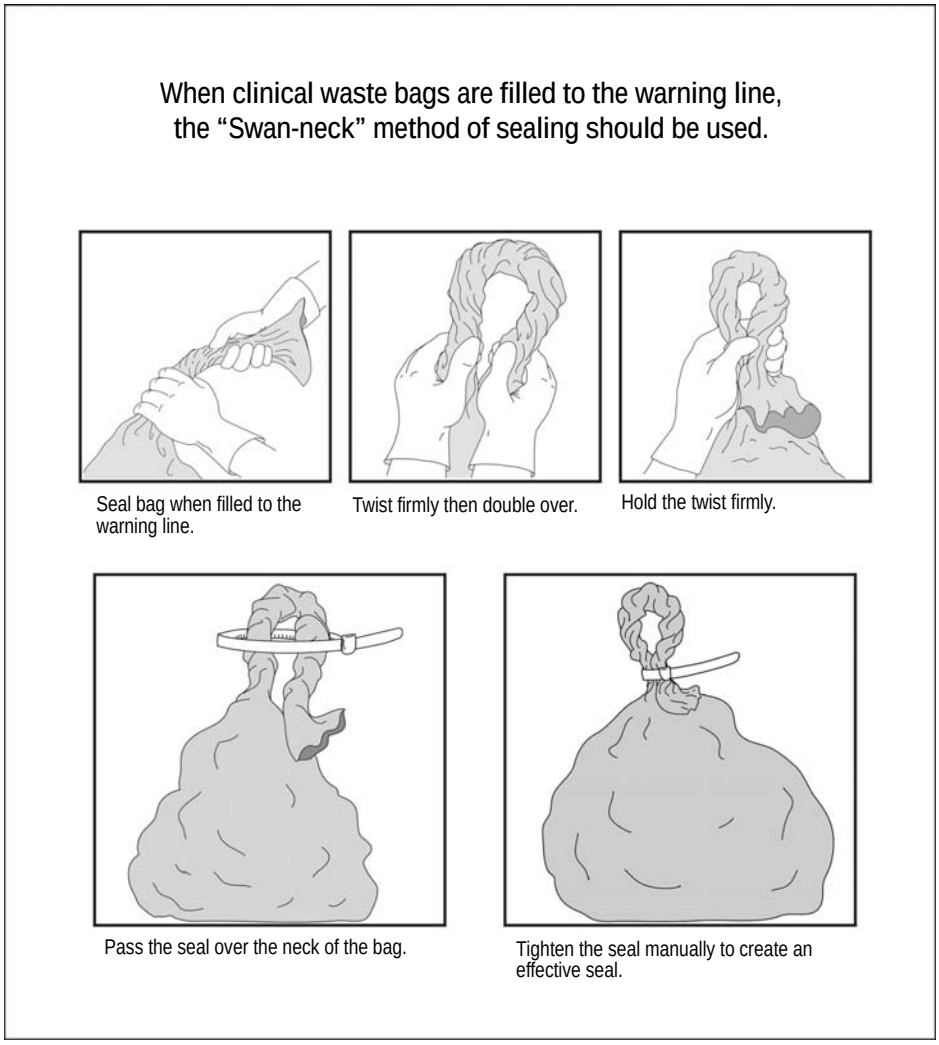

Figure 1: Sealing Method for Clinical Waste Bags.

Prolonged storage of clinical waste on the premises should be avoided. Group 3 waste (Human and Animal Tissues) should be stored under refrigeration to prevent nuisance such as obnoxious odour. Storage of such waste in a preservative agent may also be used. In such circumstances, both the waste and the preservative agent should be disposed of as chemical waste in accordance with the Waste Disposal (Chemical Waste) (General) Regulation. Group 4 waste (Infectious Materials), if any, should be collected for disposal as soon as practicable.

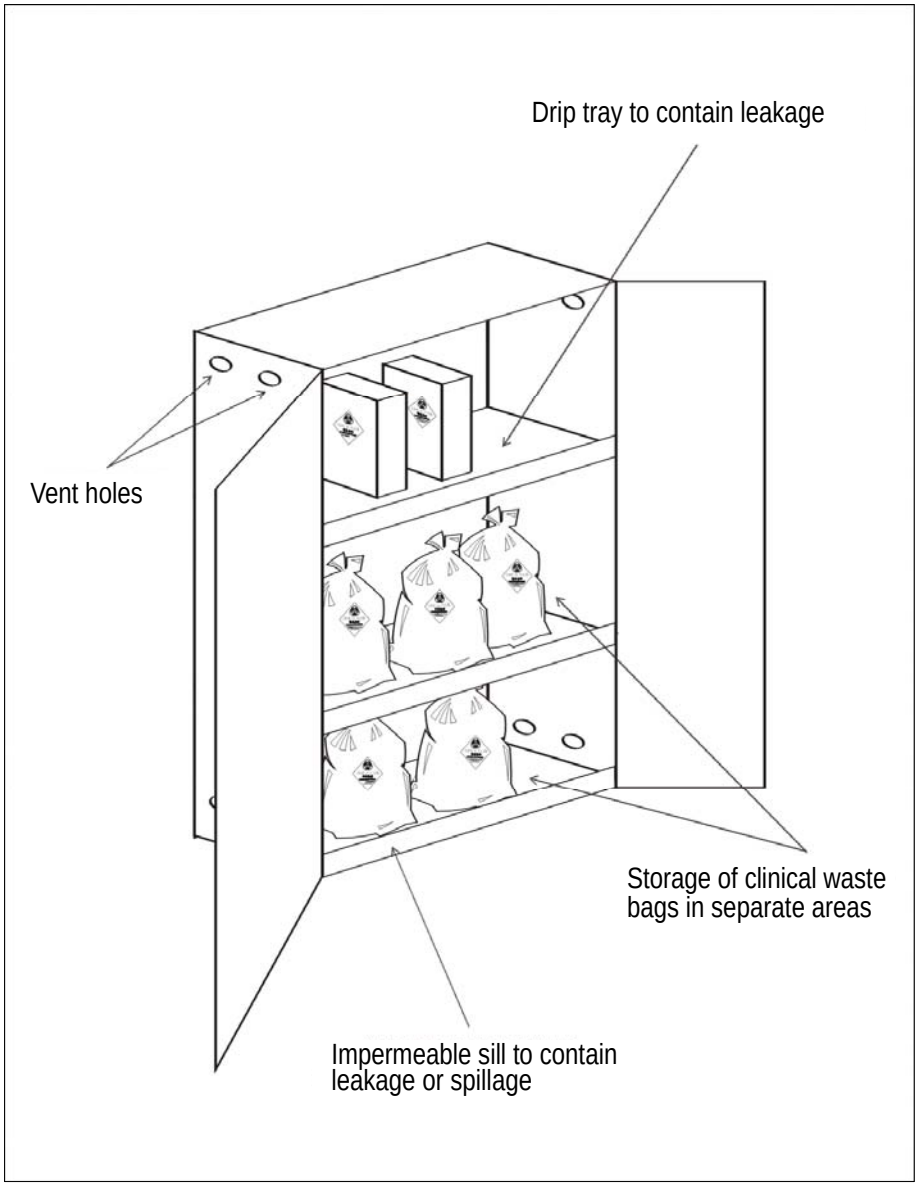

Figure 2: Schematic Drawing of a Clinical Waste Storage Cupboard.

6. COLLECTION AND TRANSPORTATION OF CLINICAL WASTE

6.1 Collection of Clinical Waste by Licensed Collectors

Clinical waste must not be collected or disposed of together with municipal solid waste or other types of wastes.

Clinical waste must be collected and transported by licensed collectors to licensed disposal facilities for proper disposal. A licensed collector is required to comply with the requirements specified in waste collection licence and in full compliance with the regulatory requirements. A list of licensed collectors is available at the homepage of the Environmental Protection Department, which will be updated from time to time.

Licensed collectors may provide services to waste producers for packaging and labelling of clinical waste, including the provision of waste containers (sharps boxes or bags). In such circumstances, the licensed collectors should properly package and label the waste in accordance with the requirements as set out in section 4 of this Code before removing the waste from the producers' premises. Waste containers provided by licensed collectors should bear the licensed collectors' names for identification of the responsible licensed collectors.

6.2 Delivery of Clinical Waste by Healthcare Professionals

Waste producers who are healthcare professionals[2] may deliver their clinical waste to a collection point or licensed disposal facility. They may ask their employees who are also healthcare professionals to deliver the waste on their behalf. A waste collection licence is not required for such delivery of clinical waste. However, the waste delivery is subject to the requirements specified in the Regulation, which include the following :

- They must not carry more than 5 kg of clinical waste at any one time;
- No Group 4 waste must be delivered;

[2] Healthcare professionals include registered medical practitioners, dentists and veterinary surgeons, registered or listed Chinese medicine practitioners, and registered or enrolled nurses as defined in the Waste Disposal (Clinical Waste) (General) Regulation.

- Group 1 waste must be packaged in containers that are puncture-resistant, shatter-proof and leak-proof (e.g. sharps boxes);
- Other groups of clinical waste must be packaged in containers that are made of rigid material, impervious to moisture and leak-proof, and that will not rip, tear or burst under normal conditions of handling;
- The clinical waste must be properly packaged to prevent spillage, and the containers must be labelled in accordance with the specifications set out in Annex C;
- Only private car[3] within the meaning of the Road Traffic Ordinance (Cap. 374) must be used as a means of transport in delivering the clinical waste; and
- The clinical waste must be delivered directly to a collection point or licensed disposal facility within 24 hours and must not be left unattended during the delivery.

In addition, the healthcare professionals must carry adequate and appropriate first-aid equipment for use in case of injury to any person caused by the clinical waste during the delivery. They must also carry appropriate equipment for cleaning up spilled clinical waste (e.g. spare red bags and sharps boxes) in case of spillage. A recommended list of equipment for cleaning up spilled clinical waste is provided at Annex D. The healthcare professionals should exercise professional judgment in carrying adequate quantity of such equipment by reference to the amount of clinical waste they deliver.

7. COLLECTION POINT

Subject to the authorization granted by the Director, a waste producer may use his premises where he produces clinical waste (e.g. hospital, clinic, medical laboratory) to provide temporary storage area as an "on-site collection point", for receiving clinical waste generated by him in other

[3] Private car means a motor vehicle constructed or adapted for use solely for the carriage of a driver and not more than 7 passengers and their personal effects but does not include an invalid carriage, motor cycle, motor tricycle or taxi.

premises or delivered by other small waste producers.

Waste producers who intend to set up on-site collection points must obtain authorization from the Director and follow such terms and conditions specified in the authorization, and more details can be obtained from the Environmental Protection Department. The objective is to minimize the risks of pollution to the environment and the danger to public health that might be caused by the operation of these collection points.

The delivery of clinical waste from the premises of other small waste producers to the collection point must be conducted by healthcare professionals in accordance with the requirements set out in section 6.2 of this Code. A waste producer who operates an on-site collection point must check and confirm the professional identity of the person who delivers the waste. The operator of an on-site collection point must prepare and issue a copy of the record of waste delivery to the person who delivers the waste. The operator of an on-site collection point must also keep the record and produce it to the Director for inspection upon request. The record must include the following information and as required in the authorization :

- The name, address and telephone number of the person who produced or caused to produce the clinical waste;
- The name, address and telephone number of the person who delivers the clinical waste to the collection point;
- The date and time of delivery of the clinical waste;
- The origin, nature and quantity of the clinical waste; and
- Other particulars relating to the clinical waste as may be specified by the Director in granting the authorization.

8. RECORD KEEPING

Waste producers must keep a record of the clinical waste consigned to a licensed collector or delivered to a collection point or licensed disposal facility, and produce the record to the Director for inspection when so required. The record must include the following information :

- The date of consignment/delivery;
- The quantity of clinical waste consigned/delivered;
- The address of the premises from which the clinical waste is delivered;
- For consignment to a licensed collector, the name of the licensed collector; and
- For delivery to a collection point or licensed disposal facility, the name of the person who delivers the waste, and the name and address of the collection point or disposal facility.

The Director may require a waste producer to produce records of waste consignment or delivery for inspection. Such records may include copy of trip ticket or receipt of waste consignment issued by a licensed collector, or receipt of waste delivery issued by the operator of a collection point or licensed disposal facility. Waste producers must keep such records for 12 months from the date of consignment/delivery.

9. TRAINING AND SAFETY PRECAUTIONS

Waste producers should ensure that their staff receive adequate training in the safe handling of clinical waste, including cleaning-up of spillage. Staff should also be provided with suitable protective equipment to handle clinical waste (see Annex D).

Waste producers should take all such precautions as are necessary for preventing any danger to public health or safety, any pollution to the environment and any nuisance to the neighbouring area that might be caused by the clinical waste generated on their premises.

Annex A

List of Clinical Waste Producers

Major clinical waste producers:

- Public hospitals, clinics and institutions managed by the Hospital Authority;
- Private hospitals and maternity homes defined under the Hospitals, Nursing Homes and Maternity Homes Registration Ordinance (Cap. 165);
- The Prince Philip Dental Hospital; and
- Government clinics and medical laboratories (whether they are managed by the Department of Health or other Government departments).

Small clinical waste producers:

- Private medical clinics/practices;
- Private dental clinics/practices;
- Private dental, medical, veterinary or pathological laboratories;
- Private Chinese medicine clinics/practices;
- Residential care homes for the elderly;
- Universities with medical teaching or research (including Chinese medicine);
- Pharmaceutical companies with medical research;
- Private veterinary clinics/practices;
- Nursing homes;
- Health and beauty centres where medical practices are conducted; and
- Other relevant organisations.

Annex B

Specifications for Different Types of Containers for Clinical Waste

1. Sharps box

- Conform with *British Standard BS 7320:1990* in respect of resistance to penetration and resistance to leakage after vertical dropping and toppling or similar specification for sharps containers;
- Capable of being sealed;
- Provided with a handle that is not part of the closure device, wherever practicable;
- Combustible and capable of being safely incinerated, and should not be made from polyvinylchloride (PVC);
- Legibly marked with a horizontal line to indicate when the sharps box is filled to between 70% and 80% of its maximum volume, together with the words "WARNING – DO NOT FILL ABOVE THE LINE", wherever practicable;
- Coloured in yellow or combination of white and yellow; and
- Capable of being marked by indelible ink and securely attached by labels.

2. Heavy duty plastic bag

- With a maximum nominal capacity of 0.1 m^3;
- Of minimum gauge of 150 microns if made from low density polyethylene, or 75 microns if made from high density polyethylene or polypropylene, and should not be made from polyvinylchloride (PVC);
- Of suitable size and shape to fit the holder which supports the bag in use;
- Legibly marked with a horizontal line to indicate when the bag is filled to between 70% and 80% of its maximum volume, together with the words "WARNING – DO NOT FILL ABOVE THE LINE";
- Coloured in red (clinical waste other than Group 1 and 3 wastes) or yellow (for Group 3 waste); and
- Capable of being marked by indelible ink and securely attached by labels.

Annex C

Labelling of Clinical Waste Containers

Each container must bear on the outside of the container a label of such dimensions as are specified in Part 1 below, and the label must contain the symbol specified in Part 2 below.

PART 1
DIMENSIONS OF LABEL

Type of container	Dimensions of label
Sharps container of a capacity of less than 2 Litres	not less than 40 mm x 40 mm
Sharps container of a capacity of 2 Litres or more	not less than 75 mm x 75 mm
Container other than sharps container	not less than 150 mm x 150 mm

PART 2
SYMBOL IN LABEL

Specifications of the symbol:

1. The colours of the symbol must be as follows:
   Border – black
   Background – white or primary colour of the container
   Words and characters – black
   International Biohazard sign - black

2. The international biohazard sign appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 Litres	16 mm
Sharps container of a capacity of 2 Litres or more	30 mm
Container other than sharps container	60 mm

3. Each of the English words appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 Litres	3 mm
Sharps container of a capacity of 2 Litres or more	5 mm
Container other than sharps container	10 mm

4. Each of the Chinese characters appearing in the symbol must have a minimum height as follows:

Type of container	Minimum height
Sharps container of a capacity of less than 2 Litres	4 mm
Sharps container of a capacity of 2 Litres or more	7 mm
Container other than sharps container	15 mm

Annex D

Equipment for Handling Clinical Waste Spillage

1. Personal Safety and Protective Gear

- Disposable gloves
- Safety glasses or goggles
- Masks
- Eye-wash bottle
- First aid equipment (e.g. antiseptic solution for treating skin and wounds, plasters, scissors, cotton wool)

2. Equipment

- Equipment to pick up or mop up spilled clinical waste (e.g. brush, scoop, mop, dustpan, bucket)
- Absorbent material such as, paper tissues, towel, vermiculite, sawdust
- Disinfectant
- Spare heavy duty plastic bags, sharps boxes and/or rigid sealable containers (as the case may be)

Note: In case there is an injury inflicted during the handling of clinical waste, the person involved should seek medical advice and treatment or attend the emergency unit of a hospital as appropriate.

IMPLICATIONS OF THE PROPOSAL

FINANCIAL IMPLICATIONS

The recurrent variable operating payment to the operator of the Chemical Waste Treatment Centre ("CWTC") for reception and treatment of clinical waste, estimated to be $6 million per annum, has been included in the ENB/EPD's envelope in 2011-12. We will recover the full variable operating cost (estimated to be $6 million for the year 2011-2012) by levying a charge on the parties delivering clinical waste to the CWTC for disposal. Government departments would not be required to pay disposal fees. The Hospital Authority ("HA") would be required to absorb the recurrent disposal cost, estimated to be $3.16 million per annum, within its budget.

2. At present, the Food and Environmental Hygiene Department ("FEHD") provides clinical waste collection services to a number of facilities under the management of Department of Health ("DH") and HA. FEHD will withdraw all these services as from 1 April 2011 when the clinical waste producers will have to make their own collection arrangement. FEHD estimates that $1.23 million per annum at 2009-10 price level will be saved.

3. DH and HA, being the clinical waste producers, would need to employ licensed waste collectors to collect their clinical waste for proper disposal. DH estimates that engaging private waste collectors would cost an additional $10.4 million per annum, given the increased collection frequency required and the more stringent requirement under the Control Scheme to minimize the potential health hazards posed by the clinical waste. HA will invite expressions of interest to collect market information on the estimated collection charges. DH and HA would be required to absorb the additional collection cost within their budgets.

CIVIL SERVICE IMPLICATIONS

4. The Environmental Protection Department ("EPD") has, since 2005, taken up enforcement work on other environmental aspects by internal deployment. EPD envisages that new staff will be required to allow EPD to carry out each year 200 complaint investigations and 800 random proactive inspections as well as licence processing and prosecution. This may not meet the requirements of a fully-fledged enforcement programme, given the large number of clinical waste producers. We will have to rely heavily on self-regulation and compliance by the healthcare professionals. The additional manpower resources required for the implementation of the Control Scheme will be sought in accordance with the established resources allocation mechanism.