Annex2

Guidance on Medical waste management (Draft Ver.1.1)

This Guidance document for Medical waste management is developed in line with the article 15 of the ASEAN SOP for EMT coordination/ SASOP, to ensure that the AMS I-EMT achieve and maintain the EMT minimum standards as set out by the WHO EMT initiative, and be operative in line with internationally and nationally recognized procedures with regard to the medical waste management during the EMT operations.

EMT is required to develop SOPs for waste management which shall cover the entire waste management cycle and be made available to all expatriate and locally recruited EMT staff members. This guidance document contains (I) Model SOP as a template document and (II) Technical Reference-A, that AMS I-EMT can refer to when developing their SOPs, and/ or used as a reference document for the relevant training, as well as (III) Technical Reference-B (Specific information of 5 AMS) , which contains relevant information on national laws, regulations and guidelines of 5 ASEAN Member States (AMS) that is intended to be used by incoming AMS I-EMT prior to/ during the deployment.

Development of Standard Operating Procedure (SOP) for Waste Management

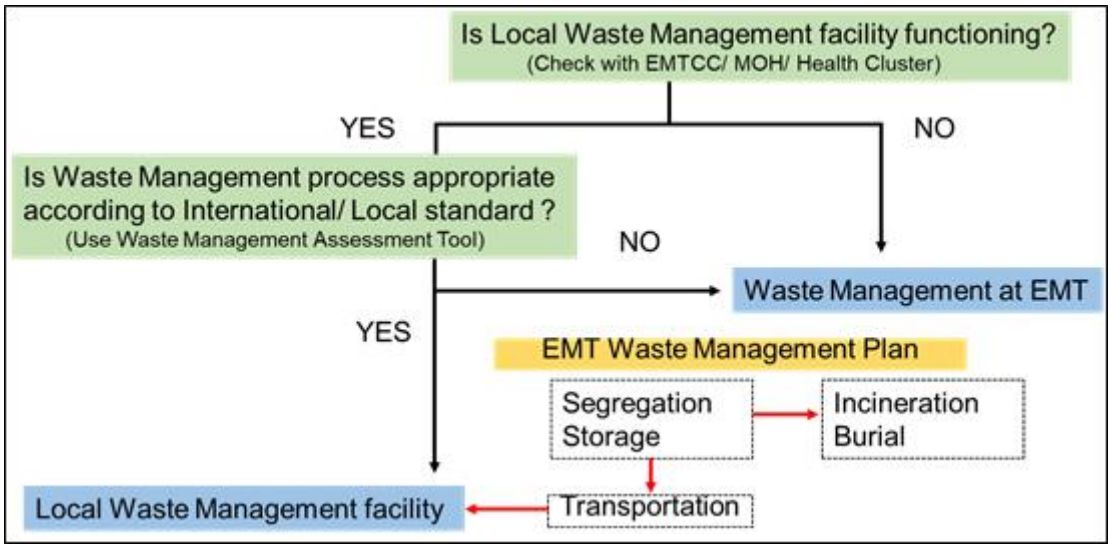
1. Identification and confirmation of any relevant National Laws, Regulations, Policies and Guidelines of the receiving country on Waste Management.
2. Assessment of the Local Healthcare Waste Management Capability

Communicate with EMT Coordination Cell (EMTCC) (or MOH, local Health Cluster as required) for relevant information on waste management according to the ASEAN SOP/ SASOP.

3. Finalization of SOP for Waste Management

Identification of the most appropriate Waste management plan including Segregation, Storage, Collection, Treatment and Disposal for the EMT deployment

Flowchart for Waste management planning



(*) 5 AMS considered disaster prone and likely to host international assistance: Indonesia, Myanmar, Philippines, Thailand, Vietnam

I. Model SOP for Medical waste management

II. Technical Reference-A

III. Technical Reference-B (Specific information of 5 AMS)

I. Model SOP for Medical waste management

A. Purpose

The purpose of this Standard Operating Procedure (SOP) is to detail the procedure for the entire cycle of waste management including segregation, storage, collection, treatment and disposal during AMS I-EMT deployment in accordance with internationally/ nationally recognized policy, regulations and procedures to protect EMT staff, disaster affected community, and environment.

B. Appointment and definition of roles and responsibilities

The following focal points shall be appointed as soon as the operation begins.

- Waste Management Focal Point (WMFP)(appointed from senior expatriate EMT members such as head nurse or head logistician): will supervise and ensure safe coordination of all the medical waste management activities.
- Waste Management (WM) staff (expatriate or locally recruited staff): shall collect, treat and dispose of the medical waste according to the waste management plan and will refer any identified concerns to the WMFP.

* Medical staff members: will ensure safe and appropriate waste segregation at the point of generation and will report any concerns identified to the WMFP.

C. Waste management procedure

1. Segregation

Segregation system shall be organized into at least four (4) categories such as General, Sharps, Infectious waste, Other hazardous waste.

2. Collection

WM staff shall collect waste containers regularly – at least once a day not to accumulate the waste at the point of generation.

3. Storage

Collected waste shall be stored at the designated storage area, with a minimum 2-day containment capacity, until they are re-recollected for incineration or transport to the local waste management facility.

4. Transportation

Means of conveyance for transporting waste must be prepared and cleaned daily.
If the local waste management system is functioning, off-site transportation shall be arranged. EMT is responsible for packaging and labelling the waste to be transported outside the EMT premises.

5. Treatment On-site Procedure

There are several techniques of treatment and disposal in waste management, each has advantages and drawbacks. The most appropriate techniques for the intended purpose shall be selected and combined according to local resources and EMT capacity with a view to minimizing negative impacts on EMT staff, community and environment.

a. Disinfection

Chemical: addition of disinfectants (chlorine dioxide, sodium hypochlorite, peracetic acid, ozone, alkaline hydrolysis);

b. Thermal treatment

i. Low temperatures (100° to 180°C): vapor (autoclave, micro-waves) or hot air (convection, combustion, infrared heat)

ii. Medium- High temperatures (200° to over 1000°C): incineration (combustion, pyrolysis and/or gasification)

Use and maintenance of Incinerator

- Installation of incinerators has to be far from inhabited or cultivated areas, and placed downwind of the work and residential areas.
- Regular maintenance, Replacement of faulty parts, Inspection, and maintain Inventory of spare parts as per operation manual
- Conducting Induction/ Recurrent trainings for WM members

- Emission control: emissions must not exceed the national limit values* and they must comply with the Best Available Technique / Best Environmental Practice (BAT/BEP) recommendations set forth in “the Stockholm Convention on Persistent Organic Pollutants (UNEP, 2004)”.

National limit values in AMS are summarized in the Technical Reference- B (Specific information of 5 AMS)

***Drum or pit burning—low-temperature burning**

Last resort for when there is No available local waste management facility and No functioning EMT incinerator.

Collect trash and put it in a barrel-shaped furnace or pit, and set it on fire.

The combustible part of the trash will burn (<400°C), and the remainder will melt.

Generally, Low-temperature burning is not recommended for several reasons—sharps will not be destroyed and will remain a puncture risk; and plastics, pharmaceuticals and metals release toxic gases when they are burned, releasing contaminants into the air. Never incinerate plastics or pharmaceuticals at low temperatures.

c. Encapsulation of sharps/ pharmaceutical waste

Encapsulation involves permanently encapsulating the sharps or pharmaceuticals in a solid block within a plastic or steel container.

When the container is filled to 75% capacity with solid and semi-solid pharmaceuticals, add immobilizing material such as cement or cement/lime mixture, plastic foam or bituminous sand. If using the mixture of lime, cement and water in the proportions 15:15:5 (by weight) is added and the drum filled to capacity.

After the material is dry, seal and dispose of the container in a secured burial pit, or send it to the local landfill facility if available.

6. Landfill for disposal

Information about appropriate disposal sites is to be obtained from EMTCC for the disposal of the different types of waste collected in the emergency phase.

Where no existing disposal site is available, a temporary disposal site shall be established.

a. Select a place for the disposal site within or nearby EMT operational site.
b. Ensure that people and animals cannot go near the area.
c. Make sure that the disposal site is secured and surrounded by a fence.
d. Dig a pit 2–3 meters deep, 2–3 meters wide, and >1.5 meters above the water table.
e. Immediately cover each layer of waste with a layer of soil or saw dust (>10 centimeters).
f. When the pit is full, fill in the site with concrete.
g. After it is filled, never dig up the site or use it again.

D. Health & Safety Procedures

1. Vaccination

WHO recommends that all health-care waste handlers be vaccinated against hepatitis B and tetanus.

2. Personal Hygiene

Washing hands with a sufficient amount of water and soap when medical wastes are being handled.

3. Personal Protective Equipment (PPE)

The following Personal Protective Equipment (PPE) for waste management should be equipped as part of the EMT items, and appropriate PPE should be provided for EMT staff members according to the activity involved;

- Face protection - visor Eye protection – safety goggles
- Respiratory protection – masks and respirators
- Body protection – aprons, protective suits
- Hand protection – gloves

- Foot and leg protection – boots, shoes

4. Measures to be taken in the event of accidental exposure to infectious patient sample

- Wash the contaminated area with soap and water; do not make the area bleed; disinfect the area (freshly diluted bleach (0.5%), active chlorine or 70° alcohol or stabilized Dakin's solution, contact time of more than 5 minutes);
- Inform the WMFP for coordination with the EMT medical team.
- EMT medical team shall take charge of the situation (evaluation, tests, post-exposure prophylaxis [HIV, tuberculosis, hepatitis B], follow-up, information, psychological care for the victim);
- The WMFP shall ensure that necessary procedures are followed such as registration of incidents/accidents, investigation and corrective action including reporting to the EMTCC through the EMT-Minimum Dataset (EMT-MDS) as appropriate.

E. Training on Waste management procedures

Dissemination of the Waste management plan along with relevant training such as safe practice shall be part of the pre-deployment/ employment briefing/ induction training, and any revision be informed to all EMT Members in a timely manner.

F. Contingency Plans

Contingency Plans have to be developed for appropriate management options in advance for a potential incident, such as Surge in the volume of generated waste, Equipment failure or not permissible to use, Management of highly infectious waste during outbreak, and regularly reviewed and updated to ensure that all EMT members are familiar with their roles and responsibilities and necessary actions to be taken.

G. Quality Assurance

The WMFP shall ensure that the EMT Waste Management Plan is always relevant and regularly updated throughout the deployment period.

II. Technical Reference- A

A. MINIMUM TECHNICAL STANDARD

1. Development of SOPs for waste management. These should cover the entire cycle and be available to staff, including those recruited locally, in written and visual form.
2. Training all staff in waste management practice with specialized training for staff responsible for the collection, treatment and disposal of waste.
3. Provision of PPE for staff responsible for the handling of waste.
4. Organize segregation and separate storage, collection, and disposal of health-care waste, at least into the four major categories of general, sharps, infectious waste and other hazardous waste.
5. Determine a safe designated waste storage area within the EMT site and consider a minimum 2-day containment capacity for waste production.
6. Planning of waste treatment in accordance with local and international laws and regulations.
7. Implement an infectious waste treatment technology based on incineration or non-incineration.
8. Waste management plan foresees that waste pits be constructed in accordance with existing national and international standards and will be operated, maintained and decommissioned safely.

*WHO, Classification and Minimum Standards for Emergency Medical Teams (Blue Book)

B. WHO-recommended segregation scheme (*)

Type of waste	Color of container and markings	Type of container

Highly infectious waste	Yellow, marked “HIGHLY INFECTIOUS”, with biohazard symbol		Strong, leak-proof plastic bag, or container capable of being autoclaved
Other infectious waste, pathological and anatomical waste	Yellow with biohazard symbol		Leak-proof plastic bag or container
Sharps	Yellow, marked “SHARPS”, with biohazard symbol		Puncture-proof container
Chemical and pharmaceutical waste	Brown, labelled with appropriate hazard symbol	 **GHS06	Plastic bag or rigid container
Radioactive waste	Labelled with radiation symbol	 Old New	Lead box
General health-care waste	Black	N/A	Plastic bag

*Based on “WHO Safe management of wastes from health-care activities, Second Edition”

**Globally Harmonized System of Classification and Labelling of Chemicals; GHS

C. Criteria required for Storage area

Closed, and access must be restricted to authorized persons only
Separate from any food store
Covered and sheltered from the sun
Flooring must be waterproof with good drainage
Easy to clean
Protected from rodents, birds and other animals
Easy access for on-site and off-site means of transport
Well aired and well lit
Compartmented (so that the various types of waste can be sorted)

Near the incinerator (if incineration is the treatment method used)
There must be wash basins nearby
Entrance must be marked with a sign (“No unauthorized access” , “Toxic” , or “Risk of infection”

*Based on “ICRC Medical Waste Management”

D. Criteria required for On-site transportation

Easy to load and unload
No any sharp corners or edges that might tear the bags or damage the containers
Easy to clean; (with a 5% active chlorine solution)
Clearly marked

E. Criteria required for Off-site transportation

Closed in order to avoid any spilling on the road

Equipped with a safe loading system (to prevent any spilling inside or outside the vehicle)
Marked as required by the local law or legislation (Color code/ Symbol) **

*Based on “ICRC Medical Waste Management”

**Information of AMS is summarized in the Technical- B (Specific information of 5 AMS)

F. Suitability of treatment techniques by type of waste

Type of waste	Technique		
	Rotary kiln **900 -1200°C**	Pyrolytic or Dual-chamber **>800°C**	Single-chamber incinerator **300°- 400°C**
Sharps	Yes	Yes	Yes with precautions
Waste entailing a risk of contamination	Yes	Yes	

Anatomical waste	Yes	Yes	
Infectious waste	Yes	Yes	
Pharmaceutical waste (Except cytotoxic waste)	Yes	No The waste should be **encapsulated** in small quantities and disposed of in a landfill	
Advantages / Drawbacks	*(O)Suitable for all types of waste* *(X)High construction costs*	*(O)Micro-organisms are completely destroyed* *(X) Relatively high investment costs*	*(O) Simple and cheap* *(X) Risk of incomplete sterilization* *(X) Sharps are not destroyed*

*Based on “ICRC Medical Waste Management”

G. Essential factors for Sanitary landfill

Access must be restricted and controlled
Competent staff must be available
Discarding areas must be planned

Bottom of the landfill must be waterproofed
Water table must be more than 2 metres below the bottom of the landfill
There must be no drinking water sources or wells in the vicinity of the site
Chemicals must not be disposed of on these sites
Waste must be covered daily and vectors (insects, rodents, etc.) must be controlled
Leachates must be collected and treated

*Based on “ICRC Medical Waste Management”

(Example) Portable Incinerator

SmartAsh
Product Information

The SmartAsh is a portable, multipurpose batch load incinerator for remote locations, mining camps, job sites, oil drilling operations, truck stops, construction sites, islands, barges, campsites and military installations.

Specifications:

Construction:	Stainless steel lid
	Painted tubular steel frame
	2-Blowers, Axial Vane 120v standard or 240v optional
Requires:	55 Gallon / 200 litre open head drum (not included)
Height:	46 inch / 1.17m
Floor Space:	36 x 26 inch / 0.91 x 0.66m with drum
Weight:	96 lbs / 44kg without drum, 139 lbs / 63kg with steel drum
Average Burn Rate:	50 lbs/hr / 22kg/hr (emission test data available upon request)

The SmartAsh Burns:

Absorbent Materials (Natural & Synthetic) Paper Waste

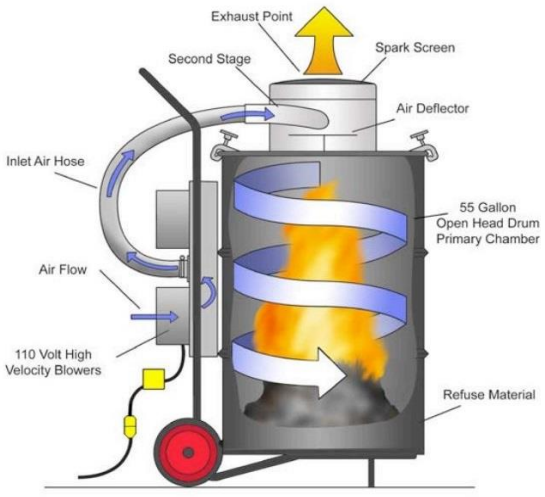
Used Filters Wood By-Products Waste Oil Oily Rags, Gloves, Clothes

General Non-Hazardous Refuse

Restaurant Waste

Organic Materials Domestic Waste

Shipping Dimensions;
SmartAsh without Drum: 26 x 26 x 20 inch / 0.66 x 066 x 0.51m
SmartAsh with Drum: 30 x 37 x 53 inch / 0.76 x 0.94 x 1.35m



III. Technical Reference- B (Specific information of 5 AMS)

The information presented in this section is part of a database (DB) of 5 ASEAN Member States (AMS)(*) that are considered disaster-prone and likely to receive international assistance, and they are meant to be regularly updated by the respective AMS along with other information as the DB update.

(*) Indonesia, Myanmar, Philippines, Thailand, Viet Nam

A. Special treatment/ arrangement required according to the waste classification

Special treatment/ arrangement required according to the waste classification required by National Law/ Regulation of the 5 AMS in the section A.

Indonesia

Type of waste	
General health-care waste	To be confirmed
Sharps waste	To be confirmed
Infectious waste/ Waste entailing a risk of contamination	To be confirmed

Pathological waste/ Anatomical waste	To be confirmed
Chemical waste	To be confirmed
Pharmaceutical waste	To be confirmed

Color-coding	To be confirmed

Myanmar

Type of waste	*Segregation rules for hospitals defined by Yangon and Mandalay City Authorities
General health-care waste	Not mentioned specifically

Sharps	Pyrolytic incinerator Wet thermal disinfection Microwave irradiation Chemical disinfection Safe burying
Waste entailing a risk of contamination Anatomical waste	Pyrolytic incineration and safe burying
Infectious waste	Pyrolytic incineration and safe burying
Chemical waste	Pyrolytic incinerator for small quantity Safe burying Innertization Return to supplier
Pharmaceutical waste	Pyrolytic incinerator Wet thermal disinfection Microwave irradiation Chemical disinfection

	Safe burying

From National Waste Management Strategy and Action Plan for Myanmar (2017-2030) March 2018

Color-coding	Myanmar Essential Health Services Access Project, Environmental Management Plan (2014) Infectious waste is segregated into yellow color bags Sharp waste is segregated into sharp containers Chemical waste is segregated into black color bags General waste is segregated into green color bags Recyclable waste is segregated into white color bags

Philippines

Type of waste Color-coding/ Labelling	On-site Treatment/ Disposal
General health-care waste	Central storage Composting/ Internal recycling (Off-site) Municipal waste collector Municipal landfill
Sharps Yellow/ “Sharps”	Disinfection: Autoclave/ Microwave technology, Chemical disinfection Mechanical shredding: Needle cutters or Destroyers Encapsulation in cement blocks Buried in concrete vaults, sharps pits
Infectious Yellow/ “Infectious Waste” Pathological	Alkaline digestion, Promession, Crematoria/ Incineration Pit to biodegrade naturally (Off-site) Transport: DENR-EMB registered hazwaste transporter

Yellow/ “Pathological Waste”	Off-site Treatment: TSD facility Off-site Disposal: Sanitary landfill
Anatomical waste Yellow/ “Anatomical Waste”	Alkaline digestion, Promession, Crematoria/ Incineration Burial by family (cultural or religious preferences) Pit to biodegrade naturally (only for Placenta or other non-recognizable)

Pharmaceutical waste Brown/ “Pharmaceutical Waste”	Return to supplier/ manufacturer (preferred option) Encapsulation Chemical decomposition (if chemical expertise and materials are available) Dilution in large amounts of water and discharge into a sewer for moderate quantities of relatively mild liquid or semi-liquid pharmaceuticals Incineration in kilns equipped with pollution-control devices that operate at high temperatures Dilution and sewer discharge for relatively harmless liquids such as intravenous fluids Sanitary landfill for non-hazardous pharmaceutical waste (Off-site) Transport: DENR-EMB registered hazwaste transporter Off-site Treatment: TSD facility Off-site Disposal: Sanitary landfill

Cytotoxic Waste Brown/ “Cytotoxic Waste”, “Genotoxic Waste”	Return to supplier/ manufacturer (preferred option) Incineration at high temperatures with gas-cleaning equipment Chemical degradation in accordance with manufacturers’ instructions. Alkaline hydrolysis Encapsulation or Inertization may be considered as a last resort
Chemical Brown/ “Chemical Waste”	Large amounts of chemical waste should not be buried Encapsulation. (Large amounts of chemical disinfectants should not be encapsulated) Where allowed by local regulations, non-recyclable, general chemical waste, such as sugars, amino acids and certain salts, may be disposed of with municipal waste or discharged into sewers. Sanitary landfill (for small quantities only) (Off-site) Transport: DENR-EMB registered hazwaste transporter Off-site Treatment: TSD facility Off-site Disposal: Sanitary landfill Or Return to supplier/ manufacturer

From HEALTH CARE WASTE MANAGEMENT MANUAL (4TH EDITION), Department of Health, The Philippines, 2020

DENR: Department of Environment and Natural Resources

EMB: Environmental Management Bureau

TSD: Treatment, Storage, and Disposal

Color-coding	Health-care waste management manual (2020) Sharps: Yellow Infectious Waste: Yellow Pathological Waste: Yellow Anatomical Waste: Yellow Pharmaceutical Waste: Brown Chemical Waste: Brown Radioactive Waste: Orange Non-Biodegradable Waste (Non-Hazardous General Waste): Black Biodegradable Waste (Non-Hazardous General Waste): Green

Thailand

(Container)

Sharps	Must be kept in containers in the form of box or pail, made of strong material able to withstand piercing and erosive actions of chemical substances, such as hard plastic or metal with completely covered lid able to prevent leakage of fluid from inside. Such containers must be highly portable without the handler being in contact with the infectious waste. Ministerial Regulations Concerning Infectious Waste Disposal, B.E.2545 (2002)
Bodily fluids & waste, Chemicals	Must be kept in containers in bag form, made of hard plastic or other tough materials not easily torn or broken, able to withstand chemicals and weight load, waterproof, without seepage or permeation. Ministerial Regulations Concerning Infectious Waste Disposal, B.E.2545 (2002)

(Treatment)

Type of waste	

General health-care waste	After thermal inactivation, waste can be discarded in general waste bin. Non-contaminated and recyclable waste can be directly sorted to recyclable bin.
Sharps	Chemical Stream Sterilization Microwave Mutilation Landfill Burial
Waste entailing a risk of contamination Anatomical waste	Incineration Cremation Landfill Burial
Infectious waste (Waste from wards as specified by MOPH)	Steam Sterilization Microwave Chemical Treatment Incineration Landfill Burial

Chemical waste	Stabilization Incineration Lined Hazardous Waste Landfill Burial
Pharmaceutical waste	Return to original sources for proper disposal Incineration and landfill burial

Public Health Act B.E.2535 (1992)

Color-coding	The containers shall be of red color, opaque, with conspicuous text message in black lettering stating (in Thai) as “Infectious waste” under a skull and crossbones image together with an international logo or symbol as prescribed by the Ministry of Public Health by promulgating in the Government Gazette, and text messages stating (in Thai) as “Reuse is prohibited” and “Do not open” shall be displayed thereon. In the event the public health service facility does not dispose of infectious waste by itself, the said public health service facility shall display its name on the infectious waste containers. And in the event such infectious waste containers are to hold infectious waste awaiting haulage to be disposed of for a period longer than seven days from the date the infectious waste being generated, the date of the

	infectious waste generation shall be mentioned on such infectious waste containers. Revised without changing its meanings from the original sentence in Ministerial Regulations Concerning Infectious Waste Disposal, B.E.2545 (2002)

Viet Nam

Type of waste	
General health-care waste	Not mentioned specifically

Sharps	Cocoon tanks
Waste entailing a risk of contamination Anatomical waste	Incinerator, encapsulation in two yellow bags may be used and then be packed and buried in cemeteries or in concrete pits with bottoms and lids
Infectious waste	Incinerator, autoclave, microwave, chemical disinfection
Chemical waste	Not mentioned specifically
Pharmaceutical waste	Not mentioned specifically

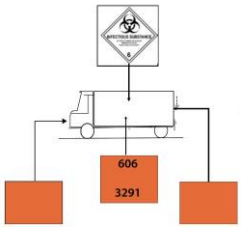
To be confirmed as automatic translation was used for "Manual, management of medical waste in hospitals (issued together with Decision No.105/QD-MT dated on July,3rd ,2014 of the Director of Health Environment Management Agent"

Color-coding	Manual on management of medical waste in hospitals l Yellow or yellow tones contain contagious waste l Black contains hazardous chemical waste and radioactive waste l Green or blue tones of ordinary waste White or white cardboard containing recyclable waste

B. Symbol/ Label required to present for waste transport

Identification required for Waste Transport

	Color code/ Description	Symbol
Indonesia	To be confirmed	
Myanmar	1. Blue or Green (in Yangon)/ black (in Mandalay) for non-hazardous health care waste or domestic waste uncontaminated with infectious or pathogenic agents (food residues, paper, cardboard and plastic wrapping) 2. Yellow for pathological waste, infectious waste as well as items that have been used for medical care; 3. Red for sharps, and mainly, but not exclusively, auto-disable or disposal syringes with needles and pharmaceutical waste that consists of outdated drugs or expired unfinished medical solvents. Infectious waste is incinerated or burned in the dig made at the cemetery while sharp wastes are buried underground in landfills. Other waste is treated as domestic waste.	NA

Philippines	A warning plate should: • be not less than 250 mm by 250 mm, with a line of the same colour as the symbol running 12.5 mm inside the edge and parallel with it; • correspond to the label required for the dangerous goods in question with respect to colour and symbol; • display the numbers prescribed for the dangerous goods on the corresponding label, in digits not less than 25 mm high. *Manual on Healthcare Waste Management, Fourth Edition	 
Thailand	It must have both Skull and crossbones according to GHS and biohazard symbol with the text "Do not reuse" & "Do not open" and name of origin on it. Ministerial Regulations Concerning Infectious Waste Disposal, B.E.2545 (2002)	 
Viet Nam	1. Yellow or yellow tones contain contagious waste 2. Black contains hazardous chemical waste and radioactive waste 3. Green or blue tones of general waste 4. White or white cardboard containing recyclable waste	

			
Biological hazard	Radioactive substance	Cytotoxin symbol	Recyclable Waste Symbol

Globally Harmonized System of Classification and Labelling of Chemicals (GHS)

C. National limit values of “Emission” from Waste Incinerator

	National limit values of “Emission” from Waste Incinerator
Indonesia	To be confirmed
Myanmar	To be confirmed
Philippines	All average values of dioxin and furans measured over the sample period of a minimum of 6 hours and a maximum of 8 hours must not exceed the limit value of 0.1 nanogram/m3.
Thailand	Determination of Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans Emissions from Stationary Sources by USEPA Method 23.: <0.5 nanogram/m3
Viet Nam	To be confirmed

Reference

International Guidelines

1) WHO Safe management of wastes from health-care activities, Second edition
2) ICRC Medical Waste Management
3) OCHA Disaster Waste Management Guidelines
4) USAID Guide to Health Care Waste Management for the Community Health Worker
5) WHO Guideline for Safe Disposal of Unwanted Pharmaceuticals in and After Emergencies

International Agreements

1) Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (UNEP, 1992)
2) Stockholm Convention on Persistent Organic Pollutants (UNEP, 2004)

National laws and regulations

(Indonesia)

TBC

(Myanmar)

1) The Environmental Conservation Law 2012
2) National Waste Management Strategy and Action Plan for Myanmar (2017-2030), March 2018
3) The hospital infection control guideline (2011)
4) The hospital management manual (2011)
5) Ministry of Health, The Republic of Union of Myanmar, Myanmar Essential Health Services Access Project, Environmental Management Plan, Yangon, August, 2014

(Philippines)

1) Republic Act No. 8749/ The Philippine clean air act (1999)

2) Republic Act No. 9003/ The ecological solid waste management act of the Philippines
3) Republic Act No. 6969/ An act to control toxic substances and hazardous and nuclear waste control act 1990
4) DOH administration order No. 2008-0021 dated 30 July 2008 on gradual phase-out of mercury in all Philippine health-care facilities and institutions
5) Health-care waste management manual (2004)

(Thailand)

TBC

(Viet Nam)

1) Decision N0.2038/QD-TTg of November 15,2011 of the Prime Minister approved the overall plans of medical waste management period of 2011 -2015 and orientation to 2020
2) Circular No.16/2018/TT-BYT dated 20 July,2018 of the MOH regulations on infection control in healthcare and treatment facilities
3) Joint circular No.58/2015/BYT-BTNMT TTLT December 31,2015 of the MOH, Ministry of Natural Resources and Environment regulations on medical waste management
4) Manual management of medical waste in hospitals (issued together with Decision No.105/QD-MT dated on July,3rd ,2014 of the Director of Health Environment Management Agent