

Guideline for Management of Solid Waste Generated by Households and Places under Self-Quarantine due to COVID-19 Concerns

These guidelines are prepared in line with the current solid waste management policy, regulation and standards but provisions have been made to accommodate the specific needs of the health emergency situation prevailing at present. Local Authority will be in charge of the execution of operations under the patronage of Ministry of Public Administration, Home Affairs, Provincial Councils & Local Government and its affiliated institutions, facilitated by the resources of Ministry of Health and Ministry of Defense.

** This guideline shall be practiced by every Local Authority until further notice is given by Ministry of Home Affairs, Provincial Councils & Local Government or Commissioner of Local Government (CLG) of relevant province.*

Section 1: General Instructions for Local Authorities and Stakeholders

1.1 Identification of households, places and persons subjected to self-quarantine

The first step of the waste management plan is to identify households, places and persons subjected to self-quarantine. Once a place/ household/ person is subjected to self-quarantine, the Medical Officer of Health (MOH) shall immediately inform the respective Local Authority to provide the residence (or the cluster) with proper waste handling and disposal guidelines.

As a principle, localized on-site waste handling and disposal are encouraged to reduce exposure risk for persons involved in collection, transport and disposal stages

Local Authority shall continue to deliver a special service to those places and households as guided in this document. The service refers to appropriate guidance for on-site disposal as stated in section 2 of this guideline, and the provision of waste collection service, as appropriate.

The Local Authority shall continue to deliver regular waste collection service to all other places in the Local Authority.

1.2 Resource allocation by Local Authority

Local Authority shall identify and allocate following resources to collect and dispose of waste from places and households subjected to self-quarantine.

1. Separate vehicle for waste collection and transport. The vehicle should be equipped with a proper cover to protect from rain and waste scattering, and should be able to load and unload waste with minimal labor involvement (Eg. Garbage compactors).
2. Allocate appropriate number of waste handling crew. All the persons involved in waste handling shall be equipped with appropriate personal protective equipment (PPE). It is advisable to avoid over-aged persons (above 60 years) and those having chronic illnesses. Local Authority shall provide soap, detergents and adequate washing and bathing facilities for waste collection service crew to clean themselves after duty.
3. Supply appropriate waste collection bags (garbage bags, yellow bags and yellow strips) to quarantined households. Make available adequate amount of substances and equipment to be used for disinfection of workers, collection vehicles, and waste.
4. Medical Officer of Health (MOH), Public Health Inspector (PHI) or Health Supervisor to advice households on on-site disposal, train and supervise activities of waste handling by residents and collection crew in the Local Authority.

Section 2: Instructions for Households/ Places Subjected to Quarantine

2.1 Reduction of waste generation

Householders must take maximum effort to minimize the waste generation. Limiting excessive use of packaging materials, tools, utensils, and consumables can support waste minimization. Households are advised to follow waste reduction guidance and instructions given by the Local Authority and Public Health Staff.

2.2 Waste separation and storage

As a norm of solid waste management, waste from all households shall be separated to minimum of three categories and place in separate containers or polythene bags as follows;

2.2.1 Kitchen and food waste: This category includes waste generated from food processing, leftover after consumption, and spoiled/ discarded foods. Food waste shall be collected into a leak proof polythene bag which is placed inside a plastic/ metal basket with a lid.

2.2.2 Non-biodegradable waste: This category includes paper, cardboards, polythene, plastics, discarded cloths, and other consumables. Non-biodegradable shall be collected in a HDPE (minimum thickness of 25 microns or 100 gauge) or LDPE (minimum thickness of 55 microns or 250 gauge) polythene bag.

If the Local Authority intends to separate non-biodegradable waste to two categories as Recyclable and Residual waste, waste shall be placed in separate two bags as stated above.

2.2.3 Special waste: This category includes waste and potentially contaminated items such as face masks, masks, gloves, handkerchiefs, tissues, sanitary pads, diapers and other materials contaminated by body fluids of residents. Special waste shall be collected in a leak proof yellow color, HDPE (minimum thickness of 25 microns or 100 gauge) or LDPE (minimum thickness of

55 microns or 250 gauge) polythene bag. If yellow bags are not available, yellow color plastic strip or a piece of cloth shall be attached or tied enabling identification of the special waste bag from a distance (To avoid any mismanagement, it is recommended to supply the special yellow bag by the Local Authority).

All waste containers/ bags shall be kept in a secure place outside the reach of children and animals until discharge or disposal.

2.3 On-site disposal of waste by residents

2.3.1 Kitchen and Food waste: Households are advised not to feed kitchen & food waste to animals or dispose of to compost bin/pit until the quarantine period is over.

If the Local Authority opt to collect all household waste through special waste collection service, households are advice to follow the instructions of Local Authority as specified in Section 3.1.3. However, households shall keep kitchen and food waste within their household premises for 3 days after which Local Authority would collect.

Households having adequate space are recommended to construct a waste disposal pit to dispose all kitchen waste on-site.

The kitchen and food waste disposal pit shall be excavated on soil to minimum of 2 feet and secured with bunds around the pit. Collected waste can be disposed in the pit by adding adequate amount of disinfectant to food waste. The recommended disinfectants are 1% Sodium Hypochlorite solution, Lime power (100g/ 1kg of waste), Bleaching powder (20g/ 1kg of waste), and common salts (50g/ 1kg of waste). After disinfection, a 6-inch-thick soil layer should be placed on waste.

2.3.2 Non-biodegradable waste:

If the Local Authority opt to collect all household waste through special waste collection service, households are advised to follow the instructions of Local Authority as specified in Section 3.1.3. However, households shall keep non-biodegradable waste (non-recycling and recyclables) within their household premises for 3 days after which Local Authority would collect.

If the household receives clearance as normal by the area Medical Officer of Health after successfully completing the self-quarantine period, non-biodegradable waste can be handed over to ordinary collection system of the Local Authority under the guidance of the PHI and supervision of Local Authority.

If Local Authority and Health Authorities advice residents of households to dispose non-biodegradable waste on-site due to unavailability or difficulty of providing normal waste collection service, following on-site disposal option is proposed.

Excavate a pit (2 x 2 x 2 feet) on ground, place waste bags in the pit, and add adequate amount of amount of disinfectants. A 1% Sodium Hypochlorite solution or lime power (100 g/ kg of waste) can be used for disinfection. Once the disinfection is over, the waste layer shall be covered by soil.

If, a person infected with COVID-19 is identified in the household during the self-quarantine period, the non-biodegradable bags including recyclable materials shall not be handed over to normal waste collection. Residents then are advised to hand over waste to special waste collection service provided by the Local Authority.

2.3.3 Special waste:

If the Local Authority opt to collect all household waste through special waste collection service, households are advised to follow the instructions of the Local Authority as specified in Section 3.1.3. However, households shall keep special waste within their household premises for 3 days after which the Local Authority would collect.

Local Authority is supposed to deliver a special waste collection service; thus, household shall hand over special waste bags strictly adhering to their instructions. It is mandatory for households to keep special waste bags within their household premises for 3 days before handing over to Local Authority.

In absence of a special waste collection service, following disposal method can be used. However, proposed method shall only be practiced under the advice and guidance of MOH or PHI.

The special waste disposal pit shall be excavated on soil to minimum of 2 feet and secured with bunds around the pit. Collected waste bags shall be disposed in the pit without opening and shall add adequate amount of disinfectant on bags. The recommended disinfectants are 1% Sodium Hypochlorite solution, Lime power (100g/ 1kg of waste). After disinfection, a 6-inch-thick soil layer should be placed on waste bags.

Section 3: Waste Collection and Disposal Instructions for Local Authorities

3.1 Waste collection

3.1.1 Kitchen and food waste: Whenever possible, Local Authority should collect kitchen and food waste through special waste collection service from residences/ places subjected to self-quarantined period.

Local authority shall only accept food waste that has been kept for **3 days period in place**. Food waste shall be packed in a plastic bag and tied well by residents. The collected food waste bags shall be loaded to the waste collection vehicle without opening. Optionally, all waste bags can be disinfected by applying 1% Sodium Hypochlorite solution to sealed bags placed in an appropriate place on-site, prior to loading into waste collection vehicle.

3.1.2 Non-biodegradable waste: Whenever possible, Local Authority should employ a special waste collection service to people in residences/ places subjected to self-quarantined period.

If the recommended quarantine period and successive 3 days are passed without suspicious patients or infections, Local Authority can collect non-biodegradable through the regular waste

collection scheme. If recyclable waste has been separated, such waste can be handed over to recyclable collection scheme under the guidance of MOH and Local Authority.

If a Covid-19 patient is identified or potential contamination is suspected within the quarantine period or if health and Municipal Authority anticipate such a risk, the non-biodegradable waste shall also be recognized as special waste and handled according to special waste handling guidelines given below.

3.1.3 Special waste: Local Authority should employ a special waste collection service to people in residences/ places subjected to self-quarantined period. Special waste shall not be collected through normal waste collection service.

These wastes should be collected into a leak proof yellow color bag with 300 micro meter gauge. If such bags are not available, yellow color plastic strip or a piece of cloth should be attached or tied enabling identification of the special waste bag from a distance (To avoid any mismanagement, it is recommended to supply the special bag by the Local Authority). Once the bag with special waste is filled up to 2/3, it should be closed by tidily wrapping by tread/rope/ tape. The bags should be sealed properly to prevent any air movement to outside.

Once sealed, the special waste bag shall be placed inside a similar yellow bag (double bag), sealed again and securely stored within the premises. Unless otherwise instructed by Local Authority, households should keep special waste bags within their household premises for 3 days. It should be placed in-house in a protected place outside the reach of children and animal.

All special waste bags shall be disinfected by spraying 1% Sodium Hypochlorite solution to sealed bags place in an appropriate place on-site, prior to load into waste collection vehicle. The disinfected special waste bags shall be loaded to the special waste collection vehicle without opening. No other types of waste are allowed to mix with special waste.

If a household gives a bag without segregation then that should be considered as special waste.

3.2 Waste Disposal

3.2.1 Kitchen and Food waste: Local Authority shall not take collected food waste into compost facility or allow to be scavenged by any person or animal.

All collected food and kitchen waste shall be incinerated, if a facility is available.

If the Local Authority possess or has access to properly constructed Sanitary Landfill, collected kitchen and food waste can be disposed in sanitary landfill following the instructions of landfill management.

Otherwise the Waste shall be disinfected properly and subsequent land disposal is recommended as follows.

Local authority should select a place that will not reach groundwater level after excavating to a depth of 8 feet. A sufficiently large and deep (8 feet or more) pit shall be excavated within the waste disposal site. The pit shall be protected from entering rainwater by soil ridge and furrows. The excavated pit shall also be protected from reach of animals and people.

Waste shall be unloaded to the pit (preferably by tipping the vehicle or by an excavator/ bulldozer), and add sufficient amount of disinfectants. A 1% Sodium Hypochlorite solution or lime power (100 g/ kg of waste) can be used for disinfection. Once the disinfection is over, the waste layer shall be covered by soil.

3.2.2 Non-Biodegradable waste:

All collected non-biodegradable waste shall be incinerated, if a facility is available.

If the Local Authority possess or has access to properly constructed Sanitary Landfill, collected non-biodegradable waste can be disposed in sanitary landfill following the instructions of landfill management.

If Local authority cannot afford to incinerate, waste shall be disinfected properly and subsequent land disposal is recommended as follows.

Local authority should select a place that will not reach groundwater level after excavating to a depth of 8 feet. A sufficiently large and deep (8 feet or more) pit shall be excavated within the waste disposal site. The pit shall be protected from entering rainwater by soil ridge and furrows. This place shall also be protected from reach of animals and people.

Waste shall be unloaded to pit (preferably by tipping the vehicle or by an excavator/ bulldozer), and add sufficient amount of disinfectants. A 1% Sodium Hypochlorite solution or lime power (100 g/ kg of waste) can be used for disinfection. Once the disinfection is over, the waste layer shall be covered by soil.

3.2.3 Special waste:

All collected special waste shall be incinerated. It is mandatory to use thermal treatment methods to dispose these wastes.

If not, these wastes should be handed over to an accredited clinical waste disposer for safe disposal through combustion.

Section 4: Occupational Health and Safety of Waste Handlers

- Local Authority shall supply appropriate personal protective equipment (PPE) for all persons involved in waste collection, transport and disposal. The PPE include; special workwear (overall), masks, gloves, shoes/boots and an apron or a disposable workwear. Sanitary workers should be instructed to use the PPE properly and shall be monitored.
- The waste handlers and supervisors must be suitably briefed and supported regarding the nature of the waste and the necessary safety procedures to support them to carry out their tasks. They should be having suitable PPE and each day of special service a fresh set of PPE's must be worn. Overalls can be reused after thorough cleaning and disinfection. It is the responsibility of the Local Authority to provide necessary PPEs.

- Waste handlers should be instructed to maintain social distance of at least one meter during their house-to-house collection activities.
- The special waste collection vehicle shall be disinfected at the final disposal site right after unloading the waste. Spraying a disinfectant solution (eg. 70% Alcoholic disinfectant/ Laundry Soap solution/liquid/ Toilet cleaners). The cleaning shall be carried out for each collection trip.
- The waste collection workers shall be supplied with adequate amount of hand sanitizers and cleaning agents (Soap/ disinfectants) to wash their hands each time they pick up special waste from a quarantine house/place.
- Collection crew shall be instructed to minimize their contact with external environment (Strictly advise them not to drink tea/water, chewing beetle and smoking or visit shops) during the collection of special wastes.
- They should be advised not to touch the face or mask while collecting special wastes
- In addition, follow the instructions issued from time to time by the Ministry of Health and Indigenous Medical Services and other relevant authorities.

N.B: If the hand sanitizers cannot be obtained from the market, following description shows how to make a sanitizer using different ingredients.

Material required

1. Ethyl Alcohol >90% or Isopropyl Alcohol >90%
2. Hydrogen peroxide 3%
3. Glycerol 98%
4. Food coloring (blue or green)
5. Water (Properly boiled and cooled up to room temperature)

Method of preparation

In order to prepare 100 milliliters of the hand sanitizer,

1. 85 milliliters of Ethyl Alcohol or Isopropyl Alcohol,
2. 4 milliliters of Hydrogen peroxide,
3. Few drops of food coloring and
4. 1.5 milliliters of Glycerol, is required.

Add any kind of the Alcohol into an adequately large bottle (150 milliliters or more). Then Hydrogen peroxide should be added to the bottle. Mix it properly and add Glycerol to the mixture. Wash the Glycerol contacted with the wall of the Glycerol container with water (Properly boiled and cooled up to room temperature) and add that water into the mixture. Then water (Properly boiled and cooled up to room temperature) should be added to that mixture until total volume of the mixture become 100 milliliters. Finally, the bottle with the mixture should be closed and mix properly. The solution made can be used as a hand sanitizer.

Section 5: Additional Instructions for Local Authority

- Always make sure to use a closed vehicle (compactor is the most suitable vehicle) to collect the waste from the households undergoing self-quarantine.
- Disinfection of the ordinary waste collection vehicle with suitable disinfectant may increase general sanitation of the city.
- Give instructions to the households undergoing self-quarantine not to practice illegal open dumping (stress the possibility of taking legal actions against such malpractices).
- Temporarily stop the acceptance of waste for the recycling centers or shops until Covid-19 pandemic ceased, if patient or contamination has been recorded in your Local Authority area.
- Temporarily stop the training programs, site visits and study tours to waste management sites that are being operated by Local Authority until Covid-19 pandemic ceased.
- Temporarily stop the “Parisara Pola/ Kasala Pola” programs to collect recycled items until Covid-19 pandemic has ceased.
- Strictly prohibit entry of people and animal to dumpsites and scavenging on waste.
- Appoint a responsible officer to implement waste management activities and instruct to implement these measures with the assistance of other stakeholders.
- Prevent the spread of COVID-19 virus by following these interim measures.