

COVID-19

RECOMMENDATIONS FOR THE MANAGEMENT OF SOLID WASTE

Correctly handling solid waste minimizes possible secondary impacts on health and the environment.

Area	Key actions
Safe management measures for staff	<ul style="list-style-type: none"> • Provide all operational personnel with the appropriate personal protective equipment (PPE) according to their duties (masks, overalls/gowns, caps, gloves, and boots). • Train all operational and administrative personnel on personal protection measures and risks. • Request staff working on waste management to use PPE at all stages (collection, transportation and final disposal). • Ensure the availability of handwashing points equipped with soap and water. • At the end of the working day, make sure to wash hands with gloves on, and then place the gloves in a container with a sodium hypochlorite solution at 0.1% concentration (see instructions below) for 1 min. Rinse and then dry the gloves for use the next day. Then, wash your hands. • Use protection masks in accordance with national regulations. • Prohibit workers from opening waste bags. • Ensure that 2 m distance is maintained between scales and surveillance workers and drivers, and that PPE is worn by all. • Food should be eaten only in designated areas, away from waste.
Transportation of common waste	<ul style="list-style-type: none"> • Wash the vehicle with soap and water daily and dispose of the leachate from the truck directly into the sewer. • Clean the insides of the cabins of the vehicles (trucks, equipment, cranes) with soap and water and then disinfect with a sodium hypochlorite solution at 0.1% concentration (see table below), each time there is a change of personnel using the vehicle, as when the shift changes. • Wash the floor of the transfer stations with soap and water after each usage; then, disinfect with a sodium hypochlorite solution at 0.1% concentration, following the instructions in the table below.
Final disposal of waste services	<ul style="list-style-type: none"> • Avoid animal intrusion on the site, such as by dogs, cats, or horses. • Inform the leaders of the informal recovery (recycling) groups about the risks of the pandemic, in order to discourage them from breaking (opening and/or damaging) the bags and removing waste. • Prevent informal reclaimers (recyclers) from being on site.

COVID-19

Area	Key actions
	<ul style="list-style-type: none"> • Cover (dispose of or bury) the waste every day. • Prohibit the sale of waste that has been recovered.
<p>Special considerations for the management of waste from health care facilities that is to be treated outside the facility</p>	<ul style="list-style-type: none"> • Separate and handle infectious, sharp, pathological, chemical, and radioactive waste bags differently from common waste. • Manage common waste in the municipal waste system. • Ensure that infectious, pathological, chemical, and radioactive waste bags are not broken at the time of transportation. If they are broken, place in another bag (or double-bag it). • Establish a specific route to collect infectious, sharp, pathological, chemical, and radioactive waste from health facilities. • Transport waste in specially designated vehicles, that are closed, without compaction. <p><u>Final Disposition</u></p> <p>Autoclave: the waste must pass through a shredder before being injected with steam. If there is no integrated shredder, the air must be evacuated with a vacuum pump. The autoclave must be humid, from 103 to 200 kPa, and at a temperature of 121 °C to 134 °C during a period of 20 to 40 minutes. The evacuated air must be filtered using high efficiency particulate filters (HEPA or equivalent). Ensure that the waste has been decontaminated by verifying the temperature indicator bands. Then, it must be disposed of in landfill as common waste.</p> <p>Incinerator: This must be a double chamber version that reaches temperatures of 850 °C and 1,100 °C, respectively, with a gas burning time in the secondary chamber of 2 seconds. Common waste should not be incinerated as it may contain aerosol containers which could explode. Incinerators must meet national pollutant emission reduction standards, including for dioxins and furans.</p> <p>Safety cell in the sanitary landfill: The waste must be deposited in a pit within a fenced area, and every day covered with lime or quicklime and then with soil before being compacted.</p> <p>Open landfill: A fenced area must be designated in which to dig a pit for waste disposal, and every day covered with lime or quicklime and then with soil before being compacted.</p>
<p>Household waste management</p>	<ul style="list-style-type: none"> • Wash hands with soap and water before and after handling waste. • Ascertain the hours of waste collection and take the bags out to the street just before the scheduled pickup.

COVID-19

Area	Key actions
	<ul style="list-style-type: none">• Wash the containers used for household waste disposal with soap and water, at least once a week.• Store non-biodegradable waste (clothes, shoes, paint) in closed bags inside the house and dispose of them little by little, to ensure that the garbage collection service can manage should the house be thoroughly cleaned.• Compact containers (such as cans and cartons) to reduce the volume of waste before disposal.• Place used needles (from users of insulin and other injectable medications) in puncture-proof containers (soda or mineral water bottles) and dispose of these according to national regulations. <p>In cases where there is a COVID-19 patient in the house:</p> <ul style="list-style-type: none">• Dispose of all the patient's waste (disposable tissues, gloves and masks) in a dedicated container within a bag.• Seal the bag when it is full (2/3 parts of its capacity) and place it inside another bag to be delivered to the municipal collection service.

HOW TO PREPARE DISINFECTION SOLUTIONS

- Use the concentration of sodium hypochlorite available nationally, which is indicated on the label of the container, to mix the concentration of disinfection solution according to the intended use, following the indications in the table below.
- Use protective equipment such as gloves, mask, eye protection, and apron to mix the solutions.
- Prepare solutions daily, adjusting the amounts shown in the table below for 1 liter according to daily needs.
- Use a designated container for the prepared solutions, and mark (label) the container clearly with the concentration.
- Do not reuse packaging of edible products to prepare the disinfection solution in order to avoid accidental poisoning.
- Add the appropriate amount of sodium hypochlorite to the quantity of water as indicated in the table below.
- Do not mix sodium hypochlorite with soaps or cleaners.
- Store sodium hypochlorite out of the reach and sight of children, in a safe place that is not exposed to light and heat.
- Use sodium hypochlorite products without added fabric softeners, colors, or perfumes.

COVID-19

SODIUM HYPOCHLORITE DISINFECTION SOLUTION AT 0.1% CONCENTRATION

Concentration of sodium hypochlorite	Quantity of sodium hypochlorite		Quantity of water	
1%	100 ml	2/5 cup	1 L	1 qt
3%	30 ml	1 oz	1 L	1 qt
4%	25 ml		1 L	1 qt
5%	20 ml	4 tsp	1 L	1 qt
10%	10 ml	2 tsp	1 L	1 qt

Climate Change and Environmental Determinants of Health Unit
Communicable Diseases and Environmental Determinants of Health Department

PAHO/CDE/CE/COVID-19/20-0018 • © Pan American Health Organization, 2020.
Some rights reserved. This work is available under license [CC BY-NC-SA 3.0 IGO](https://creativecommons.org/licenses/by-nc-sa/3.0/).