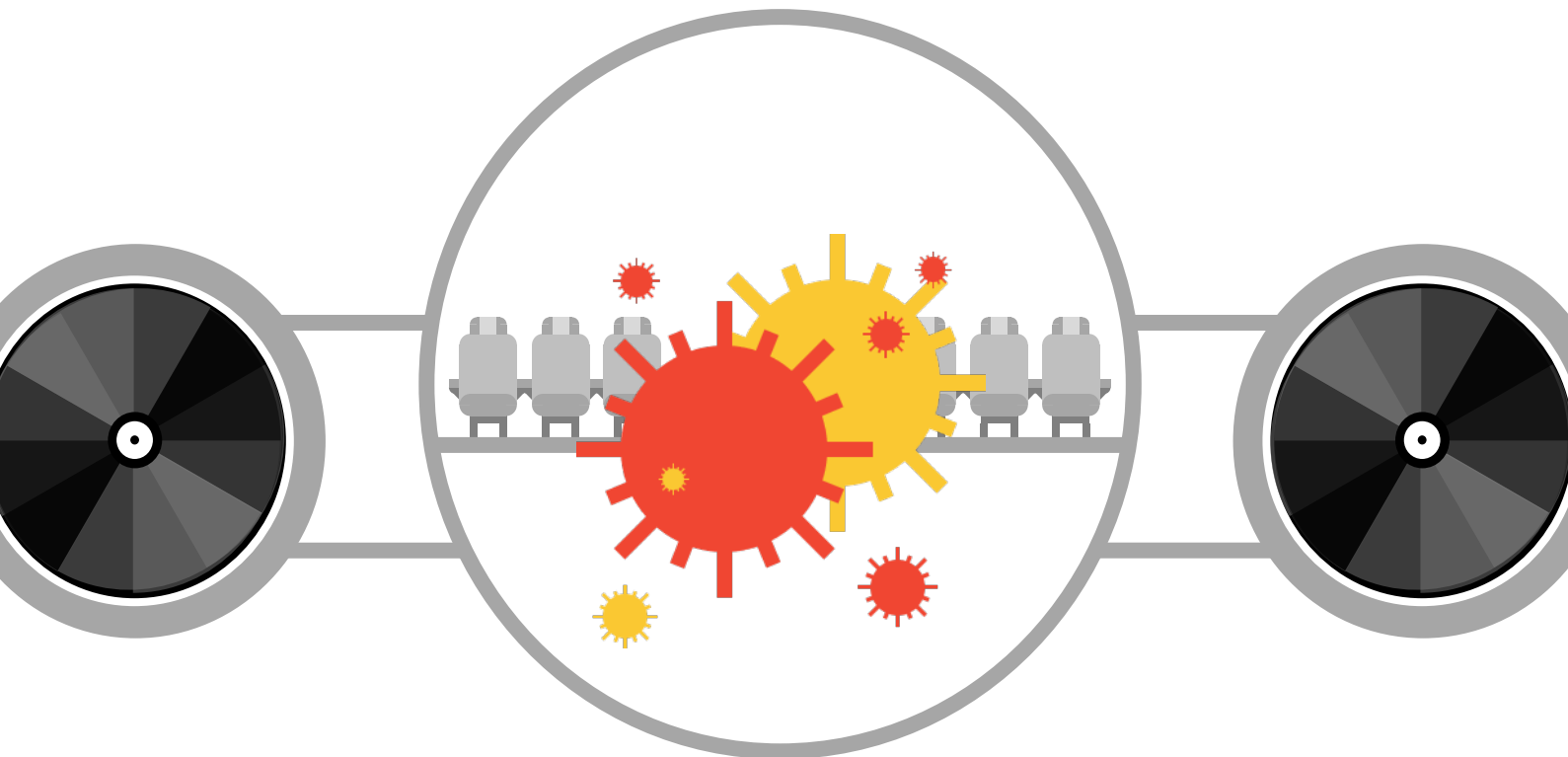




Aircraft cleaning and disinfection during and post pandemic

Ed. 1 – 19 June 2020



Disclaimer

The information contained in this publication is subject to constant review in the light of changing government requirements and regulations. No subscriber or other reader should act based on any such information without referring to applicable laws and regulations and without taking appropriate professional advice.

Although every effort has been made to ensure accuracy, the International Air Transport Association shall not be held responsible for any loss or damage caused by errors, omissions, misprints or misinterpretation of the contents hereof. Furthermore, the International Air Transport Association expressly disclaims any and all liability to any person or entity, whether a purchaser of this publication or not, in respect of anything done or omitted, and the consequences of anything done or omitted, by any such person or entity in reliance on the contents of this publication.



Table of Contents

1 Introduction	5
2 Purpose	5
3 Definitions and terminology	5
4 Regulatory and industry references	6
5 Pandemic cleaning & disinfection programs	7
5.1 Risk assessment of routes	7
5.2 Cleaning personnel	8
5.2.1 Occupational health and safety	8
5.2.2 Personnel protection	8
5.2.3 Personnel competency.....	9
5.2.4 Training	9
5.2.5 Briefs and updates.....	9
6 Cleaning and disinfection products	10
6.1 Product selection.....	10
6.2 Product use.....	10
7 Aircraft cleaning and disinfection on ground	11
7.1 Action prior to cleaning.....	11
7.2 Actions during cleaning	11
7.3 Cleaning and disinfection tasks	12
7.3.1 Flight deck	13
7.3.2 Galleys.....	14
7.3.3 Cabin crew seats and service/entry door lining panels.....	15
7.3.4 Lavatory.....	16
7.3.5 Passenger seating area including surroundings.....	17
7.3.6 Crew Rest Compartments.....	18
7.3.7 Cargo hold	18
7.3.8 Unit Load Device Cleaning.....	19
7.4 Actions after cleaning.....	19
7.4.1 Handover procedures	19
8 Cleaning and disinfection during an event	20
8.1 Suspected or confirmed COVID case onboard.....	20
8.2 Aircraft contaminated with body fluids	20
8.3 Communication between flight crew and ground crew.....	20



9 Cleaning of cargo hold while handling of dangerous goods and special cargo	21
9.1 Identification of possible dangerous goods spill.....	21
9.2 Infectious substances.....	21
9.3 Radioactive materials	21
9.4 Cleaning of aircraft cargo compartments (after animal transportation).....	21
9.5 Transport of Perishable Products Spill.....	22
10 Potential disinfection methods	22
11 Waste management during pandemic	23
11.1 Changes during flight resumption	23
11.2 Cabin waste regulations.....	23
11.3 Cabin waste risk.....	23
11.4 Cabin waste classification.....	24
11.5 Cabin waste treatment and disposal.....	24
11.6 Pandemic waste minimization.....	25
11.7 Single Use Plastic (SUP) ban suspensions	25
11.8 Engagement plan & training.....	25
Inquiries and Feedback	26
Attachment 1: Poster in staff area.....	27



Revision record

Symbol	Meaning
□	Insertion
△	Amendment
⊗	Deletion

Revision table

Revision	Date	Section	Significant changes
Edition 1	19 June, 2020	N/A	
Draft	29 May 2020	N/A	



1 Introduction

The COVID-19 pandemic has significantly disrupted the airline business and resulted in crisis of the entire aviation industry. Governments together with all aviation stakeholders are joining forces to come up with a common plan for a progressive restart of the operations.

According to IATA Medical Advisory Group, the cleaning and disinfection procedures, in excess of the previous norms, are likely to form part of the range of measures required in a restart process. It is likely that improved routine cleaning could provide reassurance to passengers and increase their confidence in the reduced risk of the transmission of communicable diseases in aviation processes.

2 Purpose

The purpose of this guidance is to provide airlines and ground handling providers with standardized procedures for cleaning and disinfecting of the cabin, flight deck and cargo compartments while taking in consideration the operational impact, cost and the practicality of mitigation measures for pandemic management.

This guidance document has been developed in cooperation with various IATA expert groups, aircraft manufactures and industry stakeholders. It is based on and is consistent with international regulations, aircraft's OEMs and industry recommended practices applicable to aviation and public health.

In principal, the standard cleaning procedures remain unchanged, however additional disinfection measures need to be added in the context of pandemic management. The standardization of aircraft cleaning and disinfection processes is essential to successfully restart operations and reinstall passenger confidence.

It is important that the ground handling community endeavors to remain fully updated on all guidance material as well as remain flexible to adapt the measures according to risk-based and data-driven decisions.

All IATA ground handling guidance and its future updates will be posted on [IATA's Ground Operations page](#).

3 Definitions and terminology

Cleaning: Removal of visible dirt or particles through mechanical action, normally undertaken on a routine and frequent basis. The cleaning process and some products used for cleaning also result in disinfection. [WHO Guide to Hygiene and Sanitation in Aviation](#)

Cleaning intervals:

- (a) **Turnaround cleaning:** Performed on aircraft while on ground prior to departure within a defined ground time.
- (b) **Transit cleaning:** Type of turnaround clean that may be performed with transit passengers onboard
- (c) **Layover cleaning:** Performed when the aircraft is on a longer predefined time. The clean does not involve removal of cabin panels and/or gallery inserts.
- (d) **Inflight cleaning:** Performed by cabin crew while the aircraft is airborne.
- (e) **Deep cleaning:** Performed when the aircraft is on a longer predefined time. The cleaning may include the removal of cabin panels and/or galley inserts and including cleaning performed during maintenance.

NOTE: Cleaning done during aircraft maintenance is NOT addressed in the scope of this document.

Disinfection/Sanitization/Sanitation: The procedure whereby measures are taken to control or kill infectious agents on a human or animal body, on a surface or in or on baggage, cargo, containers, conveyances and goods by direct exposure to chemical or physical agents. Please note, that the word "disinfection" is used further in this document. This definition is based on WHO Guide to Hygiene and Sanitation in Aviation.

Event: An occurrence of suspected or confirmed COVID case onboard of aircraft; aircraft contaminated with body fluids, or other non-standard (uncommon) situation requesting additional cleaning and disinfection



4 Regulatory and industry references

The following regulatory references, industry references, and OEM's guidance were consulted, and its content used for the development of this guidance. Further requirements may be applicable as per your local regulation.

WHO

- [International Health Regulation](#)
- [Guide to Hygiene and Sanitation in Aviation](#)
- [Operational considerations for managing COVID-19 cases or outbreak in aviation](#)

ICAO

- Annex 9 - Facilities required for implementation of public health measures
- Annex 14 - The aerodrome emergency plan
- Facilitation Manual and Model National Air Transport Facilitation Programme
- [CART Take off Guidance](#)

IATA

- [Restarting aviation following COVID-19 Medical evidence for various strategies](#)
- [Guidance for Ground handling return to service](#)
- [Guidance for Cabin Operations During and Post Pandemic](#)
- [Suspected Communicable Disease Guidelines for cleaning crew](#)
- [Guidance for Flight Operations During and Post Pandemic](#)

EASA

- [Interim guidance on Aircraft Cleaning and Disinfection in relation to the SARS-CoV-2 pandemics](#)
- [EASA SD No.: 2020-02 Operational measures to prevent the spread of Coronavirus `SARS-CoV-2` infection](#)
- [EASA SIB No.: 2020-02R4 Coronavirus `SARS-CoV-2` Infections – Operational Recommendations](#)

FAA

- [Updated Interim Occupational Health and Safety Guidance for Air Carriers and Crews](#)

US Center for Disease Control (CDC)

- [Updated Interim Guidance for Airlines and Airline Crew: Coronavirus Disease 2019 \(COVID-19\)](#)

CAAC

- [Preventing Spread of Coronavirus Disease 2019 \(COVID-19\) Guideline for Airlines](#)

Aircraft manufacturers (OEM)

NOTE: Please refer to the OEM's for most current information.

- Airbus – Operators Information Transmission – SUBJECT: ATA 21 – Virus Outbreaks – Novel Corona Virus
- ATR – Operators Information Message OIM 2020-002 (COVID-19) CABIN AIR SUPPLY
- ATR – Operators Information Message OIM 2020-007 (COVID-19) AIRCRAFT CLEANING AND DISINFECTION
- Boeing – MOM-MOM-20-0053-01B

5 Pandemic cleaning & disinfection programs

During the pandemic, companies shall review and amend their cleaning and disinfection programs based on the local regulatory requirements, airport plan for enhanced cleaning and disinfection. It shall be kept updated in accordance with the WHO [Guide to Hygiene and Sanitation in Aviation](#) and industry standards and recommendations.

It is important to emphasize that any measures taken due to COVID-19 shall be progressive and should be adjusted to the existing situation and reduced or removed as regional conditions improve.

It is essential that airlines, in cooperation with their cleaning companies, evaluate and assess the following aspects as well as its impact on the operations:

(a) Pandemic Management

1. Flight schedules, aircraft type and size, and ground (stopover) times
2. The risk levels for each route based on exposure to COVID-19
3. Pandemic situation at destination from where passengers are connecting
4. Readiness and availability of cleaning companies at airports
5. Availability of personal protective equipment (PPE)
6. Required safety and health measures such as physical distancing, hygiene, use of PPEs, etc.

(b) Personnel Readiness

1. Availability and allocation of cleaning personnel to perform the job tasks
2. Existing competency and skill gaps
3. Training currency, training needs and requirements
4. Occupational safety regulatory compliance, continuity

(c) Operational readiness

1. Cleaning types
2. Enhancement of standard cleaning and disinfection procedures due to technical needs, events causing health risks
3. Type and availability of cleaning and disinfection products that are not detrimental to aircraft materials
4. Updated procedures for removal and safe disposal of any contaminated water, food, human or animal waste, wastewater and any other contaminated matter from a conveyance
5. Regulatory and airport requirements

For further guidance on pandemic management, airport, personnel and operational readiness, please refer to [IATA Guidance for ground handling return to service](#).

5.1 Risk assessment of routes

Airlines are required to monitor and assess the risk level of transition of the COVID-19 at each route. The risk levels will change frequently according to the rate of local transmission, booked passenger load, the length of the flight(s) operated and other factors.

It is recommended that airlines develop their own methodology for conducting a risk assessment of exposure to COVID-19 for each route to determine whether additional mitigations are required in relation to services, policies or procedures.

Some health agencies have published dashboard information relating to infection rates, which assist in assessing risk. Please refer to [WHO](#), [European Center for Disease Prevention and Control](#), [EASA Annex 1 – List of airports located in affected areas with high risk of transmission of the COVID-19 infection](#) and [US Center for Disease Control](#).



Further guidance on risk assessment and mitigation actions based on the risk level can be found in the [CAAC Preventing Spread of Coronavirus Disease 2019 \(COVID-19\) Guideline for Airlines, Guidance for ground handling return to service](#) and [IATA Guidance for Cabin Operations During and Post Pandemic](#).

5.2 Cleaning personnel

5.2.1 Occupational health and safety

Organizations shall ensure the development and implementation of occupational health and safety (OHS) pandemic strategies to ensure that personnel are protected. Strategies must comply with all applicable legislations, local requirements and guidelines pertaining to COVID-19.

Such strategies include enhanced hygiene routines, ensuring the availability of relevant facilities and disinfectants, health and wellness checks, proper use of personnel protection equipment, awareness campaigns and training, and others. For details on such OHS strategies, please refer [IATA Guidance for ground handling return to service](#).

5.2.2 Personnel protection

Based on the pandemic demands, each company shall develop a multi-layered approach strategy which may include several layers:

- (a) Hygiene routines
 1. Frequent handwashing
 2. Elimination of face-touching, droplet spreading via coughing etc.
 3. Availability of washing facilities
 4. Alcohol-based sanitizers
 5. Understanding and recognition of COVID-19 symptoms
- (b) Physical distancing
 1. Distancing between personnel on duty and during breaks
 2. Separation of teams during a shift and transportation to/from the aircraft
 3. Scheduling of the same teams to work the same days
 4. Conduct contact-free handovers, i.e. via telephone, videoconference, electronic logs, or at a minimum through physical distancing
 5. Reduction of unnecessary personnel movement around the airport
- (c) Personal protection equipment (PPE) e.g. medical masks, face covers, shields, goggles, gloves, gowns, aprons, etc.
 1. Each company shall define if their cleaning crew shall use PPE depending on local rules and regulation and on the risk of exposure (e.g. type of activity) and the transmission dynamics (e.g. droplet spread)
 2. If splashing is possible, eye protection may be required according to the manufacturer's label
 3. Disposable gloves are recommended by the manufacturer of the disinfectant
 4. Disposable gowns should be worn while cleaning the cabin and lavatories
- (d) Health monitoring, screening and testing such as temperature measuring of personnel, symptom recognition, health declaration etc.

Please refer to [Attachment 1](#): Poster in staff area.

The levels of adequate protection for cleaning personnel should be evaluated on a case by case basis. In the initial stages, the combination of the above approaches might be required to mitigate the risks.

Please refer to [IATA Restarting aviation following COVID-19 Medical evidence for various strategies](#) and [Guidance for Ground handling return to service](#) for further details.

5.2.3 Personnel competency

To ensure that all cleaning personnel are qualified and competent before they start to perform their tasks, companies shall ensure that:

- (a) No person is assigned to perform a task for which he/she does not hold a record of training
- (b) Initial training is provided to all new personnel before they are scheduled for work
- (c) The recurrent training is provided according to the training plans
- (d) Where recurrent training could not be provided, validity has been extended in accordance with the regulatory requirements
- (e) Start-up programs are provided to all personnel returning from various types of leave
- (f) Online training and virtual classrooms are used as much as possible for theoretical training
- (g) Practical training and competency checks are provided for topics which cannot be conducted via computer
- (h) All training material is updated to address changes in health and safety measures and cleaning processes
- (i) Awareness campaigns, posters, signs, videos, quick reminders etc. are in place
- (j) Extended supervision is performed especially in the initial stage

5.2.4 Training

Adequate training needs to be in place to ensure that cleaning personnel carry out the cleaning tasks safely without any potential damage to the aircraft or to the flight deck equipment.

The training shall include, but is not limited to, the following topics:

- (a) Existing and/or new type and/or effectiveness of the cleaning and disinfecting products
- (b) Understanding of the Material Safety Data Sheets (MSDS)
- (c) Hazards of the chemicals used in cleaning and disinfection
- (d) Cleaning and disinfection techniques
- (e) New or amended standards and procedures
- (f) Non-routine procedures, post-event cleaning and disinfection
- (g) Airline specific requirements
- (h) Occupational health and safety to include COVID-19 general guidelines:
 - 1. Instruction on use of PPE related to COVID-19
 - 2. Physical distancing during the cleaning
 - 3. Hygiene measures
 - 4. Recognize the COVID-19 symptoms and action to be taken
 - 5. Reporting channels and actions in case personnel develop symptoms of COVID-19
 - 6. Hazards of the cleaning chemicals used in the workplace
 - 7. Human factors and mental health

Please refer to [WHO Guide to Hygiene and Sanitation in Aviation for further details](#).

5.2.5 Briefs and updates

As the pandemic situation is very dynamic, regulatory and health authorities' requirements are changing almost daily, it is essential to provide regular briefs and updates to all personnel on the following topics:

- (a) Changes introduced by new regulations on COVID-19
- (b) Organizational and management changes / updates
- (c) New or amended procedures during the COVID-19
- (d) Health and safety actions
- (e) Hygiene routine reminders

Cooperation with airport operators is recommended to ensure that airport requirements and instructions are incorporated into the training and updates.



Refer to [IATA Guidance for ground handling during COVID-19](#) for detailed guidance related to personnel competency and training and to the Draft Council Aviation Recovery Task Force CART/DG2 – Umbrella Document Annex.

6 Cleaning and disinfection products

It is the airline's responsibility to ensure procedures, cleaning and disinfecting products used by the ground handling or cleaning company are based on the aircraft manufacturers (OEM) recommendations. This includes the usage of proper protection and that any procedures are followed in alignment with local health organization recommendations. Any products used need to be approved by the airline.

Informed selection and the correct use of products is vital in ensuring effective cleaning and disinfection of an aircraft without damaging the aircraft interior, systems, and equipment while minimizing the likelihood of the transmission of COVID-19 (or any other communicable diseases).

6.1 Product selection

- (a) Refer to the local health authorities for recommendations on products effective against COVID-19
- (b) Refer to the aircraft manufacturers (OEM) guidance for the most recent recommendations
- (c) The aircraft manufacturers recommend the use of a 70% Isopropyl Alcohol (IPA) as a disinfectant for the touch surface in the cockpit, cabin and cargo holds. For other surfaces, as per the WHO, cleaning and disinfection products shall have at least 60% alcohol to effectively destroy the virus.
- (d) Cleaning and disinfection products should comply with and be certified according to SAE standards AMS1452, AMS1453, AMS1525 or AMS1526
- (e) Consultation with aircraft manufacturers before using any disinfection agents that do not comply with SAE standards is required
- (f) Refer to the cleaning and disinfection product manufacturer's instructions to ensure that the proper application, ventilation and personal protection equipment is used

6.2 Product use

Please refer to [ICAO Council Aviation Take-off: Guidance for Air Travel through the COVID-19 Public Health Crisis](#) for further details. The following recommendations are based on OEM recommendations and [EASA - Interim guidance on Aircraft Cleaning and Disinfection](#).

- (a) Apply with pre-moistened wipes or single use wetted cloth
- (b) Use the limited bottle sizes on board to minimize the risk of spilling the IPA solution
- (c) Do not spray IPA in the cargo compartment
- (d) Do not allow the liquid to contact critical equipment (e.g. smoke detector, electronic door operation equipment and fire extinguishing discharge nozzle)
- (e) Take precautions around potential sources of ignition, especially hidden sources such as electronic boxes mounted in the cargo compartment as disinfectants are flammable
- (f) Periodically inspect the equipment to ensure that there are no long-term effects or damage over time due to frequent use of IPA. If damage is observed, contact the OEM for guidance on alternative disinfectants.



Caution

Based on [WHO Guide to Hygiene and Sanitation in Aviation](#):

- (a) Cleaning and disinfectants tend to be oxidizers, and the interior of an aircraft contains many materials susceptible to damage from cleaning products and disinfectants
- (b) Metals used in the construction of the aircraft may corrode upon exposure to such products
- (c) Safety-critical cables and wires may deteriorate on exposure and aircraft furnishings may have their fire resistance properties reduced
- (d) IPA is flammable and aircraft interior and various electric installations and boxes are sources of ignition

7 Aircraft cleaning and disinfection on ground

During a pandemic, all existing cleaning best practices are, in principal, still applicable. However, they need to be revised and amended based on the regulatory requirements, airport cleaning plan, and OEM's recommendations to include new measures addressing the threat.

Based on the conducted risk assessment, each airline may implement different cleaning and disinfection schedules, techniques, and use different disinfection products, which consider the operational circumstances and the duration of the disinfecting effects of the substance used.

7.1 Action prior to cleaning

- (a) To comply with general physical distancing recommendations, it is recommended that the cleaning crew enter the aircraft for cleaning purposes only after all passengers and crew have disembarked. This may vary based on the measures applied by local regulations or in case other forms of protection are used, such as facial masks.
- (b) For those aircraft without an air conditioning system, keep the aircraft doors open during the turnaround to facilitate cabin air exchange (passenger doors, service door and cargo door) as much as practical.
- (c) For aircrafts with air condition, air conditioning should be set on during disembarking and cleaning process and cleaning crew should be advised. Please refer to [IATA Guidance for Flight Operations During and Post Pandemic](#)
- (d) Clean and disinfect all equipment & tools prior to entering the aircraft cabin and between use (e.g. cleaning material such as vacuum cleaners, brushes, brooms)

7.2 Actions during cleaning

- (a) Once on board, ventilation systems should be kept running while cleaning takes place. EASA recommends that the air conditioner must be turned off during the disinfection operation, and the passenger cabin must be fully ventilated after disinfection
- (b) To avoid contamination on board, cleaning crew shall:
 - 1. Be assigned specific tasks as much as possible
 - 2. Use different cleaning materials in each task area, e.g. cloths, buckets, brushes, mops, etc., potentially using color coded items
 - 3. Carry their own cleaning items onboard to avoid unnecessary exchange of cleaning items between different teams/persons
 - 4. Use new disposable gloves in each area. Disposable gloves shall not be reused again in other sections of the cabin.
 - 5. Follow the correct sequence of cleaning, for example from top to bottom or front to back as relevant (e.g. Toilets, galleys, floors)
- (c) Use disinfection product as per the recommendation in the section on [Cleaning and disinfection products](#).
- (d) Clean and disinfect all defined areas in 7.3 by using approved disinfection products as per [Cleaning and disinfection products section](#) and appropriate cleaning materials/tools such as mopping, wiping, or any other approved methods.



7.3 Cleaning and disinfection tasks


The objectives of this cleaning recommendation serve as a guideline on how to provide a safe and sanitary operating environment for passengers, crew, and cleaning personnel as well as to verify that all flight deck switches, and controls are in the correct position prior to operations of the aircraft.

For further guidance on aircraft cleaning refer to IGOM 3.7 Aircraft Cabin Servicing.


The tasks, as defined in the subsequent tables, provide a framework which can be performed by airlines. It is their responsibility to:

- (a) Review and update their cleaning matrices based on specific configurations of their aircraft types
- (b) Keep monitoring the high contact surface areas in aircraft as much as possible and include such areas into their cleaning checklist
- (c) Establish which tasks they deem necessary to be completed during a turnaround and layover based on the company's assessment and evaluation of points in the section on Pandemic cleaning and disinfections programs.

7.3.1 Flight deck

Tasks	Turn around	Layover
Clean and disinfect pilot and co-pilot seat, including armrests, table and seat controls	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect seatbelt buckles	<input type="checkbox"/>	<input type="checkbox"/>
Disinfect flight controls (control column etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect the sidewalls lining and associated controls (nose wheel steering tiller, display controls, electronic flight bag etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect instrument panel and associated controls (gear lever etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Disinfect glareshield and associated controls (autopilot, warning/caution buttons etc.)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect sun visors and surrounding area	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect overhead panel including grips and handles	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect central console including engine controls, flaps, communication units etc.	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect pilot and co-pilot headsets	<input type="checkbox"/>	<input type="checkbox"/>
Clean windshield with designated product	<input type="checkbox"/>	<input type="checkbox"/>
Disinfect cabin access door (both sides), handle and lock	<input type="checkbox"/>	<input type="checkbox"/>
Extend, clean and disinfect folding seats/jump seats and any associated equipment	<input type="checkbox"/>	<input type="checkbox"/>
Wipe down pedals	<input type="checkbox"/>	<input type="checkbox"/>
Clean floor/vacuum carpet	<input type="checkbox"/>	<input type="checkbox"/>
<p> Caution:</p> <ul style="list-style-type: none"> (a) Frequency of cleaning of the flight deck should account for both separation of the flight deck from the passenger compartment and frequency of crew transitions (CART) (b) Adhere to airline specific standards regarding cleaning the flight deck e.g., Cleaning crew may only be permitted to enter flight deck with presence of an engineer or flight crew (c) Avoid spraying directly on panels and screens (d) Ensure liquid does not seep into controls (e) Any accidental adjustment of important instruments during the cleaning process must be reported (f) Some equipment on the flight deck may have additional disinfectant requirements based on usage (e.g. oxygen masks) and procedures should be put in place accordingly. 		

7.3.2 Galleys


Tasks	Turn around	Layover
Wipe and disinfect worktops/countertops and serviceable table	<input type="checkbox"/>	<input type="checkbox"/>
Clean ovens	<input type="checkbox"/>	<input type="checkbox"/>
Clean coffee makers	<input type="checkbox"/>	<input type="checkbox"/>
Clean water boilers	<input type="checkbox"/>	<input type="checkbox"/>
Wipe down panels	<input type="checkbox"/>	<input type="checkbox"/>
Wipe down switcher panels	<input type="checkbox"/>	<input type="checkbox"/>
Clean waste compactors	<input type="checkbox"/>	<input type="checkbox"/>
Wipe lockers/drawers	<input type="checkbox"/>	<input type="checkbox"/>
Clean inside the galleys and front covers of the galleys	<input type="checkbox"/>	<input type="checkbox"/>
Wipe down and disinfect containers and trolley storage	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect collapsible trolleys	<input type="checkbox"/>	<input type="checkbox"/>
Drain and disinfect sinks, including taps and drain plug	<input type="checkbox"/>	<input type="checkbox"/>
Remove trash from bin compartments and clean/disinfect bin area, including flap	<input type="checkbox"/>	<input type="checkbox"/>
Sweep, mop and disinfect floor	<input type="checkbox"/>	<input type="checkbox"/>
<p> Caution:</p> <p>(a) Ensure the cleaning of ovens and aluminum surfaces with detergents are as per recommended standards</p>		




7.3.3 Cabin crew seats and service/entry door lining panels

Tasks	Turn around	Layover
Clean and disinfect each attendant seat, seatbelts and surrounding location	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect cabin crew intercom	<input type="checkbox"/>	<input type="checkbox"/>
Empty and clean seat pockets	<input type="checkbox"/>	<input type="checkbox"/>
Inspect literature for condition and damage	<input type="checkbox"/>	<input type="checkbox"/>
Replace or clean/wipe fingerprints and arrange literature as per operating airline standards	<input type="checkbox"/>	<input type="checkbox"/>
Clean seat upholstery and remove any evident stains	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect door frame, including door panels, sills, exit doors and emergency slide cover	<input type="checkbox"/>	<input type="checkbox"/>

7.3.4 Lavatory

Tasks	Turn around	Layover
Wipe mirrors using authorized glass cleaners	<input type="checkbox"/>	<input type="checkbox"/>
Ensure all soap dispensers are functional and re-filled with liquid soap	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect soap dispenser	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect hand basin, handles and steel filings	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect sidewall panels and ceiling	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect shelves	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect changing table if available	<input type="checkbox"/>	<input type="checkbox"/>
Clean toilet bowl/shroud/seat and clean flushing mechanism (lever or button) and ensure it is functional	<input type="checkbox"/>	<input type="checkbox"/>
Empty the waste bin(s), clean and disinfect the compartment including flap before re-installing the bin(s)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect the floor	<input type="checkbox"/>	<input type="checkbox"/>
Ensure toilet compartment is dressed and stocked with amenities required for flight	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect lavatory door (both sides) including door lock, knobs/lever, grip and door grilles and coat hook(s) if applicable	<input type="checkbox"/>	<input type="checkbox"/>
<p> Caution:</p> <ul style="list-style-type: none"> (a) Immediately clean all disinfectant spills on the surfaces to prevent damage or deterioration occurring (b) The toilet cleaning shall be performed from the top to the bottom due to hygienic reasons (c) Do not re-use the mops and napkins used for toilet cleaning when cleaning the galley. 		


7.3.5 Passenger seating area including surroundings

Tasks	Turn around	Layover
Use a vacuum cleaner to remove loose particles from the floors/carpets before cleaning and disinfecting	<input type="checkbox"/>	<input type="checkbox"/>
Remove headcovers and pillow covers from seats	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect cabin window, window shade, dimmable window controls (if applicable), sidewall lining and ceiling including air nozzles	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect magazine racks	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect overhead bins exterior including handles and overhead bin interior	<input type="checkbox"/>	<input type="checkbox"/>
Remove all waste in seat pockets, then clean and disinfect	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect literature/emergency leaflets and amenities and arrange according to airline standards	<input type="checkbox"/>	<input type="checkbox"/>
Clean, disinfect and dry tray tables from both sides including locking mechanism	<input type="checkbox"/>	<input type="checkbox"/>
For seat covers of fabric upholstery, use vacuum cleaner to remove loose particles. For leather seat covers, wipe and ensure seats are dry	<input type="checkbox"/>	<input type="checkbox"/>
Remove any visible stains on seats or request change in fabric	<input type="checkbox"/>	<input type="checkbox"/>
Disinfect seat belts and buckles	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect arm rests, IFE screens and passenger control units (e.g., reading lights, air conditioner, entertainment remote control, seat controls)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect the infant bassinets, extra seat belts, or any other amenities (if applicable)	<input type="checkbox"/>	<input type="checkbox"/>
Dress the passenger seat to signify clean as per airline standards	<input type="checkbox"/>	<input type="checkbox"/>
<p> Caution:</p> <ul style="list-style-type: none"> (a) Be careful while handling disposable bags, sharp objects etc. that may have been disposed of by passengers (b) If there is a chewing gum stain, use gum remover to remove stain and not sharp objects either on the floor or seats (c) If carpet, seats, seatbelt and/or any other parts in the passenger cabin are soiled, please refer to Cleaning during an event (add crosslink) (d) It is recommended to disinfect (using the appropriate methods) the floor from front to back before cleaning the aircraft and then clean again in opposite direction after cabin disinfection is complete (e) If cabin ventilation grilles are to be cleaned, the process must be supervised by an engineer or as per operating airline recommendation (f) For closets and doghouse, you may request the engineer to remove the emergency equipment to enable cleaning and disinfection to take place 		

7.3.6 Crew Rest Compartments

Tasks	Turn around	Layover
Dispose of waste from closets and surrounding area	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect control consoles (reading lights and air conditioning)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect the ceiling and the light switches	<input type="checkbox"/>	<input type="checkbox"/>
Ensure beddings provided are equivalent to the number of crew operating	<input type="checkbox"/>	<input type="checkbox"/>
Clean floor/vacuum carpet	<input type="checkbox"/>	<input type="checkbox"/>

7.3.7 Cargo hold

Tasks	Turn around	Layover
Clean and disinfect cargo door surroundings and door handles (FWD, AFT and Bulk cargo door)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect cargo loading control panels to include cargo joystick in ceiling and latches, if applicable (CLS)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect all access panels and service access point, including cargo door control panels	<input type="checkbox"/>	<input type="checkbox"/>
Clean door net stanchions, net attachment fittings and tie down points, if applicable in bulk compartment		
Clean and disinfect light switches		
Clean and disinfect cabin, seating , and crew rest areas in the same way as instruction above in sections 7.3.5 and 7.3.6	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect high touch point areas in upper deck (cargo aircraft)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect the high touch point areas in main deck (cargo aircraft)	<input type="checkbox"/>	<input type="checkbox"/>
Clean and disinfect high touch point areas lower deck (cargo aircraft)	<input type="checkbox"/>	<input type="checkbox"/>
<p> Caution:</p> <p>(a) In case of disinfection of the complete cargo hold, please refer to OEM guidance for further clarification of appropriate techniques to be used</p> <p>(b) Any aircraft where personnel are staying inside the compartment to manually load/unload, cleaning of floor areas should be considered.</p> <p>(c) For cleaning of cargo aircraft, ensure that the following areas are cleaned as per checklists above</p> <ol style="list-style-type: none"> 1. Flight deck 2. Lavatories 3. Galleys 4. Crew rest compartments 		

7.3.8 Unit Load Device Cleaning

- (a) After unloading, all unit load devices must be cleaned from dirt and other possible contaminations.
- (b) ULDs which have been used for the transport of commodities such as live animals, edible or inedible animal and vegetable products, or ULDs that have been exposed to leakage from dangerous or non-dangerous goods must be cleaned in line with national and international health, safety and quarantine requirements.
- (c) After the ULD has been cleaned and disinfected properly, it can be used again for the dispatch of cargo.

Please refer to ICHM 13.1.2 for further details.

7.3.8.1 Temperature/Thermal Controlled Container (TCC)

- (a) The container's inside shall be checked entirely for cleanliness, including all recesses, prior to build-up.
- (b) It is recommended thorough washing be performed, e.g. with a stream of water under pressure (see ULDR SS 50/4) before each use.
- (c) If there is any doubt of possible biological contamination or if required as a sanitary precaution by the shipper when intended contents are destined for human consumption, the inside must be thoroughly disinfected, e.g. with steam up to 110°C (230°F), or a product containing e.g. chlorine.

Any chemicals used in the cleaning and disinfection process must be compatible with the container materials (see manufacturer's instructions) and accepted by the sanitary Authorities (see ULDR 1.5.17 in Section 1).


Please refer to ICHM Chapter 9 for further details.

NOTE: Cleaning and/or disinfection may also be necessary after the container arrival and its break-down.

7.4 Actions after cleaning

After cleaning and handover process, ensure cleaning crew disembark with all items for cleaning including all garbage and that the following provisions are followed:

- (a) Disposal of waste must be done in accordance with local airport authority regulations, refer to section on [Waste management during a pandemic](#) in this document
- (b) Staff disembarking the aircraft with waste materials shall wear gloves to protect themselves and dispose of gloves after the disposal process
- (c) Do not obstruct passenger boarding bridge or steps with garbage bags
- (d) Do not throw garbage bags onto the ramp from the aircraft or from steps
- (e) If any amenities are to be loaded prior to departure, ensure this is done and indicated in the handover documentation.

 **Caution:** Minimize personnel entering into/and out of a cleaned aircraft to maintain the sterile environment prior to boarding.

7.4.1 Handover procedures

There needs to be a handover protocol including the record to indicate that the aircraft has been cleaned and disinfected according to outlined procedures. To ensure consistency across various regions, it is recommended for airlines to use the [Aircraft cleaning and disinfection sheet](#) provided by CART.

8 Cleaning and disinfection during an event

8.1 Suspected or confirmed COVID case onboard

For procedures for cabin crew and cleaning crew, in case of this event, please refer to [IATA Suspected Communicable Disease Guidelines for cleaning crew](#), as well as [EASA - Interim guidance on Aircraft Cleaning and Disinfection](#) and [CDC Updated Interim Guidance for Airlines and Airline Crew: Coronavirus Disease 2019 \(COVID-19\)](#). For details on any more specific cabin cleaning measures during the flight, please refer to Guidance for Cabin Operations During and Post Pandemic.

8.2 Aircraft contaminated with body fluids

When contaminated with blood, respiratory secretions, vomit, excretions and other liquid contaminants, the aircraft cabin should be disinfected as outlined in the process below by cabin crew during the flight and by ground cleaning crew after aircraft lands.

Ground cleaning crew shall follow the steps (c)-(f) in case there is an instance of contamination with body fluids. In case of "disinfection after an event", after disembarkation, air conditioner should be adjusted to ensure all air exchange is completed. ACU must be turned off. Once the air exchange is finished, apply approved disinfectant.

- (a) Cabin crew shall clean the area using the universal Precaution kit, Universal Precaution Kit (UPK) Wear personal protections (PPE)
- (b) Prepare disinfectant
- (c) Cover the secretions, blood, vomit, excretions and other contaminants evenly with absorbent disinfectant
- (d) Shovel the coagulated contaminants with portable pickup shovels into biohazard wastes bags
- (e) Clear and disinfect hands before removing protections in the following order: take off protective suits (aprons), gloves, apply skin disinfection wipe for hand cleaning and disinfection; then take off goggles, facial masks, and finally apply skin disinfection wipe to clean hands and other parts of the body that may have been exposed to contaminants
- (f) Place all used protections and contaminated items inside a biohazard waste bag and seal the bag
- (g) Keep the sealed biohazard waste bag in a lavatory
- (h) Inform ground departments at the destination to prepare for additional cleaning and disposal of biohazard

Please refer to [WHO Operational considerations for managing COVID-19 cases or outbreak in aviation](#) and [CAAC Preventing Spread of Coronavirus Disease 2019 \(COVID-19\) Guideline for Airlines](#) for further details.

8.3 Communication between flight crew and ground crew

In case of an event as described in 8.1 and 8.2, flight crew should communicate with the appropriate ground operations handling teams regarding event details to ensure that cleaning crew are prepared to meet the aircraft with the appropriate PPE and equipment. There should be a process in place where cleaning crew are informed of an event and therefore follow designated cleaning and disinfection procedures.

9 Cleaning of cargo hold while handling of dangerous goods and special cargo

9.1 Identification of possible dangerous goods spill

- (a) Before loading on an aircraft, ULDs must be inspected and found free from any evidence of leakage from or damage to any dangerous goods contained therein.
- (b) Any package, which appears to be damaged or leaking, must be removed from the aircraft and safe disposal arranged. Packages or overpacks containing dangerous goods must be inspected for signs of damage or leakage upon unloading from the aircraft or ULD.
- (c) If evidence of damage or leakage is found, the position where the dangerous goods or ULD was stowed on the aircraft must be inspected for damage or contamination and any hazardous contamination removed.

Please refer to IATA Dangerous Goods Regulations (DGR) for further details.

9.2 Infectious substances

If any person responsible for the carriage of packages containing infectious substances becomes aware of damage to or leakage from such a package, that person must:

- (a) Avoid handling the package or keep handling to a minimum
- (b) Inspect adjacent packages for contamination and put aside any that may have been contaminated
- (c) Inform the appropriate public health authority or veterinary authority and provide information on any other countries of transit where persons may have been exposed to danger
- (d) Notify the shipper and/or the consignee.

9.3 Radioactive materials

- (a) If it is evident that a package or overpack of radioactive material or a freight container for radioactive material is damaged or leaking, or if it is suspected that the package or overpack or freight container may have leaked or been damaged, access to the package or overpack or freight container must be restricted and a qualified person must, as soon as possible, assess the extent of contamination and the resultant radiation level of the package or overpack or freight container.
- (b) The scope of the survey must also include the aircraft, aircraft equipment, the adjacent loading and unloading areas and if necessary, all other material which has been carried on the aircraft.
- (c) When necessary, additional steps for the protection of human health, in accordance with provisions established by the relevant competent authority, must be taken to overcome and minimize the consequences of such leakage or damage.

9.4 Cleaning of aircraft cargo compartments (after animal transportation)

- (a) If there is any spillage, carrier maintenance personnel must be alerted
- (b) Wear impervious, washable or disposable, gloves and boots which must be washed, then disinfected or destroyed after each use
- (c) The interior of cargo compartment must be thoroughly cleaned of all foreign matter and then disinfected using methods acceptable to aircraft management before being loaded with livestock
- (d) All affected holds, floors and shelves must be thoroughly washed or swabbed with a solution of approved solvent or detergent followed by the use of a suitable disinfectant. It is recommended that a solution with 4% sodium carbonate mixed with 0.1% sodium silicate or a solution with 0.2% citric acid



be used for aircraft disinfection purposes. It is not necessary to flood the surfaces to effectively deodorise and disinfect the area.

- (e) Spray the hold with an approved deodorant, closing all doors immediately after spraying to obtain maximum benefit
- (f) All removable equipment, penning and containers, including loading ramps, must be thoroughly cleaned and disinfected in accordance with the requirements of both the exporting and importing countries
- (g) It is advised that no equipment with which animals will come into direct contact be replaced in the aircraft until it has been washed with clean water after disinfection to remove any traces of disinfectant which might cause damage to the aircraft structures

Please refer to IATA Live Animals Regulations (LAR) for further details.

9.5 Transport of Perishable Products Spill

As perishable shipments are handed over to the airline fully packaged, the airline will assess the condition of the outer packages for its ability to withstand regular handling during air transportation and search for obvious signs of damage such as crushed boxes, smells and odors, leakages, spills etc.

If spillage or leakage of liquid takes place, contaminating the aircraft interior, the aircraft captain and/or the airline's airport or engineering representative must be notified as soon as possible so that appropriate follow-up action can be taken.

This written procedure should be well documented and appropriately reported since spills can cause serious damages to aircraft systems or structures (refer to the in-house company procedures manual). Do not try to clean the spill without prior consultation to that effect.

Please refer to IATA Perishable Cargo Regulations (PCR) for further details.

10 Potential disinfection methods

Several other methods such as electrostatic spraying, UV treatment, ionization, fumigation, gaseous ozone etc. have been proposed for aircraft disinfection. Although some of these methods are in the testing process, until positive and effective results are demonstrated and present no long-term effects on the aircraft structure and cabin, they are not considered as an industry standard yet.

If airlines decide to implement such methods, the following processes should be completed:

- (a) The airline has done a thorough evaluation of the proposed method to ensure it is safe for the aircraft and that the method complies to health regulations, and
- (b) The aircraft manufacturer (OEM) has approved the method, and
- (c) If applicable, the method has been certified by the appropriate governing body (Civil Aviation Authority; CAA and the appropriate Health Authority that has the oversight) for use in the aircraft

11 Waste management during pandemic

The COVID-19 pandemic has significantly increased the volumes of healthcare wastes from hospitals and clinics requiring specialized handling and treatment. There is an obligation on the sector and its regulators to not only ensure the health of its passengers and staff but to also confirm that uncontaminated cabin and cleaning wastes are not contributing to this growing disposal problem. IATA encourages airlines to meet with airport and local health authorities and their service providers (catering and cleaning companies) to determine appropriate COVID-19 waste management procedures.

This section combines publicly available best practices, but it is recognized that research on COVID-19 transmission and mitigation measures is advancing rapidly and so the information in this document will be regularly updated.

11.1 Changes during flight resumption

As flights resume, cabin waste volumes are expected to be lower than normal due to restricted inflight service offerings, but the following waste components are likely to increase:

- (a) Discarded personal protective equipment (PPE) from masks and gloves worn by crew, passengers and cleaners
- (b) Empty plastic hand sanitizer bottles
- (c) Discarded sanitizer wipes and their packaging
- (d) Plastic packaging from sealed food and drink
- (e) Cleaning wastes including used paper towels, disposable cloths, empty plastic disinfectant bottles and mop heads

11.2 Cabin waste regulations

Cabin waste is already subject to legislation that ensures it is handled, stored and disposed of appropriately to minimize pollution and disease risk. In fact, many countries including Australia, Brazil, Canada, Members States of the European Union, New Zealand and USA already require cabin waste from international flights to be subject to specialized handling, treatment and disposal.

According to the International Health Regulations (2005), States (competent authorities) must ensure, to the extent practicable, that passenger facilities at international airports and on aircraft are kept free of sources of infection and contamination. Competent authorities may impose additional restrictions on cabin waste during the COVID-19 pandemic including the need to disinfect waste bags; bans on reuse/recycling; need for double bagging; sealing; labelling and specialist handling and treatment including steam sterilization, incineration and chemical treatment.

The waste restrictions imposed by national health authorities during the pandemic should be respected, at all times. However, in the absence of such measures or whilst agreeing cabin waste procedures during the pandemic with the authorities and service providers, this may prove useful.

11.3 Cabin waste risk

The primary mechanism of the COVID-19 virus spread is respiratory droplets and, although there is the possibility of surface contamination on cabin interiors, inflight products and waste, this can be minimized by regular cabin interior cleaning and hand hygiene. [Research](#) indicates that the virus is more stable on plastic and stainless-steel surfaces than copper and cardboard and that viable virus was detected up to 72 hours after application to these surfaces. [A UK regulator](#) highlights that this “research involved exposing the surfaces to high viral loadings in a laboratory environment and is, therefore, likely to represent a “worst case” scenario.

11.4 Cabin waste classification

Normal: cabin wastes generated during flight operations and cleaning waste generated after a flight where **no passenger or crew member exhibits COVID-19 symptoms** should be handled as **normal** waste, as [recommended by WHO](#).

Biohazardous: If a **passenger or crew member does exhibit COVID-19 symptoms**, all waste materials including part-consumed meals, beverages and disposable items including used paper towels, tissues and PPE generated whilst treating or supporting the passenger or crew member should be treated as potentially biohazardous waste. The cleaning operatives should be informed that a suspected COVID-19 case was present on the flight and that the cleaning wastes should also be placed in a biohazard waste disposal bag or double bagged in standard plastic waste bag (if a biohazard bag is not available). The bags should be labelled and sealed for specialist handling, storage and treatment. The airport authority and aircraft service providers must be informed of the presence of potentially biohazardous waste.

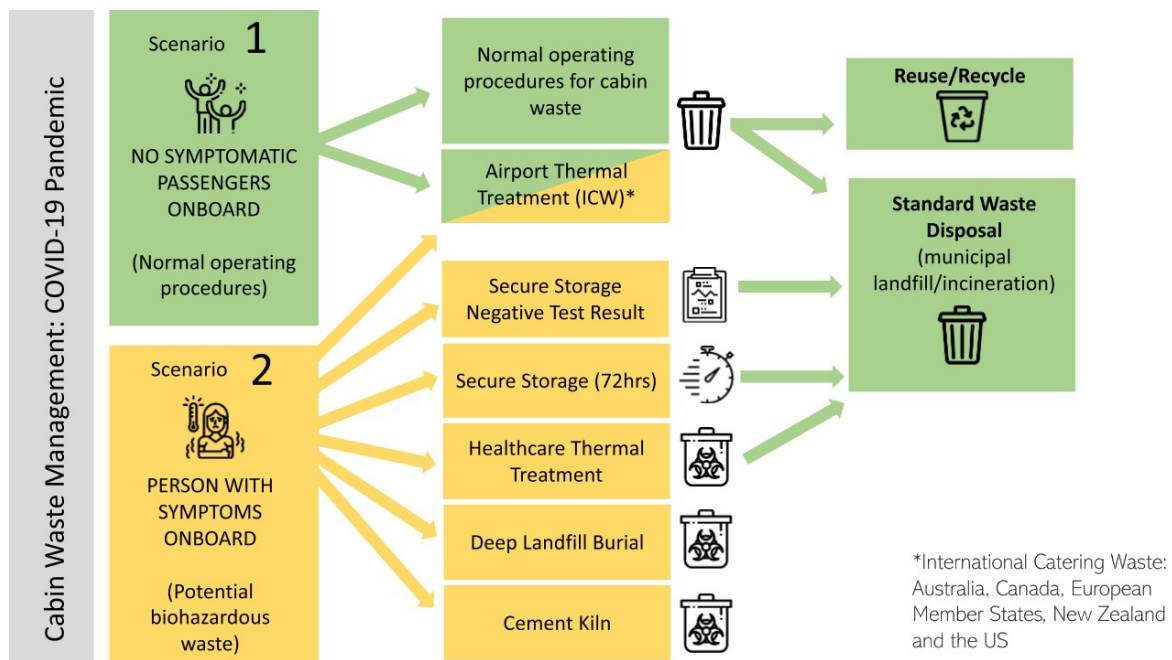
11.5 Cabin waste treatment and disposal

Normal: cabin wastes should be handled and stored using normal waste procedures and disposed using the municipal landfill or incinerator. The reuse and recycling of waste from these flights should continue but recyclable items should be segregated on-board and should not contain any discarded PPE. For those countries that classify cabin waste from international flights as biohazardous for agricultural health reasons (International Catering Waste – ICW), airports or local waste management contractors already subject the waste to special handling and thermal treatment (incineration or steam sterilization).

Biohazardous: there are 6 potential options for the treatment and disposal of potentially biohazardous cabin waste resulting from the pandemic. These include the following:

- (a) Airport Thermal Treatment at the airport or local waste management contractor's facility with no additional requirements deemed necessary for potentially biohazardous waste
- (b) Secure Storage at the airport or local waste management contractor's facility until the test results indicate that the passenger or staff member did not have COVID-19. The waste can then be treated as "normal".
- (c) Secure Storage for 72 hours at the airport or local waste management contractor's facility. The waste can then be treated as "normal".
- (d) Healthcare Waste Thermal Treatment – the wastes can be deemed biohazardous and sent directly for thermal treatment at a local healthcare waste facility.
- (e) Deep Landfill Burial: Many developing countries lack the infrastructure to treat healthcare waste and the [International Solid Waste Association \(ISWA\)](#) recommends, that in such circumstances, COVID contaminated wastes are either securely stored for over 72 hours and/or sent for disposal in a landfill under closely controlled conditions.
- (f) Cement Kilns – In the absence of other alternatives, the high temperatures, long residence times and alkaline environment of cement kilns are considered suitable for treating biohazardous waste. This option has already been used in [China](#) and [Spain](#), in response to the COVID-19 pandemic.

The flowchart below summarizes the pandemic cabin waste treatment and disposal options:



11.6 Pandemic waste minimization

IATA recommends that passengers wear reusable face coverings and crew wear surgical-type masks. Airlines may wish to procure surgical masks fitted with replaceable filters. If a passenger chooses to wear their own surgical-type masks they should be encouraged to only dispose of this mask after they have left the aircraft, in a closed waste bin. For crew or passengers that wish to replace their surgical-type mask or gloves during the flight, the discarded items should be placed in the lavatory waste bins. In addition, airlines should consider working with airports to provide hand sanitizer dispensing units in the terminal that could be used to refill personal sanitizer bottles.

11.7 Single Use Plastic (SUP) ban suspensions

Based on the [UN Environment report](#), there has been a surge in SUP bans with over 127 countries regulating the consumption of plastic bags, and 27 more extending these bans to other SUP products, including plates, cups, straws and materials such as polystyrene. Airports and civil aviation authorities have added an extra layer of complexity by applying their own SUP restrictions. Unfortunately, these SUP bans are not compatible with medical restrictions being imposed on flights during the pandemic. Airports and civil aviation authorities should allow the use of SUP for medical, hygiene and safety purposes during the pandemic including biohazardous waste bags; discarded PPE; empty sanitizer bottles, sanitizer wipes and their packaging and packaging from sealed food and drink.

11.8 Engagement plan & training

Airlines should prepare a written plan to share with stakeholders including cleaning companies regarding their COVID-19 waste management procedures and to communicate the information accordingly. In addition, we would also recommend training for crew in the handling of potentially biohazardous waste.



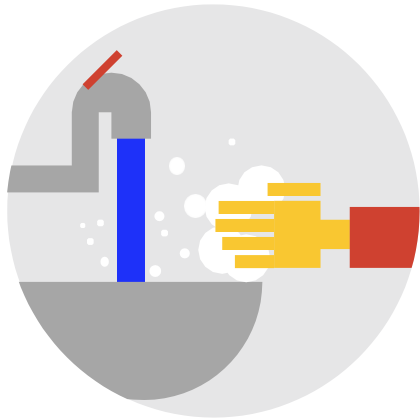
Inquiries and Feedback

This document is a draft and will be changed as we receive input and updates from our stakeholders. Please send any further questions, recommendations or inquiries to groundops@iata.org



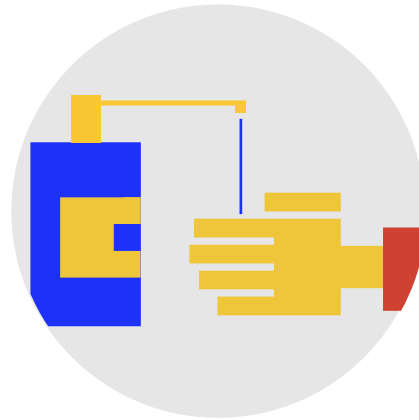
Attachment 1: Poster in staff area

Instructions for aircraft cleaning staff biosafety during COVID-19



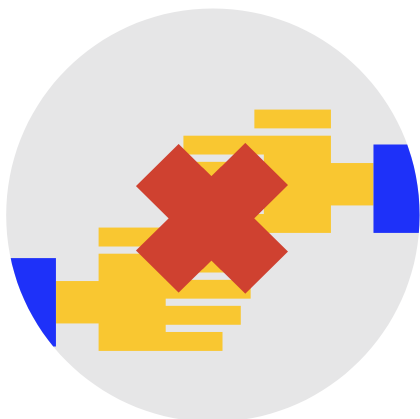
Regularly wash your hands

Use liquid soap and water to wash your hands for at least 20 seconds every time you enter the building.



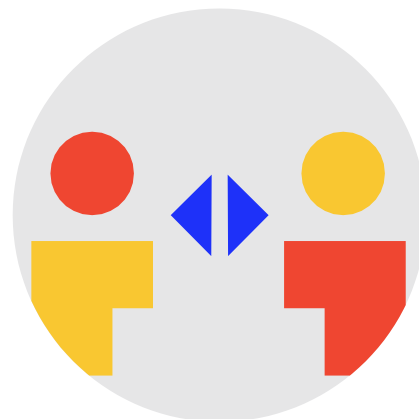
Disinfect

When handwashing is not possible, disinfect your hands with an alcohol-based hand rub.



Avoid shaking hands

Remember that the virus spreads through coughing and sneezing via airborne droplets, as well as through direct contact.



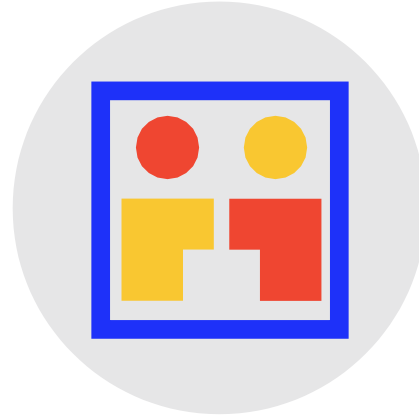
Respect physical distancing

Maintain a safe distance from others by following floor markings or other indicators. Drivers to stay in their vehicles until instructed and follow local procedures.



Clean regularly

Disinfect all frequently touched surfaces and all the equipment between uses.



Maintain the distance

Avoid entering enclosed rooms with other people present or wear appropriate personal protective equipment.



Use your own cleaning equipment

Ensure you don't touch other people's equipment.



Follow any company, local or national guidance and regulations, especially if you show potential symptoms.

BE RESPONSIBLE.

STAY SAFE.