

Guidance for laboratories shipping specimens to WHO reference laboratories that provide confirmatory testing for COVID-19 virus

Interim guidance
31 March 2020



Background

WHO has established a shipment mechanism to expedite and cover the costs of the shipment of clinical samples from patients with suspected COVID-19 from the country of collection to one of the [WHO reference laboratories](#) providing confirmatory molecular testing for COVID-19. Instructions are outlined in this guidance document.¹

This mechanism, which is similar to the Global Influenza Surveillance and Response System (GISRS) Shipping Fund Project (SFP),² uses contracted couriers (World Courier and, in some circumstances, HAZGO) for shipping.

Process and documentation required for shipment

1. For each shipment, laboratories should complete the booking form: <https://www.who.int/docs/default-source/coronaviruse/booking-form-2019-ncov-world-courier.pdf>, and email it to World Courier, Switzerland (opsgva@worldcourier.ch) with copy to all WHO staff listed on the form. In countries where World Courier does not operate, WHO will contact HAZGO, which will be instructed to transport the samples.
 2. The designated courier or a local agent representative will contact the shipping laboratory to arrange collection as soon as possible, along with any other instructions. The agent will provide all packaging, labelling, and paperwork required to comply with international transport regulations. Dry ice will also be provided if the laboratory requests “frozen” shipment on the booking form. For advice on shipment temperatures, see Annex I. Clinical (non-propagated) samples from suspected or confirmed COVID-19 cases are assigned to UN 3373, Biological Substance, Category B, unless the countries of origin, transit, or destination have issued national recommendations defining them otherwise.
 3. The shipping laboratory will be required to provide the following paperwork before the agent can accept the package for shipment:
 - the completed booking form;
 - a packing list or invoice indicating the recipient's address, number of packages, and details of contents, including their weight and value;³
 - an export permit for the originating country, if relevant;
 - an import permit for the recipient country, if relevant;
 - any other document required by national regulations for importing infectious substances;
 - a House Airway Bill (HWB) provided by the courier's agent.
- NB: The courier's local shipping agent can provide assistance on export documentation upon request.
4. Include your WHO regional laboratory focal point in the email with the booking form. If you do not know the name of the focal point, please contact the logistics emergency support team (José Rovira: roviraj@who.int, or Christian Fuster, fusterc@who.int), indicating WHO/Shipment/COVID-19 and the name of the shipping country in the subject line.

¹ The cost associated with the shipment will be covered by WHO only if carried out strictly in accordance with the above instructions, including the use of WHO-designated couriers. WHO is not able to accept or reimburse costs or invoices from laboratories that do not follow the process described in this document.

² [Shipping and logistic activities](#). Geneva: World Health Organization, accessed 6 March 2020.

³ Note that for international transport, a minimal value is required even if the items are being provided free of charge. The courier will be able to advise the laboratory on any of the above administrative requirements.

Annex I

Recommended conditions for international shipment of specimens referred for COVID-19 testing (1,2,3,4)				
Specimen type	Temperature for storage until shipment	Expected duration of shipment	Recommended shipment temperature*	Shipment category**
• Nasopharyngeal and oropharyngeal swab (+ VTM or sterile saline#)	2–8 °C	≤ 12 days	2–8 °C	Biological Substance, Category B – UN 3373 / Packing Instructions P650 (5,6).
		> 12 days	–70 °C (dry ice)	
• Serum • Whole blood • Urine • Stool	2–8 °C	≤ 5 days	2–8 °C	
		> 5 days	–70 °C (dry ice)	
• Bronchoalveolar lavage (+VTM §) • (Endo)tracheal aspirate (+VTM §) • Nasopharyngeal aspirate or nasal wash (+VTM §) • Sputum	2–8 °C	≤ 2 days	2–8 °C	
		> 2 days	–70 °C (dry ice)	
• Tissue from biopsy or autopsy including from lung (+ VTM or sterile saline)	2–8 °C	≤ 24 hours	2–8 °C	
		> 24 hours	–70 °C (dry ice)	

VTM: viral transport medium.

* Avoid repeated freezing and thawing; if the sample is already frozen send it on dry ice.

** Unless the countries of origin, transit, or destination have issued national recommendations defining otherwise.

COVID-19 virus stability was evaluated in nasal and throat swabs spiked with the virus and stored in sterile saline or VTM for up to 14 days at 2–8 °C. The virus was quantified using real-time RT-PCR. A commercially available solution of sterile saline was used (1x PBS pH 7.4 containing potassium phosphate monobasic, sodium chloride and sodium phosphate dibasic). Personal communication, Leo Poon, University of Hong Kong, Evaluation of swabs, transport media, and specimen transport conditions for the detection of COVID-19 virus by RT-PCR.

§ Use VTM when available. If VTM is not available, sterile saline may be used in its place (in such cases, duration of sample storage at 2–8 °C may be different from what is indicated above).

References

1. Laboratory testing for coronavirus disease 2019 (COVID-19) in suspected human cases: interim guidance. Geneva: World Health Organization; 2020 (<https://www.who.int/emergencies/diseases/novel-coronavirus-2019/technical-guidance/laboratory-guidance>, accessed 6 March 2020).
2. Protocol to investigate non-seasonal influenza and other emerging acute respiratory diseases. Geneva: World Health Organization; 2018 (https://www.who.int/influenza/resources/publications/outbreak_investigation_protocol/en/, accessed 6 March 2020).
3. Personal communication, Leo Poon, University of Hong Kong.
4. Collecting, preserving and shipping specimens for the diagnosis of avian influenza A(H5N1) virus infection: guide for field operations. Geneva: World Health Organization; 2006.
5. WHO Guidance on regulations for the transport of infectious substances 2019–2020. Geneva: World Health Organization; 2019.
6. [Laboratory biosafety guidance related to coronavirus disease \(COVID-19\)](#). Geneva: World Health Organization; 2020 accessed 26 March 2020.

WHO continues to monitor the situation closely for any changes that may affect this interim guidance. Should any factors change, WHO will issue a further update. Otherwise, this interim guidance document will expire 2 years after the date of publication.

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