

# Instructions for the classification of influenza viruses and candidate vaccine viruses (CVVs) for transport purposes

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This document provides specific guidance for the Global Influenza Surveillance and Response System (GISRS) laboratories and other national public health laboratories for the shipment of influenza positive clinical specimens or influenza virus isolates. It is based on relevant WHO guidance<sup>1</sup> on international transport regulations, as defined by the International Civil Aviation Organization (ICAO) in its Technical Instructions and adopted by the International Air Transport Association (IATA) in its Dangerous Goods Regulation (DGR) Manual.

## 1. Shipments of specimens containing influenza viruses from human and/or animal infections (any animal but commonly birds, swine, dogs, or horses)

For the purposes of transport, influenza virus isolates, or influenza positive clinical specimens are classified according to the following definitions (Table 1):

- **Infectious substance, Category A:**
  - **UN2814:** Assigned to infectious substances when transported in a form which can cause permanent disability, life-threatening or fatal disease in otherwise healthy humans or animals. It applies to **cell culture or egg virus isolates** derived from Highly Pathogenic Avian Influenza (HPAI) [e.g., A(H5N1)] and Low Pathogenic Avian Influenza (LPAI) causing severe human disease [e.g., A(H7N9)]<sup>2</sup>.
  - **UN2900:** Assigned to infectious substances which cause disease only in animals.
- **Biological substance, Category B:**
  - **UN3373:** An infectious substance which does not meet the criteria for inclusion in Category A.  
Applies to:
    - 1) **Clinical specimens** collected from humans or animals suspected to be infected by influenza (e.g., seasonal influenza, HPAI A(H5N1)),
    - 2) **Isolates of virus from humans or animals** (e.g., LPAI A(H9N2)), causing mild disease,
    - 3) **Seasonal influenza virus isolates** derived in cell culture or eggs, and
    - 4) Reassortant CVVs.

## 2. Shipments of influenza CVVs with human pandemic potential

Under exceptional circumstances as determined by WHO and WHO GISRS, CVVs with partial completion of required safety tests can be distributed, as '**potential CVVs**'<sup>3</sup>, to vaccine manufacturers, regulatory agencies and other interested parties before the full safety testing requirements have been met. In such cases, specific transport recommendations are issued based on relevant WHO biosafety risk assessments (Table 2).

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<sup>1</sup>World Health Organization. (2024). Guidance on regulations for the transport of infectious substances, 2023-2024: applicable as from 1 October 2023. World Health Organization. <https://iris.who.int/handle/10665/376214>

<sup>2</sup> [Update of WHO biosafety risk assessment and guidelines for the production and quality control of human influenza vaccines against avian influenza A\(H7N9\) virus](#)

<sup>3</sup> [Summary of status of development and availability of avian influenza A\(H7N9\) candidate vaccine viruses and potency testing reagents](#)

Additional information can be found in the WHO document  
*Guidance on regulations for the transport of infectious substances, applicable as from 1  
October 2023*, available on the WHO website at  
[Guidance on regulations for the transport of infectious substances, 2023-2024](#)

**Table 1: Classification of influenza samples for transport purposes**

Influenza virus transport classification according to applicable dangerous good regulations (ICAO Technical Instructions) and specific WHO recommendations

**YES** – ship this **Type** of sample under this **Category**

**NO** – **do not** recommend to ship this **Type** of sample under this **Category**

Type Category	Zoonotic Influenza				Current Human Seasonal Influenza		Unsubtypeable Influenza	
	Virus Isolates Suspected or confirmed <b>HPAI virus isolates</b> originating from humans or animals (e.g. H5N1)	Specimens Swabs, sera, tissues, etc...from humans or animals suspected to be infected with influenza	Virus isolates Suspected or confirmed <b>LPAI</b> e.g. H7N9 virus causing <b>severe human disease</b> , originating from humans or animals	Virus isolates and specimens Swabs, sera, tissues, etc... from humans or animals suspected or confirmed to be infected with <b>LPAI</b> causing <b>mild disease</b> in humans (e.g. H9N2)	Specimens Seasonal influenza specimens (swabs, sera, tissues, etc...)	Virus Isolates Seasonal influenza isolates (cultures)	Unsubtypeable influenza Isolates (cultures)	Unsubtypeable influenza Specimens (swabs, sera, tissues, PCR positive with Ct <32 etc...)
UN2814 (Category A)	<b>YES</b>	NO	<b>YES<sup>4</sup></b>	NO	NO	NO	<b>YES</b>	NO
UN2900 (Category A) Infectious Substance, affecting animals only	NA*		NA		NA		NA	
UN3373 (Category B)**	NO	<b>YES</b>	NO	<b>YES</b>	<b>YES</b>	<b>YES</b>	NO	<b>YES</b>

\* NA = Not Applicable

\*\* **IMPORTANT:** Some countries and airline operators may have variations to the DGR in place restricting the transport or the conditions of transport of infectious substances. This means that state or operator can request samples assigned to Category B to be sent as Category A. Please contact your carrier prior to any shipment for variation verification

<sup>4</sup> Under exceptional circumstances and when limited virological and epidemiological information is available, Low Pathogenic Avian Influenza (LPAI) viruses causing severe disease in humans should be classified as Category A when transported in live form with potential to cause harm to otherwise healthy humans or animals upon exposure. In such cases, transport recommendations are issued based on relevant WHO biosafety risk assessments.

**Table 2: Classification of CVVs for avian influenza and human seasonal influenza viruses for transport purposes**

	Zoonotic influenza			Human Seasonal Influenza		
Type	Highly Pathogenic viruses causing severe disease in humans*	Low Pathogenic Avian Influenza viruses		H1N1pdm09	H3N2	B
		Causing severe disease in humans	Causing mild disease in humans			
Wild-type virus	Cat A	Cat A	Cat B	Cat B	Cat B	Cat B
CVV Reassortant	Cat B	Cat B	Cat B	Cat B	Cat B	Cat B
Potential CVV Reassortant**	Cat A		Cat B	Cat B	Cat B	Cat B

\* Zoonotic influenza viruses (e.g., Avian Influenza viruses) causing infections in humans with no sustained human to human transmission e.g., H5Nx.

\*\* Potential CVV – early distribution of a CVV where required safety testing has been only partially completed.

Additional links:

[International Health regulation \(2005\) Third Edition](#)