

Brief Instructions for the Storage and Shipping of Saliva Samples

1. General Principle

Although steroid hormones and salivary amylase are considered relatively stable in saliva samples, the cold chain should be maintained wherever possible. Temperature fluctuations and prolonged storage at room temperature should be avoided to preserve sample quality and comparability as effectively as possible.

As a simple rule of thumb, biological samples may be handled in much the same way as perishable food:

- short-term storage: refrigerated
- long-term storage: frozen
- storage of Salivettes until shipment: generally at -20°C

Samples should be removed from the freezer only immediately before collection by the courier.

2. Packaging

Human saliva samples should generally be treated as potentially infectious. They must be packaged securely, leak-proof, and in accordance with their classification under dangerous-goods regulations.

The packaging should consist of at least three layers:

1. tightly closed Salivettes as primary receptacles,
2. leak-proof secondary packaging,
3. rigid outer shipping packaging.

For samples containing liquid, sufficient absorbent material should be placed between the primary receptacle and the secondary packaging. The primary receptacles must be protected from damaging one another during transport.

3. Cooling During Transport

For rapid express transport, the cold retained by the frozen samples and a well-insulated polystyrene box is often sufficient.

Where necessary, the following may also be used:

- ☐ frozen cold packs
- ☐ ice or other cooling elements
- ☐ dry ice

Cooling materials must be positioned so that the Salivettes and the other packaging components are not damaged. Transport time should be kept as short as possible.

4. Classification and Labelling of Biological Samples (download hazard labels from the internet)

Human saliva samples are potentially infectious. However, their classification under dangerous-goods regulations is based on a risk assessment and not solely on the fact that they are human-derived material.

Classification as UN 3373

If it is known or reasonably expected that the samples may contain pathogens, they must be classified as Biological Substance, Category B. The following marking must then be clearly displayed on the outer packaging: ◇ UN 3373

BIOLOGICAL SUBSTANCE, CATEGORY B

In this case, the packaging must comply with Packing Instruction P650 or PI650, as applicable.

The requirements include, in particular:

- leak-proof primary receptacle,
- leak-proof secondary packaging,
- absorbent material for liquids,
- rigid outer packaging,
- protection against breakage and damage.



Exempt Human Specimen

For saliva samples from healthy study participants, where there is no known suspicion of infection and no reasonable basis for believing that pathogens are present, transport as an EXEMPT HUMAN SPECIMEN may be possible following an appropriate risk assessment.

The final classification is the responsibility of the sender. It should be agreed with the responsible dangerous-goods office, biosafety officer, or transport provider.

5. Additional Labelling When Using Dry Ice (download hazard labels from the internet)

When dry ice is used, the outer packaging must also be clearly marked as follows:

♦ Class 9 hazard label

UN 1845 – DRY ICE

or

UN 1845 – CARBON DIOXIDE, SOLID

Net mass of dry ice: _____ kg

When using dry ice, the following must also be observed:

- The packaging must not be sealed gas-tight.
- The carbon dioxide generated must be able to escape.
- No dangerous pressure build-up must occur.
- Dry ice should not come into unprotected direct contact with the sample containers.
- The packaging must be suitable for transport with dry ice.



6. Pre-shipment Check

- ☐ samples stored at –20 °C until collection
- ☐ Salivettes tightly closed
- ☐ leak-proof secondary packaging used
- ☐ absorbent material included
- ☐ rigid outer packaging used
- ☐ adequate cooling ensured
- ☐ dangerous-goods risk assessment completed
- ☐ correct labelling selected
- ☐ UN 3373 label attached, where applicable
- ☐ dry-ice label attached, where applicable
- ☐ net mass of dry ice stated
- ☐ escape of carbon dioxide ensured
- ☐ acceptance requirements confirmed with the transport provider
- ☐ express shipping with the shortest possible transport time selected