

Guidelines for sending biological samples

Summary and protocol for sending biological samples through the mail (based on UK Royal Mail guidelines)

The diagnostic samples sent to PALS Limited are treated as Biological substances, Category B samples. Therefore all samples need to be submitted with the outer packaging labelled with 'Biological Substances, Category B, UN3373'.

The following is a modified summary of IATA packing instructions 650:

General requirements

The packaging must be of good quality, and strong enough to withstand the shocks and loadings normally encountered during transport.

Packaging must be well constructed and closed so as to prevent any loss of contents that might be caused under normal conditions of transport, by vibration, or by changes in temperature, humidity or pressure.

The packaging must consist of three components:

1. primary receptacle(s)
2. secondary packaging
3. rigid outer packaging

Primary receptacle/s

These typically consist of plastic slide holders, blood/specimen tubes, histopathology pots or swab tubes.

These must be shatter-proof and leak-proof (glass, old pill containers and food jars, etc. are not appropriate).

These must be packed into the secondary packaging in such a way that, under normal conditions of transport, they cannot break, be punctured or leak their contents into the secondary packaging.

If multiple fragile primary receptacles (e.g. plain and EDTA tubes) are placed in a single secondary packaging, they must be either individually wrapped or separated to prevent contact between them.

Absorbent material must be placed between the primary receptacle and the secondary packaging. The absorbent material, such as cotton wool, swabs, paper towel, must be in sufficient quantity to absorb the entire contents of the

primary receptacle(s) so that any release of the liquid substance will not compromise the integrity of the cushioning material or of the outer packaging.

The primary receptacle or the secondary packaging must be capable of withstanding, without leakage, an internal pressure of 95 kPa in the range of -40°C to 55°C (this is difficult to confirm, although should be the case with most commercial firm plastic specimen containers).

For liquid substances

The primary receptacle(s) must be leak-proof and shatterproof and should ideally not be more than 40-50mL.

Secondary packaging

This must be leak-proof and shatterproof.

It will typically consist of a sealed biohazard bag or similar.

Should contain absorbent material (as described above).

Can also be of rigid construction to add extra security against damage in transport.

Outer packaging

A secure postage bag will suffice for the majority of samples, but if you consider the sample to be of significant public health/infectious risk, then you should use rigid outer packaging (where a cardboard box will be sufficient).

For transport, "Biological Substance, Category B" must be marked on the outer packaging adjacent to the square box containing the code UN3373.

For large histopathology specimens, tissues can be fixed on site (e.g. over 1-5 days depending on the size of the tissue) in 10% neutral buffered formalin with a 10:1 volume ratio of formalin to tissue. The fixed tissue specimen can then be removed from the formalin, wrapped in plastic film or gauze swabs moistened in minimal formalin before placing in a shatterproof primary receptacle (as above).

The primary receptacle should be placed within a leak-proof/shatterproof secondary receptacle with sufficient absorbent padding between to absorb both shock and any liquid leaks.

An itemised list of contents must be enclosed between the secondary packaging and the outer packaging (a correctly filled-in submission form should suffice for this).

For the submission of cytology slides, the smears should be air-dried rapidly and immediately following smear preparation and then placed in a plastic slide

holder (primary receptacle) with a small amount of tissue paper at the ends of the slides to avoid rattling. Ensure that the container is securely closed (e.g. tape shut with sticky tape). Wrap the slides in padded material (e.g. bubble wrap or cotton wool) and place in a sealed secondary bag/container (secondary receptacle). This is then placed into the outer packaging (postage bag).