

FACT SHEET

Rocket® Glass and Plastic Capillary Tubes for Fetal blood Sampling

Background: Since the introduction of simple ward blood gas analysers, Fetal Blood (FBS) samples have been safely collected and transported in thick walled glass capillary tubes such the **Rocket® R57014 & R57015 Long Heparinised Tube**.

The development of precision blood chemistry analysers has caused several changes in FBS practice.

Modern systems require smaller but very accurate volumes of heparinised fetal blood to perform their chemistry analysis. The accuracy of the results is critically dependant upon delivery of a blood sample of the correct volume, without contamination with air, paraffin or blood clot.

In the late 1990's Rocket® introduced 90µl fine bore glass capillaries to meet the need to produce samples of the correct volume. These tubes performed very reliably and made sampling faster and easier. However, they added a new risk to patients because the tubes were small and fragile.

Safety: During 2002, the company was advised of small number if incidents involving breakage of the micro-volume glass capillary tubes. These incidents were uniformly traced to improper handling or the use of inappropriate instruments such as sponger-holders to hold the fine glass tubes.

However, in response to user and MHRA concern for patient safety, Rocket® changed their 90ul fine bore glass capillaries to 'high heparin' *plastic* tubes containing 240IU/ml Heparin sodium.

Whilst this change immediately resolved concerns about patient safety it introduced a new problem. Glass naturally exhibits a very strong capillary action, which means the tube fills quickly, evenly mixing the blood with the heparin coating to prevent clotting. Sampling is quick and reliable. Unfortunately, soft, shatter proof plastics do not have the same strong capillary action of glass which means the tube will fill more slowly. This is a physical property of the plastic material and is not a fault.

Modern, micro-volume, blood gas analysers provide highly accurate, complex blood chemistries. However, they tend to be very sensitive to sample quality and are generally highly intolerant of mismatched sample volumes or those which contain air or blood clot.

Complex analysers will tend to *reject* a sample rather than display results which may be flawed. This is a design function of these analysers and not a reflection on the Rocket® sample tube or Rocket FBS™ Kit.

For SIEMENS, ROCHE, IL and RADIOMETER high precision analysers, Rocket Medical plc only recommend their dedicated kits which contain tubes supplied by or approved for use by the analyser manufacturers. These tubes and kits are specifically designed for use with these systems.

Contact Customer Services for further details
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