

COPAS BIOSORT Control Protocol CB01

Fluorescent Control Particles

Scope

This protocol is intended for use with the COPAS BIOSORT system for running CONTROL PARTICLES as a quality control tool.

Materials

GP 42 micron Control Particles (P/N 310-5071-000)

Procedure

Set up COPAS system as directed in the COPAS Operators Manual.

Mix CONTROL PARTICLES by inversion 4 times. Do not shake and avoid any excess agitation. This may cause bubbles in the mixture. Place 20 ml (MINIMUM) of CONTROL PARTICLES into the primary sample cup. Press the clean button twice.

On the COPAS main screen select the TOOLS menu and open the RUN CONTROL PARTICLE. Threshold, gains and axes values are preset.

Click "ACQUIRE" to process the particles. Adjust the sample pressure (if necessary) to obtain a particle rate of 5 - 10 /second until a minimum of 1000 events have been collected. 1000 events must be collected for statistical data to be obtained.

Document the instrument pressures on the DAILY MAINTENANCE WORKSHEET supplied in the Operator's Manual. Process the particles until statistics appear.

The MEAN and C.V. of the CONTROL PARTICLES for the TOF parameter (the top histogram shown on the COPAS software main screen) are used for quality control. MEAN indicates the mean channel of the histogram. C.V. represents the coefficient of variation around that mean. These values are an indication of instrument performance, showing that the red diode laser is operating properly for obtaining TOF and EXT readings and also that the optics are clean and in working order. Document the mean and C.V. of the particles daily. Instrument performance should be in the following ranges:

TOF C.V.	≤ 11.0
TOF MEAN CHANNEL	21 +/- 6.0

NOTE: Threshold, gains and axes values are preset. Shifts in the MEAN or C.V. of the particles indicate need for system cleaning or maintenance.

CAUTION: Before processing organisms on the COPAS BIOSORT, follow Cleaning Protocol MB-01 using distilled water as cleaning solution.

CAUTION: Do not put CONTROL PARTICLES into the secondary sample container. Foaming will occur.

NOTE: CONTROL PARTICLES are specially manufactured to simulate a dilute object population. It is recommended that particles are processed daily to evaluate instrument performance.

NOTE: CONTROL PARTICLES settle upon standing and must be gently mixed prior to each use.