Customer Support Note 004

Bake-out method for UNITY and autosamplers

Disclaimer: It is vital that this Customer Support Note is read carefully before proceeding and that any instructions contained within the document are followed closely. Markes International will not accept responsibility for any damage done to instrumentation or personnel if any instructions within this document are not followed exactly. Any ongoing warranty or contract may be voided if failure to follow these instructions results in damage to the instrumentation. If anything is unclear, you must clarify the details with a Markes representative before proceeding.

This document details the procedure designed to bake-out the thermal desorption (TD) system and clean the system flow path.

1. Maverick software

1.1 TD method

Set up the TD method as shown below, and save it as the 'Bake-out method' for future use. The software shown is version 5.x.x, but the parameters will be the same for each type of software.

NOTE: If your tubes or cold trap contain Chromosorb or Porapak, then the temperature will need to be reduced to avoid damaging the sorbents.

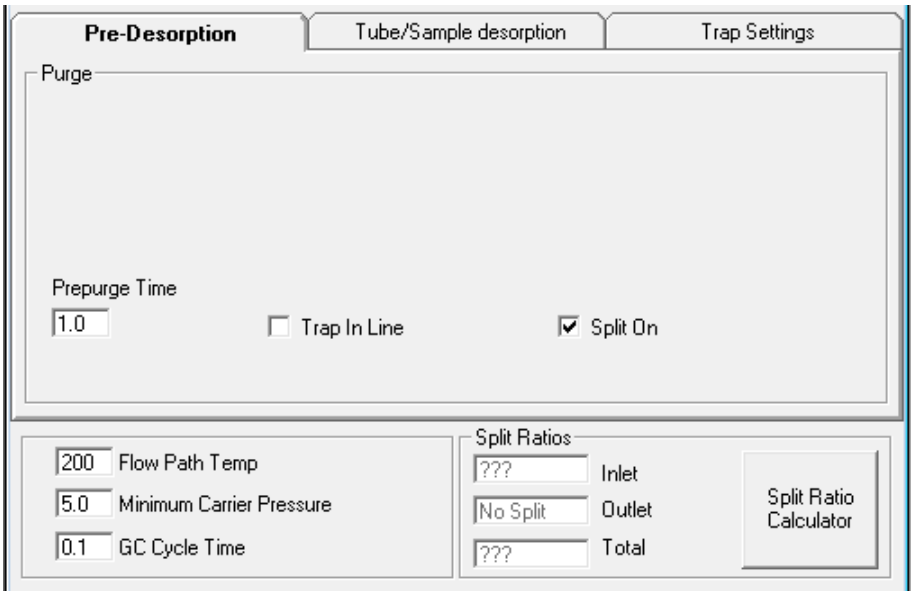

Figure 1: Method panel showing 'Pre-Desorption' tab.

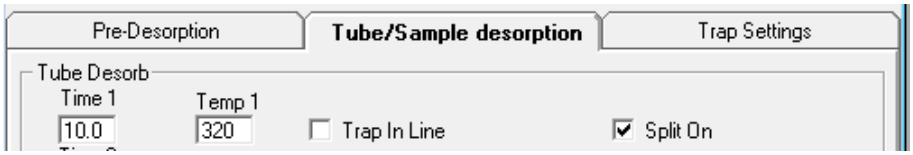

Figure 2: Method panel showing 'Tube/Sample Desorption' tab.

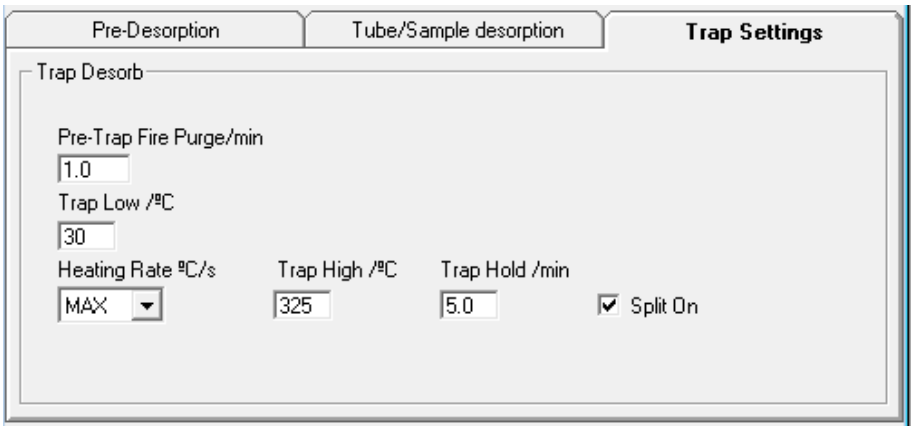

Figure 3: Method panel showing 'Trap Settings'.

1.2 Set the gas flows

The desorption and split flows will need to be set to 50 mL/min. If your TD system has MFCs then you can set this in the method panels above. Alternatively, you can set these manually using a flowmeter and the needle valves.

1.3 Link the method

If using a UNITY 1 or UNITY 2, please select the 'Link Method' icon on the toolbar:

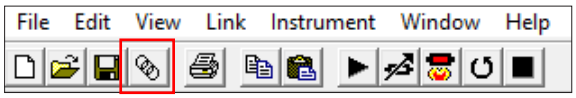

Figure 4: 'Link Method' icon in the toolbar.

If using an ULTRA or TD100, then this step is unnecessary.

1.4 Build the sequence

Add a sample tube to run and select the 'Bake-out method' created above. Select the tick-box next to the 'Recycle' option, outlined in red. This will run the method continuously until you stop the sequence.

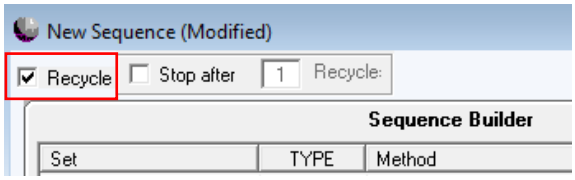

Figure 5: Sequence builder.

1.5 Set up the system

Load an empty or blank sample tube into the system. Set up the GC(–MS) software to run at least 40 recycles, preferably overnight. This will allow the system to bake-out and remove contamination overnight.

2. MIC software

2.1 TD method

Set up the TD method as shown below, and save it as the 'Bake-out method' for future use. The software shown is version 2.x.x, but the parameters will be the same for each type of software.

NOTE: If your tubes or cold trap contain Chromosorb or Porapak, then the temperature will need to be reduced to avoid damaging the sorbents.

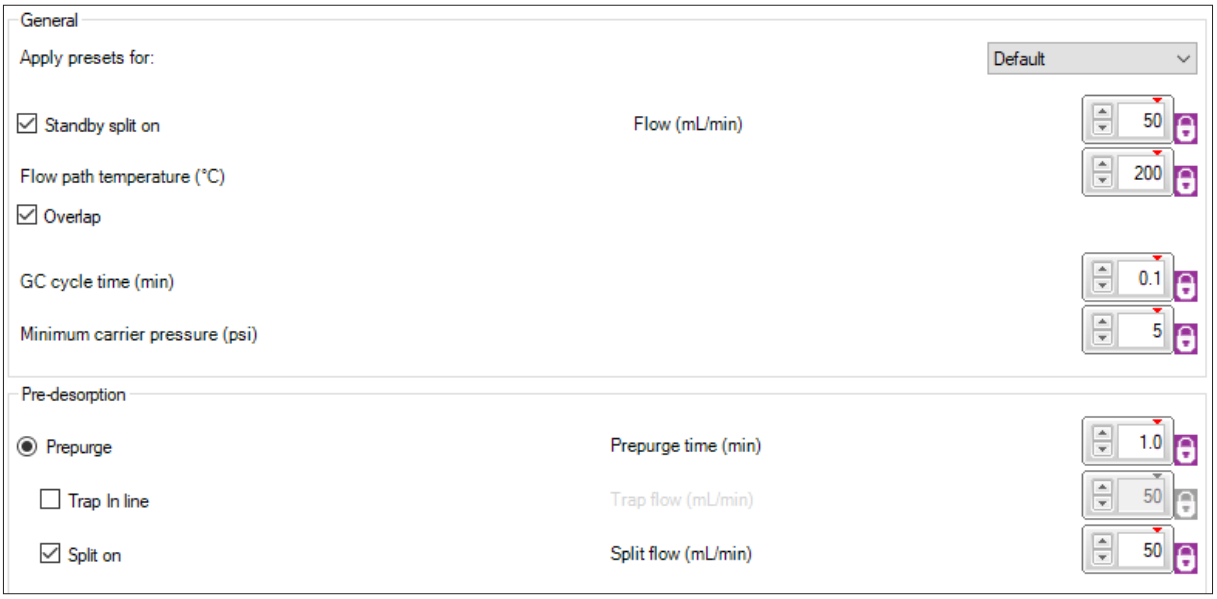

Figure 6: Method panel showing 'General presets' and 'Pre-Desorption' tabs.

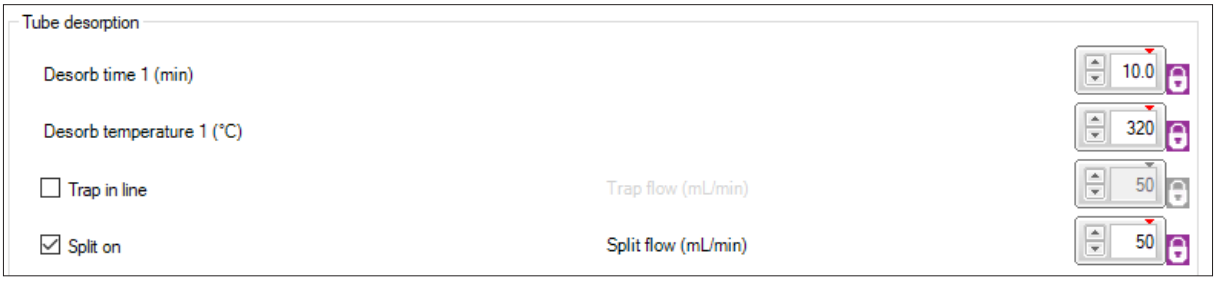

Figure 7: Method panel showing 'Tube Desorption' tab.

Figure 8: Method panel showing 'Trap Settings'.

2.2 Set the gas flows

The desorption and split flows will need to be set to 50 mL/min. If your TD system has MFCs, then you can set this in the method panels above. Alternatively, you can set these manually using a flowmeter and the needle valves.

2.3 Set up the system

Load an empty or blank sample tube into the system. Set up the GC(–MS) software to run at least 40 recycles, preferably overnight. This will allow the system to bake-out and remove contamination overnight.

2.4 Build the sequence

Add a sample tube to run and select the ‘Bake-out method’ created above. Press ‘Play’, then tick ‘Run sequence a total of’, and select ‘Continuous’. This will run the method continuously until you stop the sequence.

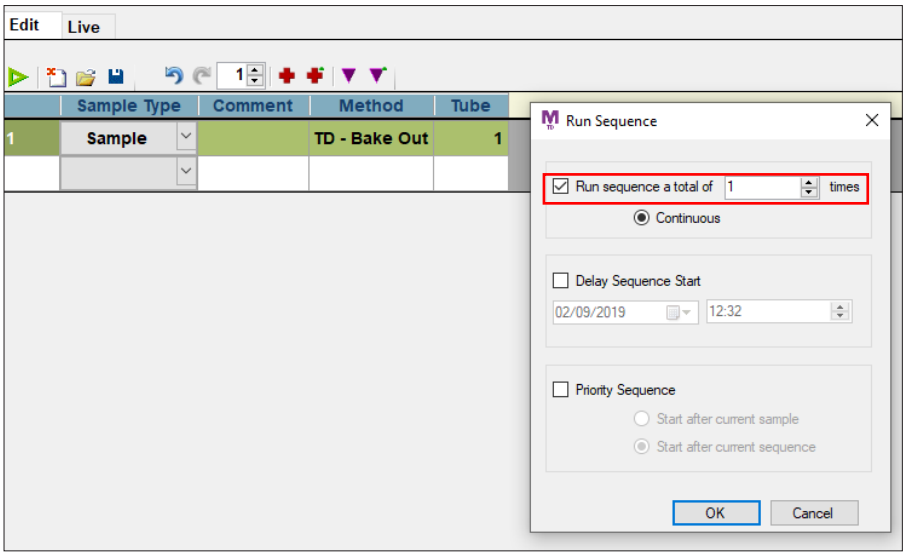

Figure 9: Sequence builder.

For all technical support queries, please contact Markes International.

Email: support@markes.com Tel.: +44 (0)1443 233922