

## Microplate formats for Acetic Acid

### 1. Can the Megazyme Kits be used in a 96-well microplate format?

Some Megazyme test kits have been designed for use with auto-analysers and therefore conversion to a 96-well microplate format can be achieved without any assay volume modification. However, the majority of the Megazyme test kits are developed to work in micro-cuvettes however they can be converted for use in a 96-well microplate format. Basically, the assay volumes for the cuvette format must be reduced approximately 10-fold for use in a 96-well microplate. However, you must be aware that, unlike the cuvette which has a set pathlength of 1 cm, the pathlength in the microplate is dependent upon the volume of liquid in the well. Therefore to enable the calculation of the amount of analyte in the samples from tests performed in the microplate format one of the following must be done:

1. The easiest method is to use a microplate reader that has a pathlength conversion capability (i.e. the microplate reader can detect the pathlength of each well and convert the individual readings to a 1 cm pathlength). This will allow values to be calculated using the MegaCalc calculation software which can be found where the product is located on the Megazyme website.
2. Perform a standard curve of the analyte on each microplate that contains test samples and calculate the result of the test samples from the calibration curve (concentration of analyte versus absorbance).
3. Perform a standard curve of the analyte in both the cuvette format (i.e. with a 1 cm pathlength) and the 96-well microplate format and use these results to obtain a mean conversion factor between the cuvette values and the microplate values.

### 2. Which acetic acid kit should I use for a 96-well microplate format?

Either K-ACETRM or K-ACETAK can be used in a 96-well microplate format and the main advantages / disadvantages of one kit over the other are described below:

#### K-ACETRM:

The assay volumes of this kit should be reduced by 10-fold for use in a 96-well microplate format.

The calculation of results is achieved as outlined above in either of points 1, 2 or 3.

The main advantage here is that if this kit is used with a microplate reader that has a pathlength conversion capability or if results are converted as outlined above in point 3 then this enables easy calculation of results using the K-ACETRM MegaCalc application (available on the Megazyme website where the product is located).

#### K-ACETAK:

This kit is designed for use in an auto-analyser and therefore **can be used without any modification to assay volumes** directly in a 96-well microplate format.

This kit has less reagent additions than K-ACETRM,

K-ACETAK does not have a MegaCalc application available to enable easy results calculation which therefore must be achieved as outlined above in either of points 2 or 3.