

SAMPLE DILUTION

INSTRUCTIONS FOR USE OF THE PALINTEST DILUTION TUBE AND DILUTION SYRINGES

Palintest tests are usually carried out directly on the sample collected. In some situations however it is desirable to dilute the sample in order to bring it within the correct test range. Indeed dilution of samples is a very useful technique in that it enables the range of the test to be greatly extended.

Whilst dilution is a simple operation, it often causes confusion to test kit users. The Palintest Dilution Tube (PT 512) has been developed to provide a simple means of sample dilution for water and aqueous extracts. The dilution tube can be used to dilute the sample by a factor of 2, 3, 4, 5 or 10 times.

Palintest Dilution Syringes are used in those situations where a greater degree of dilution is required. Dilution syringes are available in two sizes and are used in conjunction with the dilution tube. Dilution syringe 10/100 (PT 175) can be used to dilute the sample by a factor of 10, 20, 25, 50 or 100 times. Dilution syringe 100/1000 (PT 376) can be used to dilute the sample by a factor of 100, 200, 250, 500 or 1000 times.

Using the Dilution Tube

- 1 Decide on the degree of sample dilution required.
- 2 For example, if the solution is about 5 times too strong for the test range being used, then the sample should be diluted by a factor of five.
- 3 Fill tube with sample to one of the sample marks as appropriate. For example, if a 5 times dilution is required, fill to the x5 mark.
- 4 Fill the tube with deionised water to the line marked 'Deionised Water'.
- 5 Cap the tube and mix the solution.
- 6 Use the diluted sample in the test being carried out in the normal manner.
- 7 Multiply the test result obtained by the dilution factor used.

For example, if the tube was originally filled to the x5 mark, then the test kit result should be multiplied by 5 to give the concentration in the original sample.

Using the Dilution Syringe

1 Decide on the degree of sample dilution required. For example, if the solution is about 100 times too strong for the test range being used, then the sample should be diluted by a factor of 100.

2 Dip the tip of the syringe into the sample and draw up the sample into the syringe. Adjust the level of the sample in the syringe until it corresponds to the appropriate mark (see figure).

For example, if a 100 times dilution is required, the sample should line up with the x100 mark.

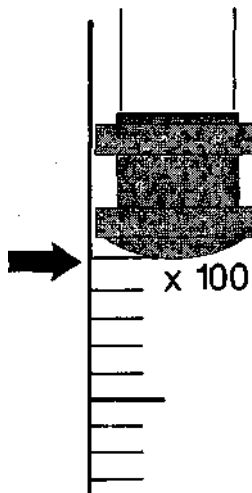
3 Discharge the solution from the syringe into a clean dilution tube. Fill the tube with deionised water to the line marked 'Deionised Water'.

4 Cap the tube and mix the solution.

5 Use the diluted sample in the test being carried out in the normal manner.

6 Multiply the test result obtained by the dilution factor used.

For example, if the syringe was originally filled to the x100 mark, then the test kit result should be multiplied by 100 to give the concentration in the original sample.



Deionised Water

Deionised water is required for sample dilution and for the general rinsing of test tubes, etc. The Palintest De-Ion Pack has been specially developed to provide deionised water for use with test kits both in the field and in the laboratory.

The Palintest De-Ion Pack produces approximately five litres of deionised water in 2 - 5 minutes from mains water or from clean natural water sources. Instructions for using the De-Ion Pack are given on the product label and carton.

Notes

1 In certain Palintest methods the dilution stage is written into the test procedure. It is not necessary to multiply by the dilution factor if the test kit or calibration chart is already calibrated for a similarly diluted sample.

2 When using many Palintest Interface Photometers, it is possible to key in the dilution factor at the start of the test. In this way the instrument can be used to get a direct reading of the test result for the original sample.

3 Dilution tubes and syringes should be rinsed thoroughly after use with deionised water. For accurate results it is most important to ensure that diluted solutions are not contaminated with undiluted samples.