

# Erifon BOP Fluids Dilution Test Procedure

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## General Description

The Erifon BOP dilution test kit is designed to allow the on-site determination of dilutions of Erifon with a minimum of technical skill. The test is based on a titration, and the kit includes a titration tube (5ml) and a direct reading titrator, which is calibrated in terms of total alkalinity, expressed as parts per million (ppm) calcium carbonate (CaCO). The reading for total alkalinity is then used in conjunction with a calibration curve to obtain the dilution of both Erifon HD856 and HD603 HP.

Calibration curves for other MacDermid products can also be provided, enabling the test kit to be used in other applications. The test kit includes all of the chemicals and equipment to carry out the titration.

## General Precautions

1. Read all instructions to familiarize yourself with the test procedure before you begin. Note any precautions in the instructions.
2. Read the label on each reagent container prior to use. Some containers may include precautionary notices and first aid information.
3. Keep all equipment and reagent chemicals out of the reach of young children.



## Initial Step

A representative sample of 1% HD856 and/or HD603 HP mix using actual potable water and concentrate from the rig is required in order to get a base titration reading using the procedure below. Placing this value in the (Y) axis on the attached chart allows you to plot the dilution curve. Example: if 1% has a titrator reading of 40, then 2% will have a reading of 80.

## Test Procedure

1. Fill the titration tube to 5ml line with the sample of diluted Erifon HD856 and/or HD603 HP to be tested.
2. Add 1 BCG-MR tablet to the sample. Cap the tube and shake to dissolve the tablet. A blue-green color will develop.
3. Fill the direct reading titrator with the alkalinity titration reagent B as follows:



- a. Remove the screw cap from the bottle of alkalinity titration reagent B.
  - b. Depress the plunger of the titrator fully to expel air.
  - c. Insert the tip of the titrator into the plastic fitting of the alkalinity titration reagent B bottle.
  - d. Invert the bottle and slowly withdraw the plunger until the bottom of the plunger is opposite the zero mark on the scale of the titrator.  
Note: A small air bubble may appear in the titrator barrel. Expel the bubble by partially filling the barrel and pumping the titration solution into the inverted reagent container. Repeat this pumping action until the bubble disappears. Once again withdraw the plunger until the bottom of the plunger is opposite the zero mark on the scale.
  - e. Turn the bottle right side up and remove the titrator.
4. Insert the tip of the titrator into the opening of the titrator tube cap. Slowly depress the plunger to dispense the titrating solution. Gently swirl the tube to mix. A slight rotating or twisting motion may permit the plunger to move more smoothly.
  5. As the titrating solution is added, the fluid sample under test will change from blue-green towards a gray-black, and then to pink. As the first pink tinges appear in the fluid sample under test, the rate at which the titration reagent is added should be reduced while continuing to agitate the titrator tube. Continue adding the titrating solution until the first appearance of a permanent pink color throughout the fluid sample under test.
  6. If no color change occurs by the time the plunger tip reaches the bottom of the scale, refill the titrator to the zero mark as described in steps c and d above. Continue the titration and add both titration quantities together to obtain final test result.
  7. Read the test result directly from the scale opposite the bottom of the plunger tip.
  8. Determine the dilution of Erifon HD856 and/or HD603 by locating the titration value on the vertical (X) axis. Move up vertically until you encounter the calibration curve, and then move across horizontally to the left to obtain the dilution ratio on the horizontal (Y) axis. (See attached graph).
  9. If no additional tests are to be made, discard the titrating solution in the titrator. Thoroughly rinse the titrator and titration tube.

Note: The plunger tip should periodically be coated with silicone grease.

## NOTES:

Erifon HD856 / HD603 dilution test kit is only intended to give an approximate guide to the fluid dilution. For accurate analytical results, a sample should be sent to MacDermid's Fluid Monitoring Laboratory at the address given at the bottom of this document.

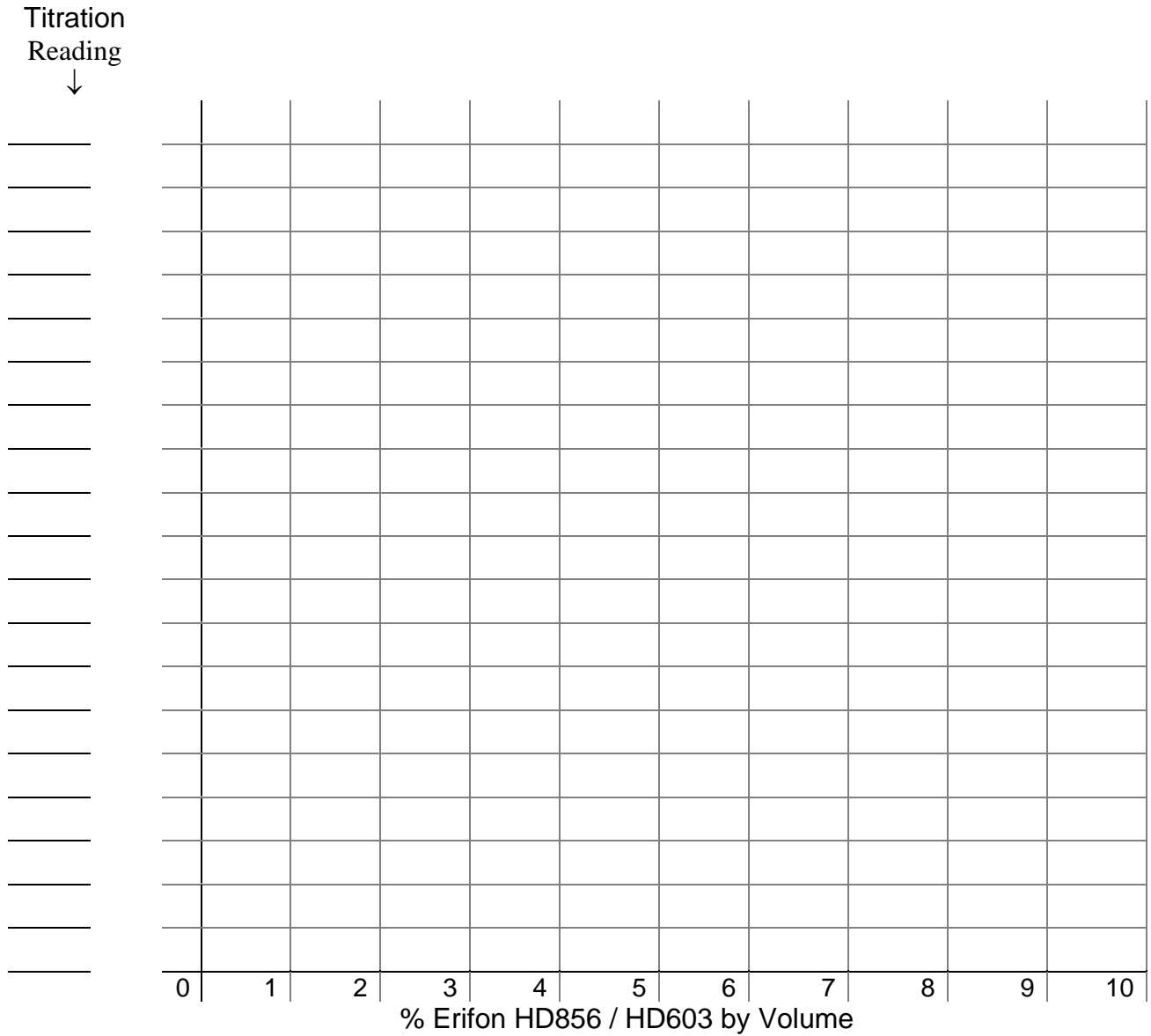
If the fluid under test has been contaminated with acid or alkaline materials, then the results will be affected. MacDermid recommends only the use of Erifon Stack Glycol or pure mono ethylene glycols as a freezing point depressant in Erifon HD856 / HD603. If commercial anti-freeze mixtures are used, then the results may be invalidated.



# CHART

## ERIFON HD856 / HD603 HP DILUTION TEST KIT

Concentration vs. Titrator Reading



Information given in this publication is based upon technical data gained in our own and other Laboratories and is believed to be true. However the material is used in conditions beyond our control thus we can assume no liability for results obtained or damages incurred through the application of the data presented herein.



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