

# TRAMFLOC, INC.

*Water & Wastewater Treatment Polymers*

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## POLYMER TESTING PROCEDURES FOR DEWATERING APPLICATIONS

**Polymer testing is very easy and requires about 30 minutes of your time.**

We recommend 3 plastic cups and a syringe per each (polymer) sample we sent you to test. Syringes can be purchased without needles at most local pharmacies.

Use a 7 to 12 ounce, clear plastic cup to contain the polymer testing solution. Add 100 mls of warm tap water to a plastic cup, one for each Tramfloc® polymer to be evaluated, i.e. 5 samples (equals), 5 cups with warm water.

Label your cups with the appropriate Tramfloc® product number. 100 mls, is a half cup of water plus a tablespoon.

For Tramfloc® 100, 300 Emulsion (Liquid) Samples:

For the Tramfloc® 100 and 300 Emulsion series, use a 1 or 3 cc plastic syringe to put 0.25 ml of polymer into 100 mls of tap water. If you're using a 3 cc syringe, the polymer dosage would be between the 3<sup>rd</sup> and 4<sup>th</sup> line on the syringe. If you're using a 1 cc syringe, the polymer dosage would be halfway between 0.2 and 0.3



The neat polymer and water are called your polymer testing solution. Mix it for about 20 seconds with a stirrer of any sort as long as it's clean. The solution will be a cloudy to milky white color. You can mix the solution with a paint stick, a spoon, chopsticks, etc. Whatever you have on hand is fine.

For Tramfloc® 500, 600, 700, or 800 Series:

If you are testing the Tramfloc® 500, 600, 700 or 800 series of coagulants, add 10 mls of the sample coagulant with the 3 cc plastic syringe to 90 mls of tap water and mix. You have to make a diluted polymer solution to obtain accurate testing results. Do not add undiluted polymer directly to your substrate sample. Substrate is the fresh sludge

Before you start testing, let the polymer solution sit for about 10 minutes. This will allow the tightly wound polymer chains in Tramfloc® polymers to uncoil and achieve their full effectiveness.

## For Tramfloc® 100, 200, 400 Granular (Dry) Samples:

If you are evaluating Tramfloc® granular polymers in the Tramfloc® 100, 200 and 400 series, weigh 250 mg of polymer on a lab or portable scale and charge the granules very slowly to 100 mls of warm tap water to initially wet the granules. Add the granules very slowly, little by very little, so that they fall into the vortex of the water which is being stirred rapidly. That ratio will produce a 0.25 % polymer solution. Place the beaker on a heated magnetic stirrer, if available, for optimum results. Mix until all the granules have disappeared into a homogeneous solution without lumps or fish eyes. Reduce the speed to 50 rpm and after as much as 10-20 minutes of stirring, a clear, viscous and homogeneous solution should have been formed. The water and granules may be mixed vigorously in a stoppered flask for several minutes before quiescence. Quiescence means “letting the solution sit without stirring. Each particle of dry polymer must be wetted with water to insure that a reliable testing solution has been prepared. Allow the solution to uncoil fully by causing the solution to stand quiescently for 10 minutes. Each solution container should be marked with the Tramfloc® polymer product number.

Add about 200-400 mls of sludge/slurry to be dewatered into a **new** 7 to 12 ounce clear plastic cup, labeled with the Tramfloc® polymer number to be tested. Add one full syringe to start (up to four or more during the testing) of your polymer solution to the sludge. Now pour the sludge dosed with your testing solution back and forth between the two cups. *It doesn't matter how many times you go back and forth as long as you're consistent with all the samples. We suggest four cycles.*

Experiment with various dosages as the results indicate, you could test up to four or more full syringes of polymer solution. You might achieve effective results with one syringe of solution or you might need ten syringes of solution to achieve a nice sludge curd with relatively clean water around the curds.

Continue testing your polymer samples until you have applied all of the Tramfloc® polymer solutions in the various in all the appropriate dosage ranges. Repeat the entire procedure until you have a 200 mls (one cup) or so container of sludge/slurry, each treated with a different Tramfloc® dewatering polymer.

Observe which sample has the largest and densest floc particles/curds, with the clearest supernatant (the liquid above or below the solids) and the largest water cavities around the flocculant chunks.

When you have finished testing of all polymer samples, see the dosage chart on the testing protocol page of our website to calculate your dosage for the best performing polymer, or call our product specialists who will perform the calculation for you.

Congratulations! You have just selected the Tramfloc® polymer which should be used to dewater sludge/slurry in your system. You may now schedule a trial application of the new polymer.