**Directions for Using the “Spec 20” Spectrometer**

Any spectrophotometers (specometer) will be similar (calibration before using each sample is a must).

1. Turn the power switch on and allow 5 minutes for warmup.
2. Set the instrument to the desired wavelength.
3. Adjust the instrument needle to read 0% on the Transmittance scale by turning the lower left-hand knob. Be sure the cover of the cuvette holder is closed. Rinse a colorimeter tube (cuvette) with “blank” solution and then fill about two-thirds its capacity. Wipe and polish the lower half of the cuvette with a tissue. Keep your fingers off the lower part of the tube. Raise the cover and insert the cuvette into the cuvette holder as far as it will go. The vertically etched line at the top of the cuvette should line up with the indicator line at the top of the plastic cuvette holder. Close the cover so outside light does not affect the phototube.
4. Adjust the needle to read 100% Transmittance by turning the lower right-hand knob.
5. Remove the cuvette containing “blank” and repeat step 2, readjusting the lower left-hand knob if necessary.
6. Reinsert the “blank” cuvette and repeat step 4, readjusting the right-hand knob if necessary.
7. Rinse and then fill a second cuvette with the first standard solution. Record the absorbance reading, estimating to 3 decimal places. Continue with other samples. Check the settings of the instrument frequently to ensure that the needle has not drifted from the original settings made in steps 2 and 4.

