DIP TANK CALCULATIONS

To calculate gallons in tank, use L, W, & D in inches, not feet:

\[
\text{Cubic Feet of Water in Tank} = \frac{(\text{Length} \times \text{Width} \times \text{Depth})}{1728}
\]

\[
\text{Gallons of Water in Tank} = \text{Cubic Feet} \times 7.5
\]

Example: If tank measures 240" x 72" x 48" = 829,440:

\[
\frac{829440}{1728} = 480 \text{ cubic feet}
\]

\[
480 \text{ cubic feet} \times 7.5 = 3600 \text{ gallons in tank}
\]

To calculate gallons per inch in tank:

\[
\text{Gallons per Inch} = \frac{\text{L} \times \text{W}}{1728} \times 7.5
\]

Example:

\[
\frac{240 \times 72}{1728} \times 7.5 = 75 \text{ gallons per inch}
\]

FOR INITIAL CHARGE OF TANK

Divide total gallons of water by the target strength + 1. This gives the amount of Sta-Brite P to add to the water.

\[
\frac{3600}{126} = 28.6 \text{ gallons of Sta-Brite P}
\]

Add 28.6 gallons of Sta-Brite P to charge at 1:125

TO MAINTAIN SOLUTION STRENGTH

Use this test kit to calculate the amount of Sta-Brite P already in solution. Then calculate how much Sta-Brite P is needed for the strength you want. Subtract these to get the amount you need to bring the solution up to strength.

Example: If test kit gives strength of 1:170, first calculate how many gallons are in the tank and divide by 171 (strength + 1).

\[
\frac{3600}{171} = 21 \text{ gal Sta-Brite P already in the solution}
\]

\[
3600 \div 126 = 28.6 \text{ gal Sta-Brite P needed for strength of 1:125}
\]

\[
28.6 - 21 = 7.6, \text{ so add 7.6 gal Sta-Brite P to bring solution up to strength}
\]

FIELD TEST KIT

STA-BRITE P

CODE SBP-9488

<table>
<thead>
<tr>
<th>QUANTITY</th>
<th>CONTENTS</th>
<th>CODE</th>
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<tbody>
<tr>
<td>15 mL</td>
<td>SBP Indicator Solution</td>
<td>SBP-6413-E</td>
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<tr>
<td>60 mL</td>
<td>*SBP Titrant</td>
<td>ISK-9191-H</td>
</tr>
<tr>
<td>30 mL</td>
<td>*SBP pH Buffer</td>
<td>ISK-9192-G</td>
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<tr>
<td>1</td>
<td>pH Test Papers</td>
<td>2954</td>
</tr>
<tr>
<td>1</td>
<td>Test Tube, 5-10-15 mL, glass, w/cap</td>
<td>0778</td>
</tr>
<tr>
<td>1</td>
<td>Direct Reading Titrator, 0-500 Range</td>
<td>0383</td>
</tr>
<tr>
<td>1</td>
<td>Test Tube Brush</td>
<td>0514</td>
</tr>
<tr>
<td>1</td>
<td>Syringe, 3 mL</td>
<td>30540</td>
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PROCEDURE

*WARNING: Reagents marked with an* are considered potential health hazards. To view or print a Material Safety Data Sheet (MSDS) go to www.lamotte.com.

A. This kit is calibrated to measure solutions containing Sta-Brite P alone or in combination with NeX Brite.

B. It is recommended that this test kit be used daily and adjustments made using Sta-Brite P.

C. You should be adding one gallon Sta-Brite P for each _______ gallons of water going into your vat. (Your ISK Biotech District Sales Representative will provide the appropriate number for your specific treating situation.)

D. Obtain a fresh sample of the dipping solution. Every attempt should be made to carefully mix the dipping solution prior to sampling to ensure that a representative sample is obtained.

E. Take the 3 mL syringe (30540) and fill to the 2.0 mL mark with the dip vat solution. Be certain that all air bubbles have been expelled.

F. Completely empty the contents of this syringe into the test tube.

G. Fill the titration tube to the 10 mL line with clean tap water or distilled water.

H. Using one of the pH test papers (2954) included, test the pH of this solution. If the pH is between 6 and 7, skip the pH adjustment section and continue with the test kit analysis below. If the pH is less than 6, add 2 drops of *SBP pH Buffer (ISK-9192) for each pH unit below 6.

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For example, if the pH is 3, then 6 - 3 = 3 and 3 x 2 = 6. So 6 drops of *SBP pH Buffer (ISK-9192) will need to be added. Recheck the pH and add more *SBP pH Buffer as needed until the pH is 6 or greater, then continue with the analysis as normal.

I. Add 5 drops of the SBP Indicator Solution (SBP-6413) to the sample. Cap the tube and gently shake to mix. A green color will develop.

J. The other syringe is the Direct Reading Titrator (0383). Depress the plunger of the Titrator to expel air. To fill the Titrator, insert the titrator tip into the center hole of the *SBP Titrant (ISK-9191), invert the solution bottle (Figure A) and slowly withdraw the plunger until the bottom of the plunger is opposite the zero mark on the scale (Figure B).

NOTE: A small air bubble may appear in the Titrator barrel. Expel the bubble by partially filling the barrel and pumping the titration solution back into the inverted solution bottle. Repeat this pumping action until the bubble disappears.

K. Turn the bottle right-side-up and remove the Titrator.

L. While gently swirling the tube, slowly press the plunger to titrate until the green color changes to an amber/orange (Figure C). This change is normally associated with the formation of coagulate. Record this number from the titrator scale. (As excess titrant is added, the solution will turn brighter orange). If in doubt, repeat procedure, beginning with Step D.

M. Divide 32,000 by the number on the titrator scale.

For example (refer to Figure D), if the titrator scale reads 56, then 32,000 divided by 56 = 571. This dip vat is at a dilution of 1:571.

N. Thoroughly rinse both syringes and the test tube with clean water. DO NOT remove the plunger or the adapter tip from the Titrator. It may be necessary to use the brush to completely clean the test tube.

**TO ADJUST YOUR DIP TANK**

<table>
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<tr>
<th>TITRATOR READING</th>
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<tr>
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