

Liothyronine (T3) 1:1000 Trituration Worksheet

Liothyronine is dosed on the base form (not the sodium salt form). An adjustment is needed to meet the USP labeled strength of Liothyronine. Below are 5 steps to assist in performing the calculations needed to produce a Liothyronine (T3) 1:1000 trituration.

Step 1. Account for loss on drying. This calculation accounts for the water in the chemical.

Step 2. Account for the assay. This calculation accounts for the impurities in the chemical.

Step 3. Correct for the Sodium Salt.

Step 4. Account for the ratio for the trituration.

Step 5. Find the amount of Avicel needed for the trituration.

Example All calculations in this example are based on using a 1 mg vial of Liothyronine Sodium. Liothyronine Sodium lot 1807190008 gives a loss on drying of 3.2% and an assay of 99.5%.

1. Calculate loss on drying:
 - i. 1 gm of T3 x 3.2% (loss on drying) = 0.032 gm of H₂O
 - ii. 1 gm of T3 – 0.032 gm of H₂O = 0.968 gm of T3
2. Calculate assay:
 - i. 0.968 gm of T3 x 99.5% assay = 0.96316 gm T3
3. Correct for Sodium Salt (Liothyronine 1 mg = Liothyronine Sodium 1.034 mg):
 - i. 0.96316 gm T3 / 1.034 gm = 0.93149 gm T3
4. Account for the ratio in the trituration. This amount represents 0.1%:
 - i. 0.93149 gm T3 x 1000 = 931.49 gm total trituration
5. Find the amount of Avicel needed for the trituration:
 - i. 931.49 gm total trituration – 1 gm T3 = 930.49 gm Avicel

Formulation for Liothyronine 1:1000/Avicel Trituration:

Liothyronine (T3):	1 gm
Avicel:	930.49 gm
Total quantity:	931.49 gm

Note: Liothyronine Sodium (T3) assay and loss on drying are lot specific and can vary from lot to lot. For information regarding the current lot specific information, please consult the Certificate of Analysis or reach out to us by heading to www.fagronacademy.us