Levothyroxine Sodium (T4) 1:1000 Trituration Worksheet

Below are 4 steps to assist in performing the calculations needed to produce a Levothyroxine Sodium (T4) 1:1000 trituration.

Step 1. Account water. 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. Account for the ratio for the trituration.
Step 4. Find the amount of Avicel needed for the trituration.

Example All calculations in this example are based on using a 1 g vial of Levothyroxine Sodium. Levothyroxine Sodium lot 2212090003 gives a water content of 9.19% and an assay of 99.4%.

1. Calculate the water content:
   i. 100% – 9.19% water = 90.81%
2. Calculate the amount of active T4 per 1 gm:
   i. 1 gm of T4 x (99.4% assay/100%) x (90.81%/100%) = 0.9026514 gm T4 per 1gm
3. Account for the ratio in the trituration. This amount represents 1mg/g (1:1000):
   i. 0.9026514 gm T4 x 1000 = 902.6514 gm total trituration
4. Find the amount of Avicel needed for the trituration:
   i. 902.6514 gm total trituration – 1 gm T4 = 901.6514 gm Avicel

Formulation for Levothyroxine Sodium 1:1000/Avicel Trituration:

Levothyroxine Sodium (T4):	1 gm
Avicel:	901.6514 gm
Total quantity:	902.6514 gm

Note: Levothyroxine Sodium (T4) 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**