



In order to develop a proper capsule formulation the capsule packing statistics for any unknown ingredient(s) must first be determined.

It is suggested capsule packing stats should also be determined when receiving new lots of chemical as variances do occur from lot to lot, even from the same supplier.

Capsule packing statistics for a powder, whether from crushed tablets, capsule contents or bulk Active Pharmaceutical Ingredients (APIs) or excipients, can be determined by hand packing empty capsules. A Size #1 capsule is recommended for this process, then the results can be converted to other size capsules.

Step	Hand Pack Procedure
1	Determine average empty weight of capsule (top and bottom) by weighing 10 empty capsules, then the divide total weight by 10
2	Prepare powder by placing a sufficient amount into a medium size weigh boat. Use a spatula to compress the powder to approximately ¼-inch in height. (For crystalline or granular material, reduce particle size in a mortar before packing.)
3	Firmly press capsule bottom into powder with a twisting motion. Repeat until capsule is completely full.
4	Recap capsule and repeat process with four additional capsules.
5	Weigh each capsule and record weight
6	Subtract average empty capsule weight from each recorded weight in Step#5
7	Determine average weight (sum of 5 weights / 5)

To extrapolate the Size #1 capsule packing stat to a different size capsule, multiply the Size #1 capsule packing stat by the appropriate factor indicated in the table below.

Capsule Size	#5	#4	#3	#2	#1	#0	#00	#000
Factor	0.27	0.43	0.61	0.74	—	1.37	1.95	2.95

* Factor calculations are based on known capsule physical volume with slight tweaks to account for differences in packing from person to person. Results are approximate and may vary slightly from the true stats due to a variety of factors.