Collect the data behind your stock buffer

A printable sheet for **one item at one location**. Record daily demand and completed supplier lead times, then use the Raw observations calculator. Blank cells are for your records; they are not suggested inputs.

Item / SKU: _____	Location: _____
Unit counted: _____	Demand record used: _____
Chosen day basis: calendar / working / other: _____	Period from: _____ to: _____

1. Daily demand on consecutive dates

Keep one consistent demand definition and time basis. Count the same unit throughout. If demand is per calendar day, use calendar-day lead times; if another basis is chosen, use that same basis for both.

Flag key: M = missing record; S = stock availability limited observed sales; E = unusual event such as a promotion or closure. Describe flags below. A true zero is known demand of zero, not a missing value.

#	Date	Units	Flag / brief note
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			

#	Date	Units	Flag / brief note
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

Read down the left table, then the right. Use extra copies if needed. The calculator accepts 7-90 daily observations; that input minimum is not proof that a sample is representative.

Flag notes / record corrections: _____

_____

Before you paste

[ ] Resolve missing records. Do not enter 0 for M or silently drop a date.
[ ] Review stockouts: fulfilled sales alone can hide unmet demand.
[ ] Review unusual events and changing periods. If the run is biased or incomplete, resolve it or choose another representative consecutive run; do not erase inconvenient days.
[ ] Use a record you can verify, not a guessed standard deviation.

Finish the record, then calculate

2. Completed supplier lead times

Use one supplier and a consistent receipt process. Record **order placed to stock usable**, including inspection or put-away if relevant. Count elapsed days on the day basis chosen on page 1, with the same start/end convention for every order. Unfinished orders are not completed observations.

#	Order placed	Stock usable	Lead days	Flag / brief note
1				
2				
3				
4				
5				
6				
7				
8				

The calculator accepts 3-30 completed lead times. Do not replace a missing duration with zero. Durations must be positive; raw values allow up to two decimals. Use extra copies when needed.

3. Run the Raw observations workflow

Open biztools.com/inventory-operations/safety-stock-calculator.
Choose **Raw observations**. Paste only the daily numbers into Daily demand observations and only the completed durations into Supplier lead-time observations. Spaces, commas or new lines separate values. Choose your own cycle service target, then calculate.

Worked example - synthetic records, not recommended defaults

Daily counts: 38, 42, 39, 41, 40, 36, 44
Completed lead times: 6, 7, 8 days
Sample standard deviations use n-1. Derived values round to two decimals before the model: daily mean **40.00**, daily SD **2.65**, lead mean **7.00**, lead SD **1.00**.

Chosen example target	95% cycle service; Z = 1.645
Lead-time demand variation	sqrt(7 x 2.65^2 + 40^2 x 1.00^2) = about 40.61 units
Safety buffer	1.645 x variation = about 66.80; round up to 67 units
Reorder point	Round up(40 x 7 + 67) = 347 units

This seven-day / three-order example demonstrates entry and math. It is not enough by itself to establish a reliable stocking policy.

Current service factors: 90%: 1.282 | 95%: 1.645 | 98%: 2.054 | 99%: 2.326. A cycle-service target models the chance of no stockout in one replenishment cycle. It is **not a fill rate** and is not a guarantee.

Check the result against your operating conditions

The model assumes representative, approximately independent demand and lead-time variation and approximately normal demand over lead time. Intermittent, seasonal or promotional demand can make it unreliable. Safety stock is the buffer; reorder point adds expected lead-time demand. Neither is a purchase order or a promise of service.

Sources and model choices. Oracle NetSuite: Inventory Optimization Calculations supports the combined-variance formula, upward rounding and normal-demand limitation. NC State SCRC: Safety Stock Analysis explains uncertainty and service factors. BiznTools uses sample SD (n-1), the factors above and rounded derived inputs; it does not reproduce every vendor convention.