

MW-67S 1,1,1-TCA												
General Statistics												
Total Number of Observations					6	Number of Distinct Observations					6	
						Number of Missing Observations					0	
Minimum					2.6	Mean					5.25	
Maximum					10	Median					4.8	
SD					2.567	Std. Error of Mean					1.048	
Coefficient of Variation					0.489	Skewness					1.49	
Note: Sample size is small (e.g., <10), if data are collected using incremental sampling methodology (ISM) approach,												
refer also to ITRC Tech Reg Guide on ISM (ITRC 2020 and ITRC 2012) for additional guidance,												
but note that ITRC may recommend the t-UCL or the Chebyshev UCL for small sample sizes (n < 7).												
The Chebyshev UCL often results in gross overestimates of the mean.												
Refer to the ProUCL 5.2 Technical Guide for a discussion of the Chebyshev UCL.												
Normal GOF Test												
Shapiro Wilk Test Statistic					0.874	Shapiro Wilk GOF Test						
1% Shapiro Wilk Critical Value					0.713	Data appear Normal at 1% Significance Level						
Lilliefors Test Statistic					0.264	Lilliefors GOF Test						
1% Lilliefors Critical Value					0.373	Data appear Normal at 1% Significance Level						
Data appear Normal at 1% Significance Level												
Note GOF tests may be unreliable for small sample sizes												
Assuming Normal Distribution												
95% Normal UCL						95% UCLs (Adjusted for Skewness)						
95% Student's-t UCL					7.361	95% Adjusted-CLT UCL (Chen-1995)					7.654	
						95% Modified-t UCL (Johnson-1978)					7.468	
Gamma GOF Test												
A-D Test Statistic					0.28	Anderson-Darling Gamma GOF Test						
5% A-D Critical Value					0.698	Detected data appear Gamma Distributed at 5% Significance Level						
K-S Test Statistic					0.201	Kolmogorov-Smirnov Gamma GOF Test						

5% K-S Critical Value				0.333	Detected data appear Gamma Distributed at 5% Significance Level						
Detected data appear Gamma Distributed at 5% Significance Level											
Note GOF tests may be unreliable for small sample sizes											
Gamma Statistics											
k hat (MLE)				5.789	k star (bias corrected MLE)					3.006	
Theta hat (MLE)				0.907	Theta star (bias corrected MLE)					1.747	
nu hat (MLE)				69.47	nu star (bias corrected)					36.07	
MLE Mean (bias corrected)					5.25	MLE Sd (bias corrected)					3.028
					Approximate Chi Square Value (0.05)					23.32	
Adjusted Level of Significance					0.0122	Adjusted Chi Square Value					19.71
Assuming Gamma Distribution											
95% Approximate Gamma UCL					8.119	95% Adjusted Gamma UCL					9.608
Lognormal GOF Test											
Shapiro Wilk Test Statistic					0.971	Shapiro Wilk Lognormal GOF Test					
10% Shapiro Wilk Critical Value					0.826	Data appear Lognormal at 10% Significance Level					
Lilliefors Test Statistic					0.186	Lilliefors Lognormal GOF Test					
10% Lilliefors Critical Value					0.298	Data appear Lognormal at 10% Significance Level					
Data appear Lognormal at 10% Significance Level											
Note GOF tests may be unreliable for small sample sizes											
Lognormal Statistics											
Minimum of Logged Data					0.956	Mean of logged Data					1.569
Maximum of Logged Data					2.303	SD of logged Data					0.453
Assuming Lognormal Distribution											
95% H-UCL					8.892	90% Chebyshev (MVUE) UCL					8.128
95% Chebyshev (MVUE) UCL					9.442	97.5% Chebyshev (MVUE) UCL					11.27
99% Chebyshev (MVUE) UCL					14.85						
Nonparametric Distribution Free UCL Statistics											

Data appear to follow a Discernible Distribution												
Nonparametric Distribution Free UCLs												
95% CLT UCL					6.973	95% BCA Bootstrap UCL					7.333	
95% Standard Bootstrap UCL					6.836	95% Bootstrap-t UCL					8.807	
95% Hall's Bootstrap UCL					16.14	95% Percentile Bootstrap UCL					7.017	
90% Chebyshev(Mean, Sd) UCL					8.393	95% Chebyshev(Mean, Sd) UCL					9.817	
97.5% Chebyshev(Mean, Sd) UCL					11.79	99% Chebyshev(Mean, Sd) UCL					15.68	
Suggested UCL to Use												
95% Student's-t UCL					7.361							
Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.												
Recommendations are based upon data size, data distribution, and skewness using results from simulation studies.												
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.												