

MW-69 Cis-1,2 DCE												
General Statistics												
Total Number of Observations					6	Number of Distinct Observations					6	
						Number of Missing Observations					0	
Minimum					3.5	Mean					5.283	
Maximum					8	Median					5.05	
SD					1.653	Std. Error of Mean					0.675	
Coefficient of Variation					0.313	Skewness					0.817	
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					0.948	Shapiro Wilk GOF Test						
1% Shapiro Wilk Critical Value					0.713	Data appear Normal at 1% Significance Level						
Lilliefors Test Statistic					0.14	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					6.643	95% Adjusted-CLT UCL (Chen-1995)						6.634
						95% Modified-t UCL (Johnson-1978)						6.681
Gamma GOF Test												
A-D Test Statistic					0.189	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					0.16	Kolmogorov-Smirnov Gamma GOF Test						

5% K-S Critical Value				0.332	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)				12.9	k star (bias corrected MLE)					6.559	
Theta hat (MLE)				0.41	Theta star (bias corrected MLE)					0.806	
nu hat (MLE)				154.7	nu star (bias corrected)					78.7	
MLE Mean (bias corrected)					5.283	MLE Sd (bias corrected)				2.063	
						Approximate Chi Square Value (0.05)				59.27	
Adjusted Level of Significance					0.0122	Adjusted Chi Square Value				53.21	
Assuming Gamma Distribution											
95% Approximate Gamma UCL					7.016	95% Adjusted Gamma UCL				7.814	
Lognormal GOF Test											
Shapiro Wilk Test Statistic					0.978	Shapiro Wilk Lognormal GOF Test					
10% Shapiro Wilk Critical Value					0.826	Data appear Lognormal at 10% Significance Level					
Lilliefors Test Statistic				0.14		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					1.253	Mean of logged Data				1.625	
Maximum of Logged Data					2.079	SD of logged Data				0.305	
Assuming Lognormal Distribution											
95% H-UCL					7.215	90% Chebyshev (MVUE) UCL				7.249	
95% Chebyshev (MVUE) UCL					8.142	97.5% Chebyshev (MVUE) UCL				9.38	
99% Chebyshev (MVUE) UCL					11.81						
Nonparametric Distribution Free UCL Statistics											

Data appear to follow a Discernible Distribution												
Nonparametric Distribution Free UCLs												
95% CLT UCL					6.394	95% BCA Bootstrap UCL					6.517	
95% Standard Bootstrap UCL					6.312	95% Bootstrap-t UCL					7.184	
95% Hall's Bootstrap UCL					7.189	95% Percentile Bootstrap UCL					6.367	
90% Chebyshev(Mean, Sd) UCL					7.308	95% Chebyshev(Mean, Sd) UCL					8.226	
97.5% Chebyshev(Mean, Sd) UCL					9.499	99% Chebyshev(Mean, Sd) UCL					12	
Suggested UCL to Use												
95% Student's-t UCL					6.643							
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.												