

MW-108D PCE												
General Statistics												
Total Number of Observations					6	Number of Distinct Observations					4	
Number of Detects					3	Number of Non-Detects					3	
Number of Distinct Detects					3	Number of Distinct Non-Detects					1	
Minimum Detect					0.32	Minimum Non-Detect					0.3	
Maximum Detect					0.48	Maximum Non-Detect					0.3	
Variance Detects					0.00803	Percent Non-Detects					50%	
Mean Detects					0.377	SD Detects					0.0896	
Median Detects					0.33	CV Detects					0.238	
Skewness Detects					1.708	Kurtosis Detects					N/A	
Mean of Logged Detects					-0.994	SD of Logged Detects					0.226	
Warning: Data set has only 3 Detected Values.												
This is not enough to compute meaningful or reliable statistics and estimates.												
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 on Detects Only												
Shapiro Wilk Test Statistic					0.797	Shapiro Wilk GOF Test						
1% Shapiro Wilk Critical Value					0.753	Detected Data appear Normal at 1% Significance Level						
Lilliefors Test Statistic					0.365	Lilliefors GOF Test						
1% Lilliefors Critical Value					0.429	Detected Data appear Normal at 1% Significance Level						
Detected Data appear Normal at 1% Significance Level												
Note GOF tests may be unreliable for small sample sizes												
Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs												
KM Mean					0.338	KM Standard Error of Mean					0.0322	
90KM SD					0.0644	95% KM (BCA) UCL					N/A	
95% KM (t) UCL					0.403	95% KM (Percentile Bootstrap) UCL					N/A	
95% KM (z) UCL					0.391	95% KM Bootstrap t UCL					N/A	
90% KM Chebyshev UCL					0.435	95% KM Chebyshev UCL					0.479	
97.5% KM Chebyshev UCL					0.539	99% KM Chebyshev UCL					0.659	
Gamma GOF Tests on Detected Observations Only												

A-D Test Statistic				0.535	Anderson-Darling GOF Test					
5% A-D Critical Value				0.635	Detected data appear Gamma Distributed at 5% Significance Level					
K-S Test Statistic				0.402	Kolmogorov-Smirnov GOF					
5% K-S Critical Value				0.431	Detected data appear Gamma Distributed at 5% Significance Level					
Detected Data Not Gamma Distributed at 5% Significance Level										
Gamma Statistics on Detected Data Only										
k hat (MLE)				28.53	k star (bias corrected MLE)				N/A	
Theta hat (MLE)				0.0132	Theta star (bias corrected MLE)				N/A	
nu hat (MLE)				171.2	nu star (bias corrected)				N/A	
Mean (detects)				0.377						
Gamma ROS Statistics using Imputed Non-Detects										
GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs										
GROS may not be used when kstar of detects is small such as <1.0, especially when the sample size is small (e.g., <15-20)										
For such situations, GROS method may yield incorrect values of UCLs and BTVs										
This is especially true when the sample size is small.										
For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates										
Minimum				0.0434	Mean				0.246	
Maximum				0.48	Median				0.251	
SD				0.16	CV				0.651	
k hat (MLE)				2.121	k star (bias corrected MLE)				1.172	
Theta hat (MLE)				0.116	Theta star (bias corrected MLE)				0.21	
nu hat (MLE)				25.45	nu star (bias corrected)				14.06	
Adjusted Level of Significance (β)				0.0122						
Approximate Chi Square Value (14.06, α)				6.613	Adjusted Chi Square Value (14.06, β)				4.887	
95% Gamma Approximate UCL				0.523	95% Gamma Adjusted UCL				N/A	
Estimates of Gamma Parameters using KM Estimates										
Mean (KM)				0.338	SD (KM)				0.0644	
Variance (KM)				0.00415	SE of Mean (KM)				0.0322	
k hat (KM)				27.6	k star (KM)				13.91	
nu hat (KM)				331.2	nu star (KM)				166.9	
theta hat (KM)				0.0123	theta star (KM)				0.0243	
80% gamma percentile (KM)				0.411	90% gamma percentile (KM)				0.459	
95% gamma percentile (KM)				0.5	99% gamma percentile (KM)				0.584	
Gamma Kaplan-Meier (KM) Statistics										
Approximate Chi Square Value (166.94, α)				138.1	Adjusted Chi Square Value (166.94, β)				128.6	
95% KM Approximate Gamma UCL				0.409	95% KM Adjusted Gamma UCL				0.439	

Lognormal GOF Test on Detected Observations Only											
Shapiro Wilk Test Statistic				0.807	Shapiro Wilk GOF Test						
10% Shapiro Wilk Critical Value				0.789	Detected Data appear Lognormal at 10% Significance Level						
Lilliefors Test Statistic				0.361	Lilliefors GOF Test						
10% Lilliefors Critical Value				0.389	Detected Data appear Lognormal at 10% Significance Level						
Detected Data appear Lognormal at 10% Significance Level											
Note GOF tests may be unreliable for small sample sizes											
Lognormal ROS Statistics Using Imputed Non-Detects											
Mean in Original Scale				0.28	Mean in Log Scale					-1.354	
SD in Original Scale				0.123	SD in Log Scale					0.44	
95% t UCL (assumes normality of ROS data)				0.381	95% Percentile Bootstrap UCL					0.356	
95% BCA Bootstrap UCL				0.368	95% Bootstrap t UCL					0.419	
95% H-UCL (Log ROS)				0.465							
Statistics using KM estimates on Logged Data and Assuming Lognormal Distribution											
KM Mean (logged)				-1.099	KM Geo Mean					0.333	
KM SD (logged)				0.167	95% Critical H Value (KM-Log)					2.024	
KM Standard Error of Mean (logged)				0.0837	95% H-UCL (KM -Log)					0.393	
KM SD (logged)				0.167	95% Critical H Value (KM-Log)					2.024	
KM Standard Error of Mean (logged)				0.0837							
DL/2 Statistics											
DL/2 Normal					DL/2 Log-Transformed						
Mean in Original Scale				0.263	Mean in Log Scale					-1.446	
SD in Original Scale				0.136	SD in Log Scale					0.515	
95% t UCL (Assumes normality)				0.376	95% H-Stat UCL					0.498	
DL/2 is not a recommended method, provided for comparisons and historical reasons											
Nonparametric Distribution Free UCL Statistics											
Detected Data appear Normal Distributed at 1% Significance Level											
Suggested UCL to Use											
95% KM (t) UCL					0.403						
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.											