“Log” stands for logarithm, which is the exponent of 10. For example, Log-2 represents $10^2$ or $10 \times 10$ or 100. Log Reduction stands for a 10-fold (one decimal) or 90% reduction in numbers of live bacteria.

Another way to look at it is: 1-Log Reduction would reduce the number of bacteria 90%. This means, for example, that 100 bacteria would be reduced to 10, or 10 reduced to 1.

This chart illustrates the impact log reductions have on a surface harboring 1,000,000 microbes.

A 3-Log Reduction on a surface with 1,000,000 microbes would leave 1,000 microbes, which equates to a 99.9% reduction in potentially harmful microorganisms.

Quick Guide to Log Reduction

1 Log reduction: Number of germs is 10 times smaller
2 Log reduction: Number of germs is 100 times smaller
3 Log reduction: Number of germs is 1000 times smaller
4 Log reduction: Number of germs is 10,000 times smaller
5 Log reduction: Number of germs is 100,000 times smaller
6 Log reduction: Number of germs is 1,000,000 times smaller
7 Log reduction: Number of germs is 10,000,000 times smaller