



# Utilising the Biocide Activity Kit in an Industrial Environment

By CheckLight Ltd

*“The problem was to ensure that the operation of the systems would not suffer as a result of the cost-cutting policy.”*

## The Situation

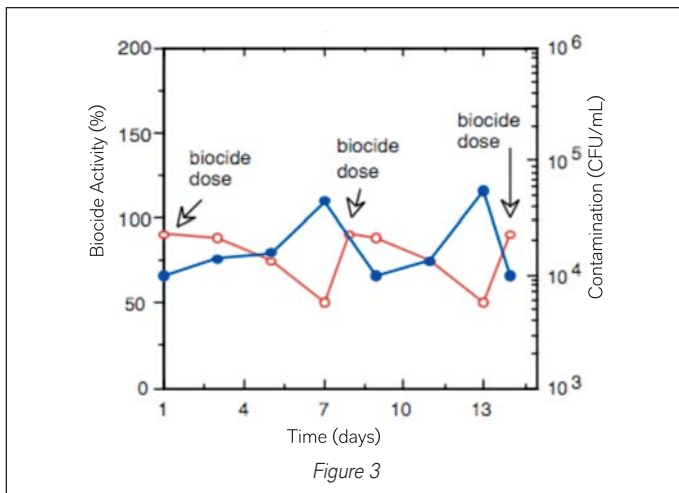
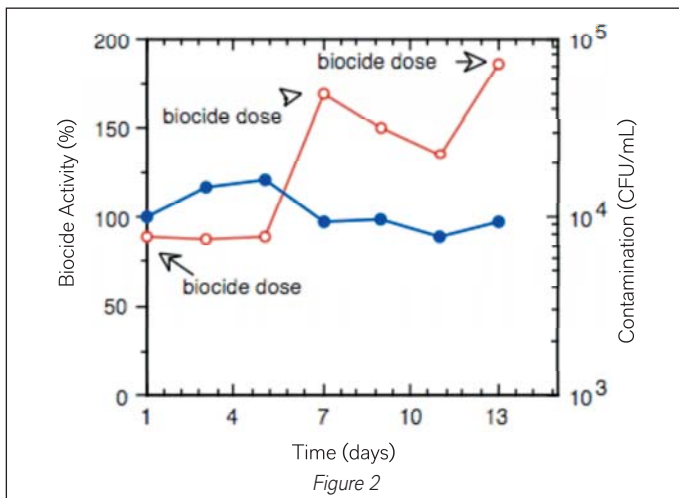
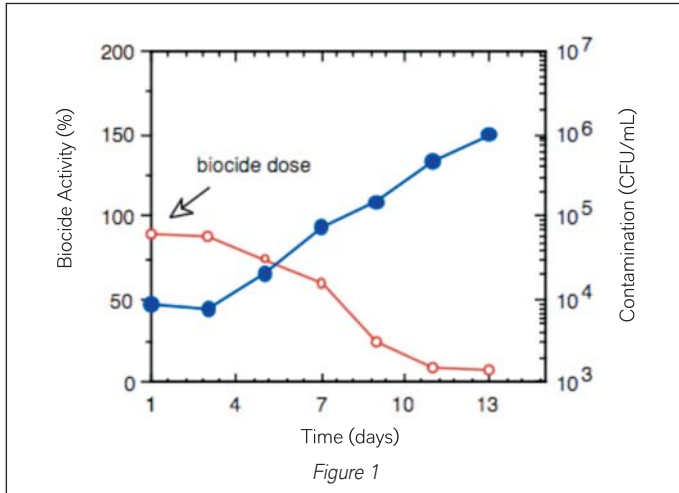
A leading provider of biocide services and chemicals to large petrochemical plants was being challenged by his clients to reduce the treatment cost of their plant cooling water systems but without compromising effectiveness. If he could not improve the situation many of his clients threatened to switch to his competitors who were trying to tempt them with lower prices.

## The Problem

Ironically, both the service provider and the clients had the same problem in trying to initiate the

changes. The difficulty that the service provider faced in trying to comply with the new demands of his clients was identified as, his lack of current and relevant data of the in-site biocide system performance. Normally, testing was expensive and he would only get sample results after 48 hours from his laboratory. Without current data, he could not safely reduce the preset level of chemical dosing which was fixed for the worst-case scenario rather than the actual one.

The problem the clients now faced was to ensure that the operation of their systems would not suffer



as a result of the cost-cutting policy. What they needed was an independent monitoring system for evaluating performance.

### The Solution

CheckLight was able to demonstrate that its Biocide Activity Test Kit could give vital real-time information of biocide activity. Not only that, but the real-time measurements now enabled the service provider to identify the most suitable dosing points and optimal dosing regime for each client's system. Typical measurements taken from two of the systems before any rectifying action was taken are shown in Figures 1 and 2.

Figure 1 shows too long a delay before dosing the water and as a result the level of microbiological contamination rises well above the acceptable level of 105CFU/ml. [www.checklight.biz](http://www.checklight.biz)

Figure 2 shows that the level of contamination is well below the permitted level but only because of wasteful overdosing of chemical reagents to the water.

### The Results

After initiating a program of measurements the service provider was able to optimise the sequence and quantity of chemical dosing needed to maintain the water below the accepted level, as shown in Figure 3.

CheckLight's Biocide Activity Test Kit added a crucially important dimension to the water treatment QA/QC package. It was successfully used to monitor the systems and lead to implementation of a new dosing regime that both helped reduce service cost and provided the clients with their own means for verifying optimal system operation.

Satisfaction from the kit of both service provider and client stemmed from the following reasons:

- ▶▶ Fast and reliable response: reproducible readings within 5 minutes.
- ▶▶ Easy to use: no special laboratory skills required to operate.
- ▶▶ Portable: water samples can be tested on site.
- ▶▶ Cost effective: low cost per test enables rapid response to changing water quality conditions.

#### About the Contributor

Founded in 2001 by Dr. Nirit Ulitzur, CheckLight Ltd. is a private company, based in Israel. Since its foundation CheckLight has engaged in developing and marketing technologies for drinking water quality testing applications. CheckLight's solutions are based on breakthrough proprietary bioluminescence - based technology. CheckLight utilises non-pathogenic luminescent marine bacteria as sensitive biosensors - Biological monitoring (or biomonitoring) that can rapidly indicate changes in water quality. Its technologies are based on the scientific work carried out by Professor Shimon Ulitzur, a world renowned expert in the field of marine bioluminescence who has dedicated over thirty years to Researching the field.

We look forward to your feedback on this case study. To know more about the contributor, you can write to us at [content@eawater.com](mailto:content@eawater.com)