



microLAN B.V.

Abstract Setac Prague 2004:

Development of an on-line Biological Early Warning System using light emitting bacteria: the end of analytical-chemical techniques??

Joep Appels, microLAN bv, P.O. Box 640, NL5140 AP Waalwijk, The Netherlands.

It still is not possible to use the traditional chemical analyses alone to get a complete view of the quality of waste, surface or drinking water. Biological Early Warning Systems (BEWS) can give additional information on the water quality. In case an alarm is generated by a biological protection system there clearly is a problem with the water. The use of a biomonitor in the drinking water production as Early Warning Systems has been a wide spread and accepted method all over the world. These production companies have a biological protection system to closely follow the continuous effects on producers (algae), consumers (daphnia, fish, mussels) and destruenters (light emitting bacteria), 365 days per year, 24 hours per day.

A completely automated system using freshly cultivated light emitting bacteria (*Vibrio fischeri*) as a biological sensor was developed years ago by the University of Regensburg(D). It did not meet all requirements for the "ideal early warning system" so together with several users the monitor was changed to meet their specific needs.

This presentation shows the latest version of this system, which opens possibilities of using it also in wastewater and coolingwater applications. Additionally also the use of this BEWS is discussed which shows that it is an ideal screening tool for toxicity problems and an excellent combination with analytical-chemical techniques.

microLAN B.V.

Micro Laboratory Analysis Netherlands

Tel.: +31.416.540775 / Fax:+31.416.540 776

info@microlan.nl / www.microlan.nl

KvK no.: 18071474 / Rabo bank: 3342.30.365 / BTW nr.: NL8124.21.784.B01