

## **Rapid ecotoxicological tests using bioassay systems: a review**

### **ABSTRACT**

The rise in pollution cases globally is expected to increase in line with industrialization. Monitoring activities for pollutants have been hampered by the astronomical costs of instrumental-based approach. This has resulted in the intense research on low cost biomonitoring systems using enzymes, organisms including microorganisms. Only positive samples are sent for instrumental analysis; dramatically cutting the cost of instrumental analysis. This review attempts to outline and give due recognition to several selected bioassay systems that have been tested for their applicability using polluted water samples as a routine first line-of-defense. This includes small aquatic organisms-based assays, enzymes especially proteases and bacterial-based systems using respiratory dye or luminescence systems as a method for toxicant detection.

**Keyword:** Ecotoxicological tests; Pollution; Metal; Bioassay; Bacteria