


Technical Information Sheet

1. Name of technology	Technology for assessing the overall environmental effects of wastewater and leachate based on biological response tests
2. Type of technology	Focusing on wastewater and leachate emitted from waste treatment facilities and final waste disposal sites, we conduct biological response tests (WET* tests) using a variety of aquatic biological species (algae, crustaceans, and fish) in order to assess the ecological toxicity of all chemicals contained in wastewater, including the interaction of such chemicals, as the overall effects of environmental chemicals. *Whole Effluent Toxicity
3. Description of technology	<p>[Objective and application of technology]</p> <p>There is growing concern over the complex, negative effects of various chemicals discharged into the environment on aquatic species. Our test provides a method for making an overall assessment of the effects of all chemicals contained in wastewater on aquatic species. This method supports conventional methods for the management of hazardous substances based on chemical analysis. Using this method to manage waste treatment facilities and final waste disposal sites makes it possible to assess the effects of wastewater on surrounding ecosystems and to implement appropriate protective measures.</p> <p>[Characteristics of technology]</p> <p>We conduct a wastewater growth impediment test using freshwater <u>algae</u>, a <u>water flea</u> breeding test, and a short-term toxicity test using <u>fish</u> embryos and larvae, in order to study concentration levels that have no hazardous effects on test species, and to assess the ecological effects of wastewater.</p> <p>[Delivery record]</p> <p>We have been commissioned to conduct many biological response tests targeting various types of industrial wastewater that differ in water quality; based on our advanced technologies and rich experience, we properly assess the ecological effects of wastewater.</p> <p>[Price or contact point]</p> <p>Ikuro Mitsumoto, Overseas Business Department, IDEA Consultants, Inc. (TEL: +81-045-593-7637; e-mail: mitu@ideacon.co.jp)</p>
Objective, application, characteristics, delivery record, and price of technology	 <p style="text-align: center;">Grown fish Fertilized egg (embryo)</p> <p style="text-align: center;">Zebrafish (<i>Danio rerio</i>)</p>
4. Classification of technology	
(1) Applicable fields	Surveys and assessment
(2) Target waste	Waste plastics, construction waste, home appliances, fluorescent light tubes, electronic products, mobile phones, automobiles, cells and lead batteries, waste tires, medical waste, and waste oil
(3) Services provided	Consulting, environmental impact assessment, surveys, and data processing
5. Countries to which this technology can be provided	Southeast Asia
6. Keywords	Wastewater, leachate, biological effects, toxicity test, WET, chemical management, monitoring
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