

## Eco-toxicity of oily wastes containing TENORM

Gumerova R., Galitskaya P., Selivanovskaya S.  
*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### Abstract

Oily wastes are considered as one of the most hazardous waste types. Additionally to petroleum components, they can contain radioactive elements. This study aimed to estimate the toxicity of four raw and two treated waste samples obtained from petroleum production yard. Eight elutriate bioassays using plants (*Raphanus sativus* and algae *Scenedesmus quadricauda*), crustacean (*Daphnia magna* and *Thamnocephalus platyurus*), rotifer (*Brachionus calyciflorus*), protozoa (*Paramecium caudatum*) and bacteria (*Bacillus pumilus* and luminescent commercial strain) were used. Two contact bioassays based on *R. sativus* and *B. pumilus* were applied. Total petroleum hydrocarbons (TPH) content and activity concentrations of radium, thorium and potassium were determined. Copyright © 2014 Inderscience Enterprises Ltd.

<http://dx.doi.org/10.1504/IJEWMM.2014.064086>

---

### Keywords

Bioassay, Oily waste, TENORM, Toxicity, Waste management