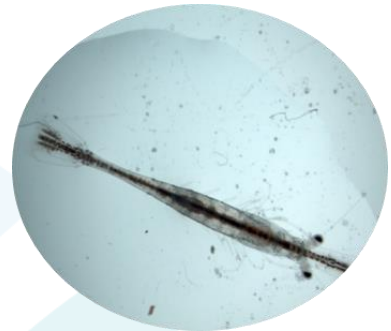


TOXICITY TEST FACT SHEET #8 – Marine

Acute Toxicity Test With Prawns

Penaeid prawns such as the tiger prawn *Penaeus monodon* are both ecologically and economically important group of crustaceans. The acute toxicity test using the 15-day post-larval *P. monodon* uses hatchery reared juveniles, and is based on USEPA Test method for mysid shrimp and USEPA OPPTS850.1045 guideline for penaeid prawns.



In summary, this test involves exposing hatchery reared PL-15 juveniles to the test material for 96 hours. The test is usually undertaken on a range of concentrations of a test material, eg 100, 50, 25, 12.5 and 6.3% effluent. At the end of the exposure period, the number of surviving prawns is recorded.

Statistical analyses are then applied to the test data to determine for example, the concentration of the test material causing 50% reduction in prawns survival in the test population (EC50 estimate). The test data can then be used to estimate concentrations of the test material likely to cause chronic toxicity in the environment.

The Acute Prawn Test may be used to assess the toxicity of:

- ▶ Chemicals
- ▶ Effluents
- ▶ Leachates and groundwater
- ▶ Sediments

If toxicity is detected using the Acute Prawn Test, a Toxicity Identification Evaluation (TIE) programme can be initiated to identify the cause of the observed toxicity.

Acute Toxicity Test With Prawns	
Test type	Acute static
Test end-point	Survival
Test duration	96 hours
Test Temperature	25±1°C
Sample volume required	4 litre for full EC50 determination
Test availability	24hrs notice requested
Test turnaround time	Advice given within 72 hours of test initiation