

# Direct Toxicity Assessment (DTA)

## Marine and freshwater toxicity testing services



Direct Toxicity Assessment (DTA) is a process for measuring the environmental hazard (toxicity), and risk of environmental damage of an industrial effluent discharged to the aquatic environment. DTA determines the overall toxic effect of all contaminants in an effluent sample using a suite of standardised aquatic assays. It can be used solely, or in conjunction with a chemical specific approach, and provides a degree of biological relevance to the risk assessment process.

### Our science

Cefas has extensive experience in the development and application of a large suite of acute and sublethal water and sediment toxicity test/bioassays. As a member of the DTA Demonstration Programme Steering Group, we played a significant role in the development of the current scheme. We also have experience in environmental impact assessment of effluents, water bodies and sediments. Investigations are conducted by utilising a range of sampling techniques, chemical analyses and biological effects studies to deliver robust environmental solutions.

### Toxicity Testing Service for DTA

The test methods recommended by the Environment Agency for DTA and offered by Cefas include the following:

#### Marine tests

- *Tisbe battagliai* – benthic copepod acute 48 hour test
- *Crassostrea gigas* – Pacific oyster 24h development test
- *Skeletonema costatum* – marine diatom 72h growth inhibition test
- *Scophthalmus maximus* – juvenile turbot acute 96 hour test

#### Freshwater tests

- *Daphnia magna* – cladoceran 48 hour immobilisation test
- *Pseudokirchneriella subcapitata* – green algae 72h growth inhibition test
- *Oncorhynchus mykiss* – juvenile trout acute 96 hour test

Cefas has extensive knowledge and experience in conducting each of these methods to the MCerts Performance Standard and are currently in the process of registering as an MCerts Approved Laboratory.

1 Industrial outfall

## Contact us

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Or for more information on our Direct Toxicity Assessment Services, please contact:

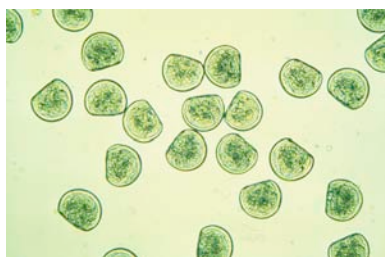
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2 Benthic copepod *Tisbe battagliai*

3 *Daphnia magna*

4 Pacific oyster *Crassostrea gigas*

## About us

Cefas is a multidisciplinary scientific research and consultancy centre providing a comprehensive range of services in fisheries management, environmental monitoring and assessment, and aquaculture to a large number of clients worldwide.

We have more than 500 staff based in 3 laboratories, our own ocean-going research vessel, and over 100 years of fisheries experience. We have a long and successful track record in delivering high-quality services to clients in a confidential and impartial manner. ([www.cefas.co.uk](http://www.cefas.co.uk))

Cefas Technology Limited (CTL) is a wholly owned subsidiary of Cefas specialising in the application of Cefas technology to specific customer needs in a cost-effective and focussed manner.

CTL systems are developed by teams that are experienced in fisheries and environmental management and in working closely with clients to ensure that their needs are fully met. ([www.cefastechnology.co.uk](http://www.cefastechnology.co.uk))

## Customer focus

Our unique facilities and breadth of expertise in environmental and fisheries management, enable us to rapidly put together a multi-disciplinary team of experienced specialists, fully supported by our comprehensive in-house resources.

Our existing customers are drawn from a broad spectrum with wide ranging interests. Clients include:

- international and UK government departments
- the European Commission
- the World Bank
- United Nations Food and Agriculture Organisation (UNFAO)
- oil, water, chemical, pharmaceutical, agro-chemical, aggregate and marine industries
- non-governmental and environmental organisations
- regulators and enforcement agencies
- local authorities and other public bodies

We also work successfully in partnership with other organisations, operate in international consortia and have several joint ventures commercialising our intellectual property.