



DHI SOLUTION

# OFFSHORE CHEMICALS USE AND DISCHARGE - FULFILLING REQUIREMENTS

Ecotoxicological tests and documentation services for offshore chemicals

Offshore operators must meet high demands on environmental and occupational safety when handling chemicals on offshore installations. The OSPAR Convention – contracted by parties operating in the North-East Atlantic Ocean – aims to protect the marine environment. The convention has implemented a harmonised, mandatory control system including actions and measures to prevent and eliminate pollution from the offshore oil and gas industry. The strategy is focused on discharge of produced water and discharge of offshore chemicals for which documentation is required by the national authorities. To ensure occupational health on offshore installations, offshore operators must meet national and international regulations on the handling of chemicals.

## HARMONISED OFFSHORE CHEMICAL NOTIFICATION FORMAT

The OSPAR Convention requires documentation of ecotoxicological properties of chemicals used in the offshore oil and gas industry. The properties are documented in the Harmonised Offshore Chemical Notification Format (HOCNF).

Mandatory ecotoxicological data and information required for all deliberately added substances within a chemical product must be in accordance with registered data on the basis of the REACH regulation (Regulation (EC) No 1907/2006), if available, or with test results from investigations of:

- biodegradability in seawater
- bioaccumulation potential (log POW)
- toxic effects on marine organisms from the three trophic levels (algae, crustaceans and fish)

## USE OF REACH-REGISTERED DATA

We have the expertise needed to fulfil the HOCNF documentation using information from REACH-registered data or laboratory tests.

By registering substances in REACH, user can utilise the registered data to complete the HOCNF. This reduces the need for ecotoxicological tests in cases where the registered data satisfies Harmonised Mandatory Control System (HMCS) requirements.

We have extensive experience with REACH registrations, including the evaluation of data, use of read across, use of weight of evidence approach, use of QSAR and

## SUMMARY

### CLIENT

- Contracting parties of OSPAR (Oslo and Paris Convention for the Protection of the marine Environment of the North-East Atlantic)
- Suppliers of offshore chemicals
- Offshore operators in the North-East Atlantic Ocean

### CHALLENGE

- Meeting requirements set by the OSPAR Convention or by the national authorities on use and discharge of offshore chemicals within the North-East Atlantic Ocean
- Assessing exposures and risks to marine environments and occupational health

### SOLUTION

- Preparing Harmonised Offshore Chemical Notification Format (HOCNF) to document the environmental hazard of offshore chemicals
- Conducting ecotoxicity tests to assess the effects of chemical substances in the marine environment
- Using recognised exposure estimation tools to conduct exposure and risk assessments
- Preparing Safety Data Sheets (SDS) and workplace instructions to ensure safe use of chemicals on offshore installations

### VALUE

- Enables the documentation of the hazard of offshore chemicals to the environment and workers
- Supports offshore operators in meeting the requirements set by the OSPAR Convention or by the national authorities on use and discharge of offshore chemicals
- Ensures compliance for offshore chemicals with OSPAR rules, national requirements on use and discharge of chemicals, and workplace requirements

the provision of justifications required for this non-testing data. Our REACH registration work for the offshore industry has given us the ability to efficiently evaluate REACH-registered data and identify appropriate data as required by the HMCS.

### LABORATORY TEST

Our laboratories conduct a wide range of ecotoxicological tests, including:

- Aerobic biodegradation tests (OECD Guideline No. 306)
- Bioaccumulation potential (log POW determination by High Performance Liquid Chromatography, OECD Guideline No. 117)
- Growth inhibition test with the alga *Skeletonema costatum* (ISO 10253)
- Acute toxicity test with the crustacean *Acartia tonsa* (DS/EN ISO 14669)
- Acute toxicity test with turbot (*Scophthalmus maximus*) or sheepshead minnow (*Cyprinodon variegatus*) (OSPAR Protocol Part B)
- Acute toxicity test with the sediment re-worker *Corophium sp.* (OSPAR Protocol Part A)

We conduct tests required by the OSPAR Convention in accordance with the OECD Principles of Good Laboratory Practice (GLP).

#### OFFSHORE CHEMICALS AND REACH

With data requirements on substance level in the HMCS and data available on substances' environmental properties from the REACH registrations, it is obvious to consider the use of REACH data in completing the HOCNF and for the OSPAR pre-screening.

The use of REACH data in the HMCS requires that the equivalence, adequacy, reliability and relevance of the data is evaluated according to the principles in REACH and deemed acceptable. The use of REACH registration data that includes risk quotient estimations for a certain use must be coordinated with the competent national authority.

#### OUR ECOTOXICOLOGICAL LABORATORY

Our ecotoxicological laboratory is accredited in accordance with the well-established Laboratory Quality Management System ISO 17025. It is authorised to perform studies in compliance with the OECD Principles of Good Laboratory Practice (GLP). Our experienced and qualified staff ensures that we supply you with high-quality services by using modern analytical instruments, appropriate and approved test methods, and stringent quality control.



We are accredited by DANAK (The Danish Accreditation Fund), Test Reg. Nr. 0026.



*Acartia tonsa*, a marine crustacean used in acute toxicity testing.  
© DHI

### OSPAR PRE-SCREENING

A harmonised pre-screening scheme for offshore chemicals is part of the requirements in the OSPAR Convention. The pre-screening is done based on the data in the HOCNF and serves to examine and determine the regulation and control of substances used and discharged offshore.

Our experts help chemical suppliers and offshore operators through the OSPAR pre-screening and the steps to be taken based on the outcome of the pre-screening. This includes conducting risk assessments by CHARM (Chemical Hazard Assessment and Risk Management), estimations of risk quotients and supporting the substitution process by identifying better alternatives for the marine environment.

### WORKPLACE REGULATIONS

When handling chemicals offshore, safety data sheets (SDS) must be available at the workplace according to REACH. In addition, workplace instructions must be implemented and available for offshore installations in the Danish sector of the North-East Atlantic Ocean to ensure a safe working environment.

We have a long history of authoring safety data sheets and the related workplace instructions.

Contact: [lab-dk@dhigroup.com](mailto:lab-dk@dhigroup.com)

For more information visit: [www.dhigroup.com](http://www.dhigroup.com)