

Environmental Toxicology Service Portfolio for your Early Screening and Regulatory Submissions

Environmental toxicity studies play a critical role in understanding the potential risks and hazards associated with various compounds. They also facilitate protection and preservation of ecosystems, promote sustainable practices, and safeguard human and environmental health. Ecotoxicology is covered under legislation including OECD, OCSPP/OPPTS, CIB-RC, EPA, ECHA and ISO guidelines.

At Aragen, we provide a comprehensive range of environmental toxicology and ecotoxicology studies to determine threshold toxicity concentrations of a range of test compounds during early discovery and regulatory development stage. Our teams of qualified and experienced environmental toxicologists provide integrated approach to ecotoxicity and environmental risk assessments, delivering high quality reliable results to meet the needs of the global industry and environmental regulators. With comprehensive capabilities to facilitate advanced ecotoxicology and analytical chemistry techniques, we use wide variety of test species and have excellent track record of successful regulatory submissions. Our team contributes in designing customized study protocols to meet the client's requirements.

Comprehensive array of ecotoxicology services at Aragen:

Aquatic

Comprehensive aquatic ecotoxicology data plays a vital role in Environmental Risk/Impact Assessments (ERA and EIA). Intox provides a diverse range of aquatic ecotoxicology tests, encompassing the following:

- Growth Inhibition Test (Algae: OECD-201, Lemna: OECD -221)
- Acute Immobilisation Test (Daphnia magna: OECD-202, Chironomus: OECD-235)
- Fish, Acute (Guppy/carp, Rainbow trout, Zebrafish: OECD-203)
- Embryo Acute Toxicity (Zebrafish: OECD-236)
- Reproduction Test (Daphnia magna: OECD-211; Fish: OECD-229; Lymnaea stagnalis: OECD-243)
- Fish, Short-term Toxicity Test on Embryo and Sac-Fry Stages (OECD-212)
- Fish, Prolonged Toxicity Test: 14-Day Study (OECD-204)
- Fish, Early-life Stage Toxicity Test (OECD-210)
- Fish, Juvenile Growth Test (OECD-215)
- Sediment Water Toxicity Test-Chironomidae (OECD-218/219)
- Fish Cell Line Acute Toxicity: The RTgill-W1 cell line assay (OECD -249)

Terrestrial

The presence of a wide variety of terrestrial organisms, including plants, invertebrates, and vertebrates, both living in and on the soil, adds significant importance and complexity to the hazard assessment of a chemical in a terrestrial environment.

- Avian (Dietary, Acute oral: OECD-205/223)
- Earthworm (Acute: OECD-207, Reproduction: OECD-222)
- Subchronic Toxicity Test (Earthworm: OCSPP-850.3100)
- Honeybee Acute Toxicity (Oral: OECD-213, Contact: OECD-214)
- Larval Toxicity Test-Single Exposure (Honeybee: OECD-237)
- Chronic Oral Toxicity Test (Honeybee: OECD-245)
- Acute Toxicity (Bumble Bee: Contact OECD-246, oral OECD-247)
- Reproduction Test (Avian: OECD-206)
- Nitrogen Transformation Test (Soil Microorganisms: OECD-216)
- Carbon Transformation Test (Soil Microorganisms: OECD-217)

Salient features of our services:

Test system - Identification/Characterization certificate

Use of replicates, reference items and organic solvents as vehicle

Monitoring of variables (water /soil / environment parameter)

Analytical method development and validation

Geometric series of dose selection

Optimization of study results and validity criteria

Endpoint - Mortality / Inhibition / immobilization

Lethal dose (LD_{50}), Lethal concentration (LC_{50}), Effective concentration (EC_{50}), No observed effective concentration (NOEC), Low observed effective concentration (LOEC)

Ensuring timely reporting to meet project deadlines

Track record of studies conducted during last 4 years:

> 100 Acute toxicity studies- Fish

> 96 Acute Toxicity studies- Honeybees (Contact)

> 85 Avian Acute Oral Toxicity-Japanese quail

> 85 Acute toxicity studies- Honeybees (Oral)

> 80 Acute Toxicity Test - Earthworm

> 50 Algal Growth Inhibition Test

> 55 Acute Immobilization Test - *Daphnia magna*

> 35 Avian Acute Oral Toxicity studies - Pigeon

> 25 Avian Acute Oral Toxicity studies - Chicken

> 15 Avian Dietary Toxicity Studies

> 5 Biological Method Validations on Mosquito larvae - *Aedes aegypti*

Test systems at Aragen:

Aquatic

Algae

Test species: Unicellular green algae,
Pseudokirchneriella subcapitata

Daphnia

Test species: *Daphnia magna*

Fish

Test species: *Brachydanio rerio*
(Zebra fish), *Poecilia reticulata*
(Guppy), *Cyprinus carpio*
(Common carp)

Terrestrial

Honeybee

Test species: *Apis mellifera*,
Apis cerana indica

Earth worm

Terrestrial (Avian)

Chicken

Species: *Gallus domesticus*

Pigeon

Species: *Columba livia*

Quail

Species: *Coturnix japonica*



Gallus domesticus



Columba livia



Coturnix japonica



Poecilia reticulata



Eisenia fetida



Apis mellifera



Apis cerana indica



Daphnia magna



Danio rerio



Cyprinus carpio



Anas platyrhynchos



Pseudokirchneriella subcapitata