

Environmental Fate Testing

Environmental Fate and Metabolism staff at Smithers Viscient includes internationally recognized experts in environmental fate, biodegradation, bioconcentration, and plant and animal metabolism. With dedicated laboratories, sophisticated equipment, and a staff familiar with EPA, OPPTS, FDA, OECD, CEPA, EU, BBA and JMAFF guidelines, Smithers Viscient has extensive experience in the environmental challenges associated with product development.



Environmental Fate and Biodegradation studies offered include:

- Biodegradation
- Bioconcentration
- Bioaccumulation
- Plant and Animal Metabolism
- Aqueous Hydrolysis
- Aqueous and Soil Photolysis
- Adsorption-Desorption
- Aerobic and Anaerobic Soil/Sediment Metabolism
- Aerobic Soil Rate of Degradation
- Simulation Testing
- Analytical Chemistry

Environmental Fate and Biodegradation studies

Environmental fate and biodegradation studies provide information on the fate and persistence of a chemical or mixture of chemicals in the environment. Smithers Viscient conducts the full range of standardized biodegradation tests, including ready, inherent, and ultimate biodegradation in complex matrices including sewage treatment plants (STP), water, sediment and soil. We offer comprehensive environmental fate testing services to quantify and identify test substances in water, soil, sediment and other complex matrices.



Bioconcentration studies

Bioconcentration studies measure the bioaccumulation of test materials in fish tissue through determination of the bioconcentration factor (BCF). BCF is a comparison of the chemical absorption levels in fish tissue to levels of the test material in surrounding water. We offer a variety of cold and warm water testing species. Test phases are in-life and analysis of residues. Smithers Viscient measures the residues of parent and metabolites using a variety of analytical techniques, including HPLC-UV, HPLC-MS and HPLC with radiochemical detection. Studies provide information of the rate of uptake, time to steady state, total residues bioaccumulated, and information on the metabolic pathway.

Metabolism studies

Smithers Viscient's plant metabolism studies are conducted to determine the nature of residues in plant raw agricultural commodities. Our scientists measure the residues of parent and metabolites by radiochemical detection to determine the metabolic pathway of the test material and changes in residue levels with time. Test phases include in-life and analytical. Our tests are conducted in greenhouses located at our testing facilities, or with field cooperators in warmer climates.

Metabolism studies offered include:

- Fruit and Vegetable Crops, Grain, Oily Seeds
- Confined Rotational Crop
- Goat Metabolism, Hen Metabolism



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