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Environmental  
Fate.



# Environmental Fate.

IES Ltd key expertise includes the entire range of laboratory and higher-tier environmental fate studies, using radiolabelled and non-radiolabelled substances.

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## Transformation in Soil.

Aerobic and anaerobic soil degradation and metabolism studies using labelled and non-labelled substances (OECD 307) are conducted to elucidate the degradation rate of the applied parent substance as well as the formation and decline of possible metabolites.

## Soil Adsorption/Desorption.

Determination of soil adsorption and desorption constants with labelled and non-labelled substances (OECD 106) are carried out to predict the leaching behaviour of substances to groundwater. In aged desorption studies, assessment of the influence of time on the adsorption behaviour is used to simulate real environmental conditions. The HPLC method (OECD 121) is used to estimate the adsorption behaviour of a compound.

## Transformation in Aquatic Systems (with or without artificial sunlight).

Metabolism studies in water/sediment systems under aerobic and anaerobic incubation conditions (OECD 308) are carried out to elucidate the environmental behaviour and metabolism of substances in aquatic systems. Water/sediment studies under artificial sunlight include direct and indirect photolytic processes.

## Aerobic Mineralisation in Surface Water (with or without sediment).

Degradation/metabolism studies in surface water with and without sediment (OECD 309) are needed to gather information about the behaviour, metabolism and mineralisation of substances in bodies of water.

## Photolysis in Water (direct/indirect) and Soil, Hydrolysis and Processing Hydrolysis.

Hydrolysis (OECD 111) and processing hydrolysis (OECD 507) studies with labelled and unlabelled substances are carried out to assess the hydrolytic stability of substances and to elucidate abiotic degradation products. Direct and indirect photolysis studies in buffer or natural water (OECD 316) and on soil surface (OECD draft) are needed to assess the contribution of light during the degradation process.

## Transformation in Manure.

Metabolism studies in sewer systems, activated sludge and anaerobic digester sludge (OECD 314 A, B and C) provide information about the degradation and metabolism behaviour of a chemical discharged in wastewater. Metabolism studies in liquid manure under anaerobic conditions (OECD draft) are performed to estimate environmental concentrations of veterinary products and biocides.