New FOCUS guidance on kinetic analysis for pesticide degradation

To evaluate the fit of a curve to a data set on pesticide and metabolite degradation, use a visual assessment of the fit, check the residuals are scattered randomly, perform a X^2 test and check the parameters are not zero using a t-test. Don't exclude outliers in the first instance. Justify all weightings and exclusions in later analyses The full 434-page report is available at: **http://viso.ei.jrc.it/focus/dk**

What you will need to calculate

Endpoint	Substance	Reason	How to do it
DT_{50} or DT_{90} in soil or water -sediment system	Parent compound only	Trigger for additional studies calculation of PEC in soil	Use 'best -fit' kinetics if biphasic kinetics are better than first order
DT_{50} or DT_{90} in soil or water -sediment system	Parent compound only	Input into models for PEC in ground water or surface water	Use first -order kinetics, conservative assumptions, or 'trick' model to accept biphasic kinetics
DT_{50} or DT_{90} in soil or water-sediment system	Metabolites formed from parent	Trigger for additional studies or calculation of PEC in soil	Use a compartment model 1) Optimise for 'best -fit' for parent 2) Optimise for 'best -fit' for metabolite 3) Then optimise all at once
DT_{50} or DT_{90} in soil or water -sediment system	Metabolites formed from parent	Input into models for PEC in ground water or surface water	Use a compartment model 1) optimise for 'best -fit' for parent using kinetics suitable for model or; 2a) Try and fit firs t-order kinetics to the metabolite 2b) Otherwise use conservative assumptions
DT_{50} or DT_{90} separately in water or sediment	Parent compound only	Input into models for PEC in surface water	Use a compartment model 1a) Try and fit first -order kinetics, 1b) Otherwise use conservative assumptions
DT_{50} or DT_{90} separately in water or sediment	Metabolites formed from parent	Input into models for PEC in surface water	Develop your own modelling on case -by-case basis

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