eurofins | Environment Testing



Pesticides

Solution or problem?

General

A pesticide is a preparation containing one or more active substances which by chemical or biological means, is designed to destroy, deter, render harmless or exert a controlling effect on harmful organisms such as plants, insects, bacteria and viruses. Pesticides are classified according to the type of organism they combat, such as insecticides (insects), fungicides (fungus), herbicides (weeds) and nematicides (nematode worms).

A distinction can be made between plant protection products used in agriculture and horticulture to protect crops and biocides that are applied outside agriculture. Biocides include disinfectants, anti-fouling paints for ships, insecticides and wood preservatives. Several different types can be identified according to their composition, such as chlorohydrocarbon pesticides, organophosphorus pesticides and carbamates.

Pesticides in the environment

Pesticides are mainly added to the environment intentionally but may also enter it unintentionally. Wind, rain and leaching from soil into ground and surface water ensure the subsequent spread of these pollutants. Since these compounds are often poorly degradable, they accumulate in the food chain. They are found worldwide in all matrices and in organisms at all levels in the food chain. In particular high concentrations are measured in organisms at the top of the food chain, as a result of bio-magnification.

The effect of pesticides is also the reason why they can damage the environment and human health. In most cases the active ingredient is not exclusively specific. As a result, they often have adverse effects on other organisms in addition to those targeted.

Legal context

The European Directive 91/414/EG prescribes the registration of plant protection products. Before a product is approved in an EU member state, the active substance must be added to Annex 1 of the directive. Furthermore, member states must assess and register the specific applications. In the Netherlands, the Plant Protection Products and Biocides Act implements the Directive,



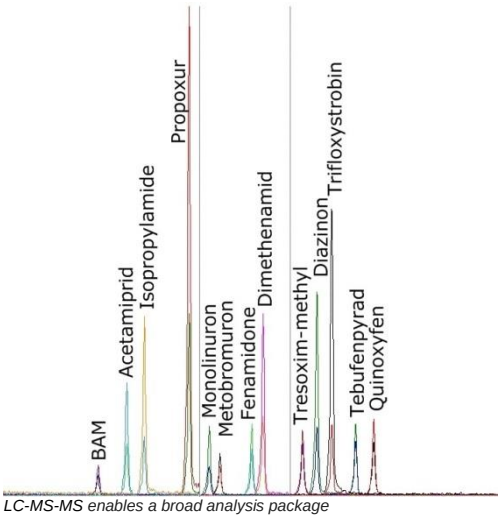
aimed at protecting the safety and health of humans and animals alongside environmental impact.

A restriction on the use of pesticides also applies to drinking water extraction areas. This is covered by the Drinking Water Act. However, the Drinking Water Act is unable to protect all drinking water sources from contamination. In particular, drinking water companies that use surface water such as the Rhine or the Meuse often have to deal with increased levels of pesticides in the untreated water. As a result these contaminants may end up in drinking water. Collaboration at European level is of greatest importance when it comes to protecting the safety of our drinking water.

Monstervoorbehandeling

Eurofins accredited testing

Eurofins offers a very broad analysis package, including the detection of the most common pesticides found in water. Using modern analytical techniques - such as liquid chromatography with mass spectrometric detection LC-MS-MS, gas chromatography with mass spectrometric detection GC-MS, gas chromatography with electron capture detection GC-ECD - compounds can be measured with very low reporting thresholds. Early identification of novel compounds in various matrices and the development of sensitive analytical techniques, ensure that the analysis range is constantly up to date. Eurofins validates its analytical methods comprehensively, guaranteeing clients reliable results.



LC-MS-MS enables a broad analysis package

More information

Eurofins is looking forward to carrying out your pesticide analyses. For additional information concerning analyses, reporting, rates, delivery times, service and more, please contact us via your contact person or mail us at: info-env@eurofins.nl.

052018