



TECHNICAL DATASHEET

Determination of Metaldehyde in Water

Damage to crops from slugs and snails is a growing problem in the UK which has been compounded in recent years by the mild, wet climate and changes in agricultural practices. Metaldehyde is commonly used as a pesticide against slugs and snails, usually in the form of pellets, to try and control crop damage.

Properties of Metaldehyde

The increasing use of Metaldehyde has led to growing concerns regarding the potential impact of this substance on the environment, including wildlife, watercourses, rivers and lakes. Metaldehyde can be hazardous to wild birds and animals that may ingest the substance directly or as a result of feeding on poisoned prey.

Whilst being a non-polar compound, Metaldehyde has an aqueous solubility of 220 mg/l at 20°C, which means there is potential for leaching of the compound from land treated with slug pellets. The growing concerns, regarding increased use, have led ALS Environmental to develop a routine analytical method for determination of Metaldehyde in raw and potable waters. The method has been designed to support investigations into impacts on the aquatic environment and the potential risks posed to water catchments, from which, drinking water may be derived.

Determining Metaldehyde in Water

Using method WPC31 Metaldehyde In Water by Solid Phase Extraction and Detection by GCMS, our Wakefield laboratory are able to offer DWTS accredited, routine analysis of samples for Metaldehyde in water. The method has been validated in accordance with NS30 "A Manual on Analytical Quality Control for the Water Industry", on both raw and potable waters. An internal standard is used to improve the quantitation of results by removing variations caused by inconsistency in the final extract volumes. The results of the analysis are reported in µg/l.

The analysis is carried out at this ISO17025 laboratory, independently accredited and audited by UKAS.

During the method development additional confirmation of the validity of this method was conducted by GCMSMS (Gas Chromatography Triple Quadrupole Mass Spectrometry), this technique provides an extremely high degree of specificity. Comparison of results from the standard Metaldehyde method and the GCMSMS technique showed a high degree of agreement, demonstrating the robustness of the standard GC/MS method now available from ALS Environmental.

The presence of Metaldehyde in raw water supplies raises concerns over the impact of this substance on the environment and watercourses. We have designed this method to enable detection of Metaldehyde in both raw and potable waters aiding the investigation of this substance.

