

## **ALS Herbicides, An emerging Problem In Environmental Monitoring.**

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### **ABSTRACT**

The groups of acetolactate synthetase inhibitor (ALS) herbicides considered in this paper are: sulfonylureas (21 compounds); imidazolinones (5 compounds); and, triazolopyrimidine sulfonanilides (2 compounds). They tend to have relatively low vapour pressures and high water solubility, especially in neutral to alkaline water. Most of these herbicides are intended for use on grassy crops to control broadleaf plants although there are some forest applications and some wide spectrum herbicides. Based on these factors the potential transport vectors from application sites to non-target areas will be evaluated. Currently available methods of sampling, detection and analysis will be discussed. These herbicides are applied at extremely low rates; as low as 7.5 g/ha. As a result, monitoring of non-target areas such as wetlands requires sophisticated analytical technology such as LC/MS and LC/MS/MS capable of detecting target compounds at extremely low concentrations. The unavailability of these analytical methods is reflected in the lack of information, in the scientific literature, pertaining to the environmental persistence and movement of these compounds.