

# DETECTION AND DETOXICATION OF MALATHION IN THE ENVIRONMENT

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**Abstract** – The results of studying detection and removal of organophosphorus pesticide chemical - malathion are presented taking into consideration its potential hazard due to an intensive use in agriculture followed by rapid spread in the environment. Detection of malathion can be carried out by a highly effective HPLC-MS/MS hybrid method, while detoxification can be performed by means of alkaline hydrolysis. It is shown that the alkaline hydrolysis results in the malathion detoxification through the Hoffmann splitting reaction of onium compounds, thus avoiding the formation of an extremely toxic malaoxon compound.

*Keywords:* organophosphorus compounds, malathion, environment, detection, removal, alkaline cleavage, HPLC-MS, HPLC-MS/MS method, detoxification.