



TURKISH
CHEMICAL SOCIETY



Society of Chemists and
Technologists of Macedonia



SKOPJEMACEDONIA2017

EASTWEST

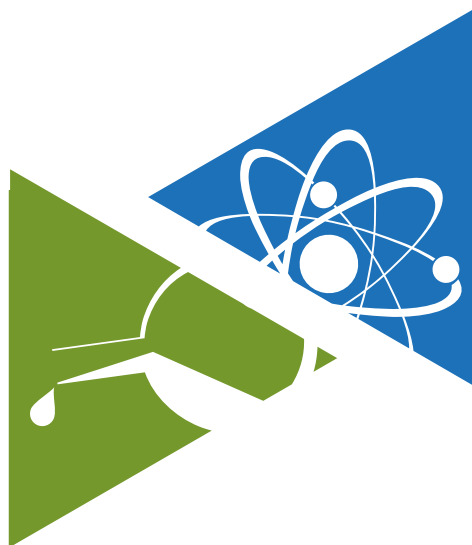
Chemistry Conference

October 12-14, 2017

Hotel Aleksandar Palace

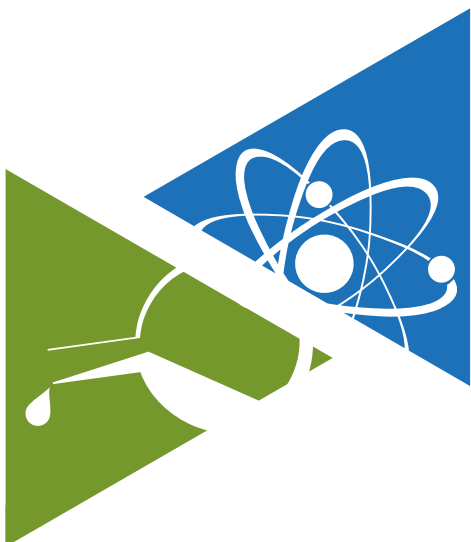
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Dear Colleagues,

Chemistry as a central science has a dramatic impact on advancement of societies. From new synthesis methods, new drug molecules and polymers and development of novel materials to understanding the molecular machinery in living systems, chemistry plays a significant role. The conferences are the platforms for exchange of ideas, scientific development of young scientists, and establishing new collaborations. With this in mind, the Turkish Chemical Society and the Macedonian Chemical Society have joined the forces to organize EastWest Chemistry Conference in 2017. We welcome contributions from all branches of chemistry and related areas such as nanoscience and nanotechnology, and bio-nano-materials. We hope that the conference will be a very interdisciplinary scientific platform benefitting from all branches of chemistry.

We aim to keep the conference standards high and we hope that it will be a unique opportunity for scientists from a wide variety of chemical disciplines to exchange and inspire new ideas for collaboration. Therefore, your participation to the EastWest Chemistry conference in Skopje in 2017 will be invaluable. We are looking forward to seeing you during the conference.

Sincerely yours,

Prof. Dr. Mustafa Culha
Congress Chair

Prof. Dr. Zoran Zdravkovski
Congress Chair

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**Sorted alphaetically by surname*

P-054

Screening and Identification of Chlorpyrifos in Groundwater Situated Under Agricultural Area

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Chlorpyrifos is widely used organophosphate insecticide, acaricide and miticide used primarily to control foliage and soil-borne insect pests on a variety of food and feed crops. According to US EPA, this pesticide is used in around 800 products for domestic use, industry, and agriculture. The study deals with screening and identification of chlorpyrifos in groundwater situated under agriculture area using liquid-liquid extraction with dichloromethane followed by GC-MS. For lower detection limits the samples were concentrated for 10 000 times. Due to the multiple steps of sample extraction, an internal standard calibration with triphenylphosphate was used in method validation. The oven temperature ramped from 60 °C for 2 min up to 150 °C with an increment of 25 °C for 0 min, ramped to 200 °C with an increment of 3 °C for 0 min, ramped to 280 °C with an increment of 20 °C for 10 min. The type of injection was pulsed splitless using pressure of 50 psi. Method validation showed the relative standard deviation of 6.34, reproducibility of 130%, bias 0.08. The LOD of the instrument was 0,33 µg/L. Groundwater samples were collected from 78 existing boreholes. Chlorpyrifos was found in a concentration of 0.133 µg/L ± 0.00929 in one sample. The research showed that chlorpyrifos has very low leaching capabilities but heavy rainfall may carry it into the groundwater aquifers.

Keywords: GC-MS, pulsed splitless injection, leaching.