
Modern methods for volatile organic compounds (VOC) analysis in the frame of the air pollution monitoring

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Abstract The air pollution with VOC as an effect of natural and anthropogenic activities followed by interaction with other chemical compounds in the atmosphere under the UV action can lead to changes in stratospheric ozone and acid deposition, with health effects. This is why, the industrial companies susceptible to important emissions of VOC, such as petrochemical complexes, have compulsory monitoring programs. The paper presents original results concerning air pollutants monitoring during 2005 from Rompetrol Refinery S.A.- Midia Navodari area. The analyses were performed using GC equipment Perkin Elmer – model Clarus 500 with thermodesorption system (TDS). The levels (the highest recorded values) of total VOC measured using charcoal tubes at Corbu area were comparable to those from total VOCs studies in industrial area: 0.0035 mg/m³ – Gate No.3 (petrochemical area), 0.0053 mg/m³- Gate No.1 (refinery zone) and 0.0063 mg/m³ in Corbu area. The concentrations of total VOCs measured at Rompetrol Refinery and the adjacent zones did not exceed the existing European Environmental Air Quality Standards.

Keywords: volatile organic compounds, air pollution monitoring, petrochemical complexes areas.
