



SAVINESTI CHEMICAL PLATFORM – TECHNOLOGIES AND IMPACT OF GROUNDWATER POLLUTION

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Abstract

Savinesti Chemical Platform is located in the Eastern part of Romania in a distance of about 12 km from the biggest city in Neamt County – Piatra Neamt, on the middle stream of Bistrita River. From its 6 companies two are the most important in relation with the groundwater pollution: FIBREXNYLON, producing caprolactam, PA6 fibers/yarns, adipic acid, sulphuric acid, ammonium sulphate and AZOCHIM, producing ammonia, nitric acid, ammonium nitrate, calcium-ammonium nitrate and pelletized urea.

This paper describes the most important technologies used, and the main pollutants discharged into the recipient after treatment. The groundwater quality (in bore holes) inside and outside the platform has been analyzed in the period of 1990-2000 in order to prove the presence of the specific water pollutants from the chemical installations on the Platform. High concentration, one seen in ammonia, nitrate, nitrite, organic compounds, phenol compounds and cyanide.

During the time the pollutants concentration decreased due to the reduction of production, closing down of some installation and environmental protection measures, which the companies implemented.

The groundwater quality downstream the Platform is obviously affected by the production activities started in 1958 but for the nitrate pollution the utilization of nitrogenous fertilizers could be also responsible. Even though the concentration of pollutants decreased in the last years, they are still exceeding the MACs according to the Romanian legislation.

Environmental Impact Assessments evaluated the contribution of the two companies for ammonia and organic compounds pollution of the groundwater.

Based on the present work additional investigations and dispersion modeling are recommended to be implemented.

Coherent measures for pollution reduction and limitation have to be taken in order to control the flow and to diminish the migration of pollutants. An inventory of the polluting sources and elimination, drainage works and wastewater treatment in the polluted areas have to be implemented.

Keywords: groundwater, pollution, ammonia, nitrate, organic compounds
