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## **IMPROVED *GLOBAL POLLUTION INDEX* METHOD APPLIED FOR ENVIRONMENTAL IMPACT ASSESSMENT OF A REFINERY**

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### **Abstract**

The impact induced in the environment by emissions resulted from activities related to a refinery was evaluated. The environmental impact assessment is done by the improved *global pollution index* method. Based on this method the final information regarding the global state of the ecosystem can be achieved using only the arithmetic mean of the evaluation grades obtained for each environmental component considered in the assessment process. Also, the global state of the ecosystem can be assessed using only two environmental components, comparative to the conventional Rojanschi's method that can be applied only if at least three environmental components are considered. The results of chemical analyses were the starting point of this assessment, in order to identify the main pollutants coming from a refinery that could affect the global state of the environment. The results show that air is seriously affected by the activities developed by the refinery. Also, the quality of surface water, where the pretreated wastewaters are discharged is affected. The value of the *global pollution index* shows that the environmental quality is modified by industrial activities, in a dangerous way for life forms. This requires remediation actions and control measures for pollution minimization.

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