Abstract

The Russian Federation takes an active part in the international initiative of the chemical industry Responsible Care® program over last a ten-year period. Chemical companies who have declared their commitment to the program agreed to follow the basic principles and to report annually their data. The key indicators of ongoing activities in the field of environmental protection, industrial safety and the preservation of the health of the staff have been provided. System analysis provides conclusions analysing the achievements and challenges of the chemical industry. However, the data coverage of the Russian Federation still has some gaps. A heuristic and approximation algorithm, which considers large volume of information, has been developed for the analysis of existing business processes and trends. The economic damage caused by the air, water and soil pollution is assessed facilitate the expansion of the environment impact assessment analysis of the chemical companies - participants of the Responsible Care® program. The calculation of economic damage of the impact on the environment subsystems helps to make conclusions of the efficiency of the resources that have been allocated by chemical companies for environmental protection. This calculation tool can be also used for assessing the effectiveness of the direction implementation of the program, for the integration of the production activities of the company with its environmental activities.