

Anna K. Nowak<sup>a\*</sup>, Andrzej Jarosiński<sup>b</sup>, Zbigniew Wzorek<sup>a</sup>, Katarzyna Gorazda<sup>a</sup>

<sup>a</sup> Institute of Inorganic Chemistry and Technology, Cracow University of Technology.

Warszawska 24, 31-623 Cracow, Poland, Tel./fax: +48 12 628 27 16.

<sup>b</sup> Mineral and Energy Economy Research Institute of the Polish Academy of  
Sciences

This work presents the research into the environmental impact of Zn-Pb ores processing and of various methods of post-flotation waste management in the Trzebionka Mining Plant S.A. in Poland. The research was conducted for two scenarios. Both of them included the production stage, but varied from each other in the stage of post-production waste management. The first one dealt with the analysis of the environmental impact of waste storage in a sediment pond, 100% of which originated from the processes of waste ores enrichment. In the second scenario, 70% of waste was directed to a sediment pond, whereas 30% was utilized in the processes of filling post-mining voids in the mine where the waste originated from. The obtained results permitted to conclude that waste storage exerts definitely the greatest influence on the pollution of the natural environment, and it is bigger than from the processes of ores enrichment. This impact will be reduced if the scenario in which the post-flotation tailings are applied to produce self-solidifying fills is implemented.

\* Corresponding author: [akn@chemia.pk.edu.pl](mailto:akn@chemia.pk.edu.pl)