



THIOSULFATES: A POSSIBLE ALTERNATIVE TO CYANIDE IN GOLD MINING CASE STUDY: ROSIA MONTANA

Ciprian Munteanu

*International Master's Program in Environmental Studies and Sustainability Science at Lund
University, Sweden, P.O. Box 170, SE-221 00 Lund, Sweden
E-mail: ciprian.munteanu.766@student.lu.se*

Abstract

Accidental cyanide spills from the gold extraction sites as well as operational leakage endangers the fauna and flora of the nearby regions. Thiosulfate in the presence of ammonia was recently proposed by several scientists as a substitute for cyanide in the gold leaching process. This study will show that there are academic reasons to consider that thiosulfate and other newly discovered products are more efficient than cyanide in terms of costs and profitability and have lesser implications to the environment. Due to increased public concerns about cyanidation, this proposal aims to design a study that will assess the implications of changing from cyanide based gold mining to thiosulfate. This study shows the need for a comparative study between the cyanidation and thiosulfate processes in terms of cost/benefit analysis.

Keywords: gold leaching, pregnant solution, thiosulfates, cyanide process
