



“Gheorghe Asachi” Technical University of Iasi, Romania



MICROELEMENTS INFLUENCE ON COAL OXIDATION AND THE ENVIRONMENTAL POLLUTION IMPLICATIONS

**Maria Prodan^{1*}, Constantin Lupu¹, Irina Nălboc¹, Andrei Szollosi-Moța¹,
Cornel Munteanu²**

¹*National Institute for Mine Safety and Protection to Explosion - INSEMEX PETROȘANI, 32-34 G-ral Vasile Milea Street, Petroșani, Romania*

²*Ilie Murgulescu Physical-Chemistry Institute, 202 Splaiul Independentei Street, 060021 Bucharest, Romania*

Abstract

The spontaneous combustion of coal or self-oxidation is a phenomenon encountered both in underground mines and coal deposits on the surface, which results from heating the carbonaceous materials by slow oxidation that may occur only through the passage of air (created by air depression). Coal oxidation process generates oxidation products which are also an environmental problem. If we consider the CO₂ or CO, their composition depends on the coal properties and other factors from the process. This paper aims to highlight the influence of coal properties and the constituent elements over the oxidation and self-oxidation resulted products and also to highlight their implications for environmental pollution and for the occupational health and safety field.

Keywords: coal, oxidation, self-oxidation, SEM-EDS, trace elements, self-heating

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* Author to whom all correspondence should be addressed: e-mail: maria.prodan@insemex.ro; Phone: +40 254/541621; Fax: +40 254/546277