

ABSTRACT

Characterization of East asian fly ash

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ABSTRACT

Now importance of the coal ash production of Asia is too big. It is necessary to promote the effective use of these ashes for sustainable development, and, firstly to check the environmental characterization of the ash properties is most important step. Three main conditions decided the fly ashes characters: (1) Coal composition, (2) Combusting condition, (3) Particle collector/environmental facility. They can control by physical, chemical, mineralogical and leaching characterizations.

Migration behavior of chemical components into water from coal fly ash which is an example of solid incineration waste was investigated. As a result, the long term assessment by conventional leaching test is inconvenient, because this test is only useful for monolith with simple dissolution system, but not for complex material, such as fly ash. Three types of dissolution, at least, exist in fly ash. Dissolution occurs at high soluble part at beginning stage, and occurs within several hours at adsorbing/desorbing part which has high specific surface area, finally occurs at low soluble part in long term, accompanying the Pozzolanic reaction. Dissolving character will depend on the amount of each part. Therefore, multi tests of different kind are necessary to assess the safety, because fly ash is not the monolith.

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