

Environmental and health aspects of ashes produced at co-combustion of biomass

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ABSTRACT

Co-combustion is an important aspect of power generation from coal in the Netherlands and in more and more other countries of Europe. It is important that the environmental and occupational safe and health aspects of fly ash are not negatively influenced by co-combustion activities. A good understanding of the effects is therefore necessary.

Occupational health aspects concern, among others, respirable quartz and heavy metals. Ashes from 100% coal-firing and from co-combustion were evaluated against TLV-values. It was concluded that the ashes produced in the Netherlands nowadays satisfy the demands of the TLV-values, assuming maximum permissible ash-exposure.

Environmental aspects as leaching behaviour are elucidated. Further the assessment of co-combustion fly ashes for the European Waste Catalogue (EWC) is important. KEMA has carried out several studies in which fly-ashes obtained from co-combustion have been assessed according to the demands of the EWC. From these studies it can be concluded that in most cases the ash originated from co-combustion will get the EWC-code 10.01.17, in other words it is not hazardous waste.

Other environmental and health aspects extensively studied at by-products of coal-fired power stations include chromium(VI), PAHs, dioxins and other organics, particle size, and toxicity measurements. Results of measurements at ashes from 100% coal-firing and co-combustion will be given.

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