

Solidification Technique of Biomass Ash

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Summary

Handling of incineration ash from small-scale biomass facilities; such as firewood stoves, wooden-pellet heaters, small boilers and small incinerators, is usually handwork. Since it is worried that radioactive materials are concentrated in ash, an easy and safe handling method of incineration ash is required. When a diluted polyvinyl-alcohol aqueous solution (3-5 wt-%) was mixed with incineration ash, the ash was solidified. The solid was elastic and had enough strength for handling. No fine particles were formed after drying the solid. Though the elements and particle shapes of ashes from bamboo grass, wild weeds and compost were different from wooden ash, polyvinyl alcohol was effective to solidify all these ashes. Automated solidification of incineration ash was tried using a noodle-making machine for family use. With slight modification of the noodle-outlet parts, ash-pellets were formed successively.

Key Words: Biomass ash, Polyvinyl alcohol, Handling, Solidification
