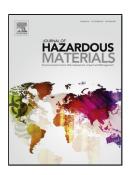
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Experimental study on the thermal decomposition and combustion characteristics of nitrocellulose with different alcohol humectants

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Highlights

- The cone calorimeter was firstly used to investigate the fire behaviors of NC with alcohol humectants.
- The two alcohols, namely isopropanol and ethanol, barely affect the micro structures of pure NC.
- The thermal stability of NC sample increases with increasing heating rate.
- Compared with NC-E, NC-I is more sensitive to the change in external radiation and reflects a higher fire risk.

Abstract

Although the thermal behaviors including thermal instability of nitrocellulose (NC) and its mixtures with some humectants have been comprehensively examined previously in the literature, their combustion characteristics have not been

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