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Title: Water-based chitosan/melamine polyphosphate multilayer nanocoating that extinguishes fire on polyester-cotton fabric

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#### Highlights

- Water-based chitosan / melamine polyphosphate nanocoating for fabric.
- Polyester-cotton blend extinguishes immediately with only 12 wt% coating deposited.
- Nanocoating is free of organic solvents and toxic chemicals.
- Chitosan:melamine ratio used to tailor flame retardant behavior and growth of coating.
- Layer-by-layer assembly produces melamine polyphosphate in-situ from water.

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