A Remarkable Advance in Lab Coats for Chemical Exposure Prevention

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Reported Laboratory Safety Incidents at UCLA

About 100 reported lab accidents per year at UCLA from roughly 10,000 postdoctoral scholars, graduate students, undergraduate students, and staff in research labs.

(About 7 from Department of Chemistry & Biochemistry)

- 17% of lab accidents at UCLA over eight years were Chemical Exposures
- 35% of the Chemical Exposures were "splash to body"

Do lab coats provide adequate protection?

Performance Requirements for Lab Coats

- 1. Comfortable material to wear
- 2. Breathable
- 3. Non-porous for liquids
- 4. Non-wicking for liquids
- 5. Chemically resistant
- 6. Flame resistant



Cotton Or Polyester



Flame Resistant Treated Cotton



Flame Resistant Nomex

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But, more than 100 years after the invention of lab coats, they FAIL criteria 3, 4 and 5!

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A potential solution has emerged – Westex ShieldTEC fabric by Milliken & Co.





CONCLUSIONS

- Lab coats made from Milliken ShieldTEC have the comfort and breathability of cotton coats.
- They have flame resistance due to the core Nomex fiber.
- They are non-wicking and non-porous for polar liquids such as aqueous solutions and organic solvents such as ethanol, DMF, and DMSO.
- They exhibit remarkable chemical resistance due to a proprietary fabric treatment that also enables the non-wicking and non-porous properties.







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