Why Is FR / Nomex® Needed?

Thermal Manikin - 3 Second Exposure
(Lab Coat w/ 100% cotton jeans and t-shirt/underwear)

- Nomex® IIIA 6 osy Lab Coat
- Non-FR 5 oz Lab Coat (20% Cotton / 80% Poly)

2nd Degree
3rd Degree
Total Body Burn

Nomex®
Ideal is to have collar closed, and no synthetic underlayers

Cotton/Poly
Why DuPont™ Nomex® IIIA?

- Superior Flash Fire Protection @ 3/4/5 seconds
- Chemical Resistant Fiber

<table>
<thead>
<tr>
<th>Chemical</th>
<th>Concentration, %</th>
<th>Temperature, °F (°C)</th>
<th>Time, hr</th>
<th>Effect on Breaking Strength**</th>
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<td>160 (71)</td>
<td>10</td>
<td>Slight</td>
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<tr>
<td></td>
<td>10</td>
<td>70 (21)</td>
<td>1000</td>
<td>Appreciable</td>
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<td>160 (71)</td>
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<td></td>
<td>37</td>
<td>160 (71)</td>
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<tr>
<td></td>
<td>37</td>
<td>160 (71)</td>
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<tr>
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<tr>
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<td>70</td>
<td>70 (21)</td>
<td>100</td>
<td>None</td>
</tr>
<tr>
<td></td>
<td>96</td>
<td>70 (21)</td>
<td>100</td>
<td>Degraded</td>
</tr>
</tbody>
</table>
Why DuPont™ Nomex® IIIA?

• Negative Affect of Chemical Exposure on FR Treated Cotton – Sensitivity to Oxidizers

• High Particle Shedding of FRTC

“DO NOT USE IN THE PRESENCE OF STRONG ACIDS, OXIDIZERS OR REDUCERS

These fabrics should not be exposed to strong oxidizers, such as bleach (over 6% sodium hypochlorite) and hydrogen peroxide, and strong reducers, such as sodium hydrosulfite. Strong oxidizing and reducing agents can cause an adverse reaction with the flame resistant polymer.”
Why DuPont™ Nomex® vs. Other FR Offerings?

**Durability:**
- Nomex® is 2-3x more durable as received, and also after 25/50/100 and up to 200 launderings as a fiber that is highly resistant to many chemicals, does not react to any oxidizers, and has significantly lower particle shedding:
  - If leasing/renting, relevant to lower loss/damage/replacement obligation.
  - If owning/direct sale, Nomex® labcoats last 5+ years minimum with lower repairs/replacement needed vs. 1-2 years maximum for other offerings.

**Comfort:**
- More than 2x greater air permeability.
- Lightest weight offering at 4.5 opsy version with knitted cuffs compared to others at 7-9 opsy.
- Much lower moisture regain – fiber doesn’t hold moisture like cotton does – heat transfers 20x faster through moisture vs. air.

**Protection:**
- Inherent flame resistance that won’t wash or wear out with excellent moisture wicking.
- Similar thermal manikin predicted burn injury at 3 secs @ 2 cals/cm2 for NFPA 2112 minimum requirement, but significantly better protection at 4 and 5 secs and higher temperatures (see following).
- Dissipates static in 1/100 th of a second vs. cotton at > 10 seconds.

Superior professional appearance after numerous launderings including significantly less shrinkage and fading.