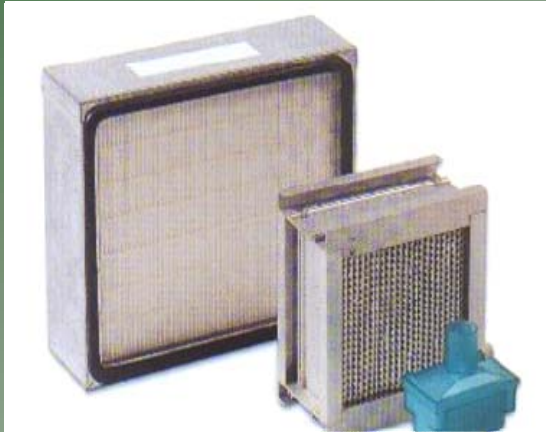


Distinguishing Special Purpose Glass Fibers

Presentation to the NTP Expert Panel on Glass Fibers
June 9 – 10, 2009



Bruce Ray

Jon Bauer, Ph.D.

Johns Manville

Special Purpose Fibers

“Special-purpose glass fibres are limited production, small-diameter fibre products that are typically used for purposes other than insulation as in filtration media and batteries.”

IARC 2002 Monograph at page 327

Special Purpose Fibers

- **SPFs are limited production (< 1%) mostly older glass fibers consistently distinguished by**
 - **Greater fiber durability**
 - **Non-insulation use or application**
 - **Non-consumer customers and markets**
 - **Smaller average diameter (< 1 μ m)**
 - **Different chemical composition**
 - **Mostly different method of manufacture**

Special Purpose Fibers

- **SPFs consistently distinguished by**
 - **Health effects researchers**
 - **Scientific bodies**
 - **Manufacturers**
 - **End users**
 - **Product stewardship professionals**

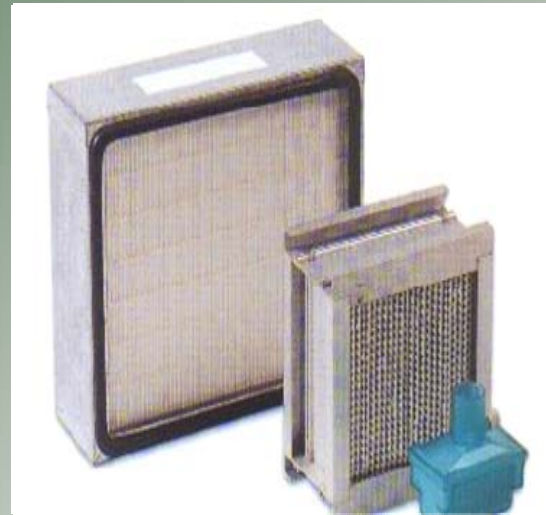
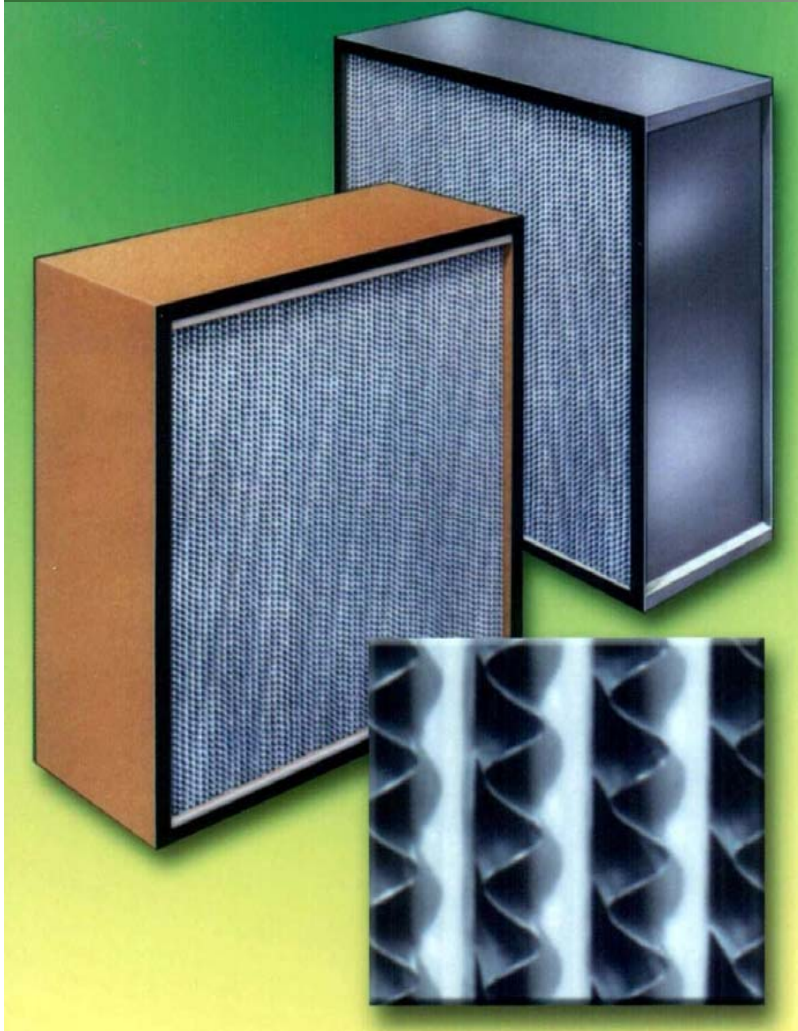
Special Purpose Fibers

- **US SPF manufacturers**
 - **Johns Manville**
 - **Evanite**
 - **Lauscha**
 - **UPF (United Pacific Fiberglass)**

Special Purpose Fibers

- **SPFs are consistently more durable**
 - *in vitro* $k_{\text{dis}} < 85 \text{ ng/cm}^2\text{hr}^{-1}$
 - *in vivo* $WT_{1/2} \geq 50 \text{ days}$

Uses, applications and markets for SPFs



Uses, applications and markets for SPFs



Callaway Nuclear Plant (source: AmerenUE)

