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(54) **Cardable hydrophobic staple fiber with internal lubricant and method of making and using the same**

(57) Hydrophobic polyolefin fibers are provided with an internal hydrophobic polysiloxane of the formula X-[Si(R¹)(R²)-O]_z-Y, in which X, Y, R¹, and R², which may be the same or different, or substituted or unsubstituted independently of each other, are aliphatic groups having not more than about sixteen carbon atoms, R¹ and R² also being selected from among aryl groups, and z being a positive number sufficiently high that the polysiloxane is hydrophobic (z is generally at least 10). The invention

also provides a novel polymer melt for spinning these hydrophobic fibers. The fibers can be cut into staple lengths and carded and bonded to form hydrophobic woven and nonwoven products suitable for use in hygiene devices such as diapers. Such devices are improved by these fibers, which, as spun, present a greater hydrophobicity than melt-spun polyolefin fibers lacking the internal siloxane lubricant; the improved hydrophobicity is evidenced by an advancing contact angle for the as-spun fibers of at least about 95°.

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EUROPEAN SEARCH REPORT

Application Number
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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.6)
X	EP 0 114 348 A (DOW CORNING)	1-12, 15-23, 26-38, 45-49, 51-65	D01F6/46 D01F8/06 D04H1/42
Y	* the whole document *	13,14, 24,25	
X	EP 0 264 112 A (CHISSO CORP) * page 6, line 11 - line 29; claims 8-11; example 19 *	39-42, 44,50	
D,Y	EP 0 557 024 A (HERCULES INC) * the whole document *	14,24,25	
D,Y	EP 0 516 412 A (HERCULES INC) * examples S-3; table I *	13	
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			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			D01F D04H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 5 September 1997	Examiner Tarrida Torrell, J
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</p> <p>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			

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