



US006884741B2

(12) **United States Patent**
Batdorf

(10) **Patent No.:** **US 6,884,741 B2**
(45) **Date of Patent:** **Apr. 26, 2005**

(54) **ANTIMICROBIAL SHEETING ARTICLE**

WO WO 99/59410 11/1999
WO WO 01/58261 8/2001

(75) Inventor: **Vernon H. Batdorf**, Minneapolis, MN (US)

OTHER PUBLICATIONS

(73) Assignee: **H.B. Fuller Licensing & Financing, Inc.**, St. Paul, MN (US)

Database WPI, Section Ch. Week 199934, Derwent Publications Ltd., London, GB; AN 1999-400085, XP002259923 & JP 11 158017 A (Mitsubishi Paper Mills Ltd.), Jun. 15, 1999, abstract.

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 190 days.

Database WPI, Section Ch. Week 199749, Derwent Publications Ltd., London, GB; AN 1997-532932, XP002259924 & JP 09 255898 A (Kyodo Printing Co. Ltd.), Sep. 30, 1997, abstract.

(21) Appl. No.: **10/202,270**

Database WPI, Section Ch. Week 199351, Derwent Publications Ltd. London, GB; AN 1993-410530, XP002259925 & JP 05 309795 A (Mitsubishi Rayon Co. Ltd.), Nov. 22, 1993, abstract.

(22) Filed: **Jul. 23, 2002**

(65) **Prior Publication Data**

Database WPI, Section Ch. Week 1985544, Derwent Publications Ltd., London, GB; AN 1985-273477, XP002259926 & JP 60 185872 A (Sumitomo Naugatuck KK), Sep. 21, 1985, abstract.

US 2004/0043686 A1 Mar. 4, 2004

(51) **Int. Cl.**⁷ **B32B 27/12**; B32B 27/04

Database WPI, Section Ch. Week 198806, Derwent Publications Ltd., London, GB; AN 1988-040159, XP002259927 & JP 62 299578 A (Washi Chuetsu Board), Dec. 26, 1987, abstract.

(52) **U.S. Cl.** **442/123**; 442/124; 442/164; 442/180; 428/41.8; 428/352

(58) **Field of Search** 442/123, 124, 442/164, 180; 428/41.8, 352

(56) **References Cited**

* cited by examiner

U.S. PATENT DOCUMENTS

Primary Examiner—Ula Ruddock
(74) *Attorney, Agent, or Firm*—Bin Su

3,615,745	A	10/1971	Crovetti et al.	
3,705,938	A	12/1972	Hyman et al.	
3,998,944	A	12/1976	Long	
4,246,311	A	1/1981	Hirst	
4,629,645	A	12/1986	Inoue	
4,808,466	A	2/1989	Kotani et al.	
5,209,930	A *	5/1993	Bowers-Daines et al. ...	424/401
5,314,719	A	5/1994	Batdorf et al.	
5,744,239	A *	4/1998	Buccellato et al.	428/411.1
5,938,825	A *	8/1999	Gaglani et al.	106/18.32
6,106,741	A *	8/2000	Heimann et al.	252/389.3
6,299,520	B1	10/2001	Cheyne	
6,342,556	B1 *	1/2002	Batdorf et al.	524/432
2003/0003126	A1 *	1/2003	Mount et al.	424/409
2003/0096545	A1 *	5/2003	Payne	442/123

FOREIGN PATENT DOCUMENTS

EP	0 257 415	3/1988
EP	0 787 851	8/1997
EP	0 937 812 A2	8/1999
GB	2 095 297 A	9/1982

(57) **ABSTRACT**

The invention relates to an antimicrobial article in a sheet form including a porous sheeting substrate impregnated with a water-based antimicrobial composition comprising at least one polymeric emulsion or dispersion and at least one antimicrobial component that is substantially non-leaching and free of environmental hazardous material. The antimicrobial article may further comprise an adhesive coating disposed on at least one surface of the antimicrobial article. A removable protective film may be held to the exposed surface of the adhesive coating. The invention also provides a process of manufacturing the antimicrobial article. The antimicrobial article can be used, e.g., over fiberglass pipe insulation, on air duct liners, in building wall cavities, over gypsum wallboard and other construction surfaces.

27 Claims, No Drawings