



## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

<p>(51) International Patent Classification<sup>6</sup> : <b>B32B 27/08, A61J 1/00</b></p>	<p><b>A3</b></p>	<p>(11) International Publication Number: <b>WO 99/15289</b></p> <p>(43) International Publication Date: 1 April 1999 (01.04.99)</p>
<p>(21) International Application Number: PCT/US98/19690</p> <p>(22) International Filing Date: 18 September 1998 (18.09.98)</p> <p>(30) Priority Data: 08/934,924 22 September 1997 (22.09.97) US</p> <p>(71) Applicant: BAXTER INTERNATIONAL INC. [US/US]; One Baxter Parkway, Deerfield, IL 60015 (US).</p> <p>(72) Inventors: SMITH, Sidney, T.; 1326 W. Everett Road, Lake Forest, IL 60045 (US). ROSENBAUM, Larry, A.; 855 Kristin Court, Gurnee, IL 60031 (US). GIOVANETTO, Steven; 301 Ambria Drive, Mundelein, IL 60060 (US). BUCHANAN, Bradley; 210 Wellington, Ross, CA 94957 (US). DING, Y., Samuel; 302 Richmond, Vernon Hills, IL 60061 (US). FAN, Suchuan, C.; 1329 Forever Avenue, Libertyville, IL 60048 (US). NEBGEN, Gregg; 923 312th Avenue, Burlington, WI 53105 (US).</p> <p>(74) Agents: BUONAIUTO, Mark, J. et al.; One Baxter Parkway, Deerfield, IL 60015 (US).</p>		<p>(81) Designated States: AU, CA, JP, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).</p> <p><b>Published</b> <i>With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i></p> <p>(88) Date of publication of the international search report: 17 June 1999 (17.06.99)</p>
<p>(54) Title: MULTILAYERED POLYMER STRUCTURE FOR MEDICAL PRODUCTS</p>		
<div style="text-align: right; margin-right: 100px;"> </div>		
<p>(57) Abstract</p> <p>The present invention provides a multiple layer structure (10) for fabricating medical products. The layer structure (10) has a core layer (14) of an ethylene vinyl alcohol copolymer having an ethylene content of about 25–45 mole percent, a solution contact layer of a polyolefin positioned on a first side of the core layer, an outer layer (12) positioned on a second side of the core layer opposite the solution contact layer (16), the outer layer (12) being selected from the group consisting of polyamides, polyesters and polyolefins; two tie layers (18) – one of each adhered to the first and second sides of the core layer (14) and positioned between the solution contact layer (16) and the core layer (14) and between the outer layer (12) and the core layer (14), and wherein the structure (10) is produced in a cast coextrusion process.</p>		

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# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/US 98/19690

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 6 B32B27/08 A61J1/00

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)

IPC 6 B32B A61J

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 698 487 A (OTSUKA PHARMA CO LTD) 28 February 1996	1,5-7, 10-18, 22-24, 26-33, 37-39, 42-47
Y	see figures 1,2 see page 2, line 10 - line 16 see page 2, line 48 - page 3, line 14 see page 3, line 33 - page 4, line 30 --- -/--	1-47

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

° Special categories of cited documents :

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- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- "&" document member of the same patent family

Date of the actual completion of the international search

12 April 1999

Date of mailing of the international search report

23. 04 1999

Name and mailing address of the ISA

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# INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 98/19690

**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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X	<p>US 4 254 169 A (SCHROEDER GEORGE O) 3 March 1981</p> <p>see column 2, line 41 - column 4, line 10 see column 5, line 35 - line 40 see claims see examples 14,23,24</p>	<p>1,5-7, 10-18, 22-24, 26-33, 37-39, 42-47</p>
X	<p>US 5 164 258 A (SHIDA MITSUZO ET AL) 17 November 1992 cited in the application</p> <p>see column 3, line 1 - line 37 see column 5, line 45 - line 57 see claims</p>	<p>1,5-8, 10-17, 32,33, 37-40, 42-47</p>
A	<p>US 4 361 628 A (KRUEGER DUANE A ET AL) 30 November 1982 see page 1, line 49 - page 2, line 29 see column 3, line 9 - line 18</p>	<p>1,18,32, 48,50</p>
A	<p>EP 0 465 681 A (NIPPON PETROCHEMICALS CO LTD) 15 January 1992 see page 2, line 3 - line 5 see page 2, line 18 - line 23 see page 3, line 41 - line 45 see page 4, line 1 - line 5 see page 8, line 56 - page 9, line 1 see claims 1,3</p>	<p>32,34-36</p>
X	<p>EP 0 451 977 A (GRACE W R &amp; CO) 16 October 1991 see page 3, line 46 - page 4, line 7 see page 8, line 28 - line 30 see example 1 see claims</p>	<p>1-47</p>
X	<p>EP 0 561 428 A (GRACE W R &amp; CO) 22 September 1993</p> <p>see page 4, line 34 - line 38; claims; examples</p>	<p>1,5-7, 10-18, 22-24, 26-33, 37-39, 42-47</p>

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**INTERNATIONAL SEARCH REPORT**

International Application No

PCT/US 98/19690

**C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT**

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>GB 2 131 739 A (TOYO SEIKAN KAISHA LTD) 27 June 1984</p> <p>see page 1, line 10 - line 22 see page 5, line 2 - line 43 see claims; examples</p> <p align="center">---</p>	<p>1,5-7, 10-18, 22-24, 26-33, 37-39, 42-47</p>
Y	<p>EP 0 504 808 A (KURARAY CO) 23 September 1992 see page 2, line 3 - line 10 see page 5, line 4 - line 9 see claims 1-5</p> <p align="center">---</p>	<p>1-47</p>
X	<p>EP 0 230 344 A (MITSUI PETROCHEMICAL IND) 29 July 1987 see page 4, line 7 - line 20 see page 9, line 29 - page 10, line 1</p> <p align="center">-----</p>	<p>1,32</p>

# INTERNATIONAL SEARCH REPORT

International application No.  
PCT/US 98/19690

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
  
2.  Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
  
3.  Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- The additional search fees were accompanied by the applicant's protest.
- No protest accompanied the payment of additional search fees.

## INTERNATIONAL SEARCH REPORT

International Application No. PCT/US 98/19690

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1 (partly), 2-4, 5-17 (all partly), 18-31, 32 (partly), 33 (partly), 34-36, 37-52 (all partly)

Multilayer structure as defined in claim 1, characterised in that the second outer layer is a polyamide.

2. Claims: 1 (partly), 5 - 17 (all partly), 32 (partly), 33 (partly), 37 - 52 (all partly)

Multilayer structure as defined in claim 1 characterised in that the second outer layer is a polyester.

3. Claims: 1 (partly), 5 - 17 (all partly), 32 (partly), 33 (partly), 37 - 52 (all partly)

Multilayer structure as defined in claim 1 characterised in that the second outer layer is a polyolefin.

# INTERNATIONAL SEARCH REPORT

information on patent family members

International Application No

PCT/US 98/19690

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