

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
16 February 2006 (16.02.2006)

PCT

(10) International Publication Number  
**WO 2006/016179 A1**

(51) International Patent Classification<sup>7</sup>: **A23G 4/08**,  
C08F 279/02, C08G 81/00

(74) Agent: **WILKINSON, Stephen, John**; Stevens, Hewlett  
& Perkins, 1 St Augustine's Place, Bristol BS1 4UD (GB).

(21) International Application Number:  
PCT/GB2005/003176

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KM, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA,  
MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ,  
OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL,  
SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC,  
VN, YU, ZA, ZM, ZW.

(22) International Filing Date: 12 August 2005 (12.08.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
0417938.8 12 August 2004 (12.08.2004) GB

(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT,  
RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA,  
GN, GQ, GW, ML, MR, NE, SN, TD, TG).

(71) Applicant (for all designated States except US): **THE  
UNIVERSITY OF BRISTOL** [GB/GB]; Senate House,  
Tyndall Avenue, Bristol BS8 1TH (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **COSGROVE,  
Terence** [GB/GB]; The University of Bristol, School  
of Chemistry, Cantock's Close, Bristol BS8 1TS (GB).  
**CRAIK-WHITE, Henry** [IE/IE]; Mobarnane House,  
Co. Tipperary (IE). **HASAN, Erol, Ahmed** [BG/GB];  
The University of Bristol, School of Chemistry, Cantock's  
Close, Bristol BS8 1TS (GB). **GIBSON, Voss, Moore**  
[US/GB]; The University of Bristol, School of Chemistry,  
Cantock's Close, Bristol BS8 1TS (GB).

**Declaration under Rule 4.17:**

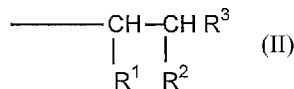
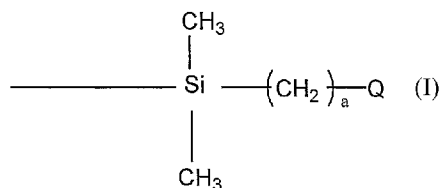
— of inventorship (Rule 4.17(iv)) for US only

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guid-  
ance Notes on Codes and Abbreviations" appearing at the begin-  
ning of each regular issue of the PCT Gazette.

(54) Title: POLYMERIC MATERIALS HAVING REDUCED TACK, METHODS OF MAKING THE MATERIALS AND  
CHEWING GUM COMPOSITIONS CONTAINING SUCH MATERIALS



(57) Abstract: A polymeric material having low tack which has a straight or branched chain carbon-carbon polymer backbone and a multiplicity of side chains attached to the backbone wherein the side chains, which are attached directly to carbon atoms of the polymer backbone, have the formula (I) or have the formula (II) wherein  $\text{R}^1$  is H,  $-\text{C}(\text{O})\text{OR}^4$  or  $-\text{C}(\text{O})\text{Q}$  and  $\text{R}^2$  is  $-\text{C}(\text{O})\text{OR}^4$  or  $-\text{C}(\text{O})\text{Q}$  provided that at least one of  $\text{R}^1$  and  $\text{R}^2$  is the group  $-\text{C}(\text{O})\text{Q}$ ;  $\text{R}^3$  is H or  $-\text{CH}_3$ ;  $\text{R}^4$  is H or an alkyl group having from 1 to 6 carbon atoms; Q is a group having the formula  $-\text{O}-(\text{YO})_b-(\text{ZO})_c-\text{R}^5$ , wherein each of Y and Z is, independently, an alkylene group having from 2 to 4 carbon atoms and  $\text{R}^5$  is H or an alkyl group having from 1 to 4 carbon atoms; a is 3 or 4 and each of b and c is, independently, 0 or an integer of from 1 to 125 provided that the sum  $b + c$  has a value in the range of from 10 to 250, preferably from 10 to 120. The polymeric material may be used to replace at least part of a water-insoluble gum base in a chewing gum composition to give a composition exhibiting reduced adhesion to surfaces.



WO 2006/016179 A1