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(71) Applicant (for all designated States except US): **NOVA CHEMICALS INC.** [US/US]; Westpointe Center, 1550 Coraopolis Heights Road, Moon Township, PA 15108 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KWOK, John Chi Hee** [US/US]; 1301 Sara Court, Moon Township, PA 15108 (US). **BISCAN, David** [US/US]; 4013 Forest Drive, Aliquippa, PA 15001 (US).

(74) Agent: **MATZ, Gary, F.**; NOVA Chemicals Inc., Westpointe Center, 1550 Coraopolis Heights Road, Moon Township, PA 15108 (US).

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(54) Title: MULTILAYER THERMOPLASTIC FILM STRUCTURES

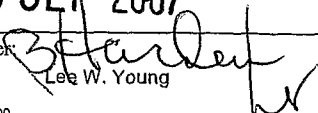
(57) Abstract: Packaging material comprised of a multilayer thermoplastic film structure may be used to form packaging articles, for example, stand up pouches, laminating films, and sealing/lidding stocks. The multilayer film structure contains a first layer comprised of an improved rubber modified styrenic copolymer, i.e. rubber modified styrene methyl methacrylate, a second layer comprised of a moisture barrier material, e.g. polyethylene, and a tie layer between the first and second layers made of a material selected from the group consisting of a styrene butadiene block copolymer, an ethylene vinyl acetate resin, and a maleic hydride modified ethylene vinyl acetate. An inner layer or layers of material having oxygen barrier properties, mechanical enhancement properties, or adhesive properties and a second tie layer comprising an appropriate material may be co-extruded with the first and second layers, and the tie layers for desired properties of the packaging material. The improved rubber modified styrenic copolymer of the first layer includes a continuous phase and a dispersed phase, where A) the continuous phase contains a polymer composition resulting from the polymerization of a monomer mixture containing a styrenic monomer and an alkyl (meth)acrylate monomer in the presence of the dispersed phase; and B) the dispersed phase contains one or more block copolymer selected from diblock and triblock copolymers of styrene-butadiene, styrene-butadiene-styrene, styrene-isoprene, styrene-isoprene-styrene, partially hydrogenated styrene-isoprene-styrene. The multilayer film structure generally is relatively clear to transparent with a Haze value ranging between 0.1% and 40%, and most preferably about 10%.

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER IPC(8) - B32B 27/08 (2007.01) USPC - 428/519 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) USPC: 428/519 (keywords limited - see list of keywords)		
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 practicable, search terms used) PubWEST (USPT, PGPB, EPAB, JPAB); DialogPRO; Google Scholar Search Terms: Styrene, packaging, thermoplastic, continuous, dispersed, multilayer, butadiene, methacrylate, isoprene, copolymer, cyclic, alkyl, particle, size, haze, refractive, index, ASTM, cloudiness, butyl, tertiary, chlorinated, modulus, secant		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X --- Y	US 2004/0102576 A1 (Matsui et al.) 27 May 2004 (27.05.2004), especially, para [0002], [0013], [0031], [0045], [0062], [0063], [0098], [0115], [0119], [0123]-[0127], [0129], [0299], [0303], [0305] and Table 5 - Table 9.	1, 3-6, 8, 9, 11, 13 ----- 2, 7, 10, 12, 14-50
Y	US 2006/0014035 A1 (Montanari et al.) 19 January 2006 (19.01.2006), especially, para [0002], [0007], [0012], [0023], [0025], [0026], [0034], [0092], [0096], [0097], [0106], [0115], [0176], [0177] and [0217].	2, 7, 12, 14-50
Y	US 2005/0271877 A1 (Ginossatis) 8 December 2005 (08.12.2005), especially, para [0022], [0044] and [0048].	17, 18, 24-38, 42
Y	US 2005/0272866 A1 (Wright et al.) 8 December 2005 (08.12.2005), especially, para [0033] and claim 4.	10, 16, 32, 37, 41
Y	US 2005/0004314 A1 (Marechal) 6 January 2005 (06.01.2005), especially, para [0062], [0067] and [0108].	21, 45
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"P" document published prior to the international filing date but later than the priority date claimed		
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