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- (71) Applicant: BRADY WORLDWIDE, INC. [US/US]; P.O. Box 571, 2221 West Camden Road, Milwaukee, WI 53201-0571 (US). *For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*



WO 01/018138 A3

(54) Title: PRESSURE SENSITIVE ADHESIVES FOR USE WITH DATA STORAGE DEVICES

(57) Abstract: A method is disclosed for making improved, cleaner computer devices by using a cleaner pressure sensitive adhesive (PSA) on the computer device components that contain a PSA. The cleaner PSA comprises at least one hydrogenated styrene-elastomer-styrene block copolymer or the hydrogenated styrene-elastomer-styrene-elastomer block copolymer, and at least one tackifying resin. Hydrogenated styrene-ethylene butylene-styrene or styrene-ethylene propylene-styrene block polymers in combination with certain "clean" tackifying resins are formulated into a liquid coating, coated and properly dried on an acceptable substrate. The component thus produced is ideally suited to be used in disk drives. The component produced in the manner described, has a much lower total aggregate concentration of materials considered harmful by the industry, compared to most polyacrylate adhesive components of the same design. Also disclosed are computer devices, preferably computer data storage devices, made by the method disclosed.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 00/17782

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C09J153/02 G06F1/16 H04L29/06

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 7 C09J C08L C09D G06F H04L

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)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5 869 555 A (LINDQUIST JEFFREY S ET AL) 9 February 1999 (1999-02-09) * column 1, line 10-34 ; column 4, line 56 - column 5, line 54 ; column 6, line 45 - column 7, line 45 * column 9, line 63-67; claim 1 ---	1-15
X	US 5 863 977 A (FISCHER CAROLYN A ET AL) 26 January 1999 (1999-01-26) claims 1,2,11,12 ---	1-15
X	US 5 942 569 A (LINDQUIST JEFFREY S ET AL) 24 August 1999 (1999-08-24) * column 1, line 11-36 ; column 5, line 1 - 64 ; column 6, line 55 - column 7, line 65 ; column 4, line 6-10 * ---	1-15
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 Further documents are listed in the continuation of box C. Patent family members are listed in annex.

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Date of the actual completion of the international search

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 98 00471 A (FULLER H B LICENSING FINANC) 8 January 1998 (1998-01-08) claims 1,2,13,14,19,22 ---	1-15
Y	JP 06 049425 A (MINNESOTA MINING & MFG) 22 February 1994 (1994-02-22) * abstract *	1-15
A	WO 99 20709 A (FULLER H B LICENSING FINANC) 29 April 1999 (1999-04-29) * page 2, line 2 ; page 10, line 12-21 ; claims 1, 10 ; page 3, line 4-10 ; page 7, line 6 - page 8, line 8 * page 1, line 1 -page 2, line 25 ---	1-15
A	EP 0 410 011 A (AICA KOGYO CO LTD) 30 January 1991 (1991-01-30) abstract; claims 1,7 ---	1-15
A	US 4 692 272 A (GOSWAMI JAGADISH C ET AL) 8 September 1987 (1987-09-08) * column 1, line 15-34 * abstract -----	1-15

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/US 00/17782

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5869555	A	09-02-1999	US 5942569 A AU 719936 B AU 1054697 A BR 9611968 A EP 0861285 A JP 2000502120 T WO 9719582 A	24-08-1999 18-05-2000 19-06-1997 13-07-1999 02-09-1998 22-02-2000 05-06-1997
US 5863977	A	26-01-1999	US 5459193 A CA 2171542 A DE 69415040 D DE 69415040 T EP 0723571 A JP 9505840 T WO 9510576 A	17-10-1995 20-04-1995 14-01-1999 15-07-1999 31-07-1996 10-06-1997 20-04-1995
US 5942569	A	24-08-1999	US 5869555 A AU 719936 B AU 1054697 A BR 9611968 A EP 0861285 A JP 2000502120 T WO 9719582 A	09-02-1999 18-05-2000 19-06-1997 13-07-1999 02-09-1998 22-02-2000 05-06-1997
WO 9800471	A	08-01-1998	US 5741840 A CN 1198769 A DE 69701216 D DE 69701216 T EP 0847430 A	21-04-1998 11-11-1998 02-03-2000 28-09-2000 17-06-1998
JP 6049425	A	22-02-1994	NONE	
WO 9920709	A	29-04-1999	US 6025071 A AU 1115299 A	15-02-2000 10-05-1999
EP 0410011	A	30-01-1991	JP 1217093 A JP 1889944 C JP 6013695 B US 4900770 A	30-08-1989 07-12-1994 23-02-1994 13-02-1990
US 4692272	A	08-09-1987	US 4604230 A DE 3585907 A EP 0182079 A IL 76582 A US 4652398 A JP 1666745 C JP 3029266 B JP 61141779 A	05-08-1986 27-05-1992 28-05-1986 15-05-1989 24-03-1987 29-05-1992 23-04-1991 28-06-1986