



US006270561B1

(12) **United States Patent**
Nguyen

(10) **Patent No.:** **US 6,270,561 B1**
(45) **Date of Patent:** **Aug. 7, 2001**

(54) **HOT MELT INK COMPOSITIONS FOR INKJET PRINTING APPLICATIONS**

(75) Inventor: **My T. Nguyen, Kirkland (CA)**

(73) Assignee: **American Dye Source, Inc., Baie d'Urfé (CA)**

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/450,022**

(22) Filed: **Nov. 29, 1999**

(30) **Foreign Application Priority Data**

Oct. 15, 1999 (CA) 2286446

(51) **Int. Cl.⁷** **C09D 11/10**; C09D 11/00

(52) **U.S. Cl.** **106/31.85**; 106/31.13; 106/31.29; 106/31.57; 106/31.61; 106/287.1; 106/311; 523/161; 524/588; 525/474

(58) **Field of Search** 106/31.13, 31.29, 106/31.57, 31.61, 31.85, 287.1, 311; 523/161; 524/588; 525/474

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,844,550 * 7/1958 Hay .
4,889,560 12/1989 Jaeger et al. .
5,597,856 1/1997 Yu et al. .
5,703,145 * 12/1997 Sagawa et al. 523/161
5,750,604 5/1998 Banning et al. .

5,777,023 7/1998 Parlin .
5,780,528 7/1998 Titterington et al. .
5,783,658 7/1998 Banning et al. .
5,881,648 3/1999 Pavlin .
5,902,841 5/1999 Jaeger et al. .
6,153,667 * 11/2000 Howald 523/160

FOREIGN PATENT DOCUMENTS

56-111691 * 9/1981 (JP) .
62-250081 * 10/1987 (JP) .
WO 9414902 7/1994 (WO) .
WO 9712003 4/1997 (WO) .

OTHER PUBLICATIONS

Derwent abstract of JP 356111691 A, Nakatani et al. 9/81.*
Derwent abstract of JP 62250081 A, Toyo INK MFG CO 10/87.*
Derwent abstract of JP 02284970 A, Union Chemicer KK 3/98.*

* cited by examiner

Primary Examiner—Robert Dawson
Assistant Examiner—Jeffrey B. Robertson
(74) *Attorney, Agent, or Firm*—Goudreau Gage Dubuc

(57) **ABSTRACT**

Disclosed herein is a novel hot melt ink comprising a colorant ink and an ink vehicle wherein the ink vehicle comprises at least one polyhedral silsesquioxane compound present in a proportion of about 0.1 to 30 wt % based on the total weight of the hot melt ink composition.

8 Claims, No Drawings