

19



Europäisches Patentamt
European Patent Office
Office européen des brevets



11

Publication number:

0 400 864 A3

12

EUROPEAN PATENT APPLICATION

21

Application number: **90305560.6**

51

Int. Cl.⁵: **C10M 159/12, C10M 159/16,
//C10N20:04,C10N30:04,
C10N60:00,C10N60:14**

22

Date of filing: **22.05.90**

30

Priority: **30.05.89 US 358903**

71

Applicant: **EXXON CHEMICAL PATENTS INC.
200 Park Avenue
Florham Park New Jersey 07932(US)**

43

Date of publication of application:
05.12.90 Bulletin 90/49

72

Inventor: **Gutierrez, Antonio
22, Tar Heels Road
Mercerville, New Jersey 08619(US)**
Inventor: **Lundberg, Robert Dean
4 Brian Drive
Bridgewater, New Jersey 08807(US)**

64

Designated Contracting States:
BE DE FR GB IT NL

68

Date of deferred publication of the search report:
14.08.91 Bulletin 91/33

74

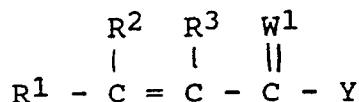
Representative: **Northover, Robert Frank et al
Exxon Chemical Limited Exxon Chemical
Technology Centre PO Box 1
Abingdon Oxfordshire, OX13 6BB(GB)**

54

Improved branched amido-amine dispersant additives.

57

The present invention is directed to branched amido-amine dispersant additives useful in oleaginous compositions formed by (a) reacting a first nitrogen-containing compound (e. g., ammonia or an organic amine) with an alpha, beta-unsaturated compound of the formula:



long chain hydrocarbyl substituted mono- or dicarboxylic acid material comprising a polyolefin of 300 to 10,000 number average molecular weight substituted with at least 0.3 mono- or dicarboxylic acid producing moieties (preferably acid or anhydride moieties) per polyolefin molecule.

wherein W^1 is sulfur or oxygen, Y is $-OR^4$, $-SR^4$, or $-NR^4(R^5)$, and R^1 , R^2 , R^3 , R^4 and R^5 are the same or different and are hydrogen or substituted or unsubstituted hydrocarbyl, to form a first adduct containing unreacted $-C(W^1)-Y$ groups; (b) reacting the first adduct with a polyamine (e.g., a polyalkylene polyamine) to form a second adduct containing unreacted $-NH-$ groups (preferably primary amine groups) and comprising a branched amido-amine oligomer; and (c) reacting the second adduct with a

EP 0 400 864 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
P,A	EP-A-0 319 229 (EXXON CHEMICAL PAT.) * Pages 3-10 *	1-3, 11-16,18, 19,20, 22-24, 30-32	C 10 M 159/12 C 10 M 159/16 C 10 L 1/22 C 10 L 1/24 C 08 F 8/30
P,A	EP-A-0 256 010 (EXXON CHEMICAL PAT.) * Pages 9-15 *	1-3,30-32	
A	FR-A-2 346 442 (OROGIL) * Page 1, line 12 - page 2, line 39 *	1,2,11,13, 16,17,19, 22,23,28, 31,32	
D,A	US-A-3 445 441 (B.M. RUSHTON) * Claims 1,3 5; column 5, line 3 - column 7, line 15; column 20, line 60 - column 21, line 5; column 21, line 25,42 *	1,3,19, 30-32	
A	GB-A-1 068 133 (LUBRIZOL) * Page 2, line 114 - page 3, line 74; page 4, lines 50-120; page 7, line 94 - page 8, line 6; claims 1-9 *	1,2,11,13, 15,16,19, 20,22, 30-32	
A	US-A-3 718 663 (E.J. PIASEK)		TECHNICAL FIELDS SEARCHED (Int. Cl.5) C 10 M C 10 L C 08 F
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of search 16 May 91	Examiner HILGENGA K.J.
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure P: intermediate document T: theory or principle underlying the invention		E: earlier patent document, but published on, or after the filing date D: document cited in the application L: document cited for other reasons ----- &: member of the same patent family, corresponding document	