



(19) Europäisches Patentamt
European Patent Office
Office européen des brevets



(11) Publication number : **0 561 600 A3**

(12)

EUROPEAN PATENT APPLICATION

(21) Application number : **93301965.5**

(51) Int. Cl.⁵ : **C06B 47/00**

(22) Date of filing : **16.03.93**

(30) Priority : **17.03.92 US 852859**

(43) Date of publication of application :
22.09.93 Bulletin 93/38

(84) Designated Contracting States :
**AT BE CH DE DK ES FR GB GR IE IT LI LU MC
NL PT SE**

(88) Date of deferred publication of search report :
17.05.95 Bulletin 95/20

(71) Applicant : **THE LUBRIZOL CORPORATION
29400 Lakeland Boulevard
Wickliffe, Ohio 44092-2298 (US)**

(72) Inventor : **Jahnke, Richard W.
9069 Richards Drive
Mentor, Ohio 44060 (US)**

(74) Representative : **Crisp, David Norman et al
D. YOUNG & CO.
21 New Fetter Lane
London EC4A 1DA (GB)**

(54) Water-in-oil emulsions.

(57) This invention is directed to water-in-oil emulsions which are useful as explosives. These emulsions comprise : a discontinuous aqueous phase comprising at least one oxygen-supplying component; a continuous organic phase comprising at least one carbonaceous fuel; and a minor emulsifying amount of at least one emulsifier. The emulsifier is the product made by the reaction of component (A) with component (B), component (A) being at least one substituted succinic acylating agent, said substituted succinic acylating agent consisting of substituent groups and succinic groups wherein the substituent groups are derived from a polyalkene, said acylating agents being characterized by the presence within their structure of an average of at least 1.3 succinic groups for each equivalent weight of substituent groups, and component (B) being ammonia and/or at least one amine.

EP 0 561 600 A3



European Patent
Office

EUROPEAN SEARCH REPORT

Application Number
EP 93 30 1965

DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int.Cl.)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
Y	WO-A-87 03613 (THE LUBRIZOL CORPORATION) * page 17, line 10 - page 18, line 8 * * page 45, line 10 - page 51, line 8 * * page 70 - page 73; claims *	1-22	C06B47/00
D	& US-A-4 708 753		
D	& US-A-4 844 756 ---		
Y	WO-A-89 05848 (THE LUBRIZOL CORPORATION) * page 19, line 1 - page 24, line 10; claims *	1-22	
D	& US-A-4 844 756 ---		
Y	US-A-5 034 071 (C. VANOMMEREN) * column 1, line 14 - line 38; claims *	1-22	
D, Y	US-A-4 234 435 (N.A. MEINHARDT ET AL.) * column 2, line 40 - line 54; claims *	1-22	
A	US-A-5 074 939 (R. SANDERS ET AL.) * column 3, line 60 - column 4, line 62; claims *	1-22	
Y	US-A-5 076 867 (L.F. MCKENZIE) * column 2, line 47 - line 54; claims *	1-22	C06B C10M
Y	WO-A-88 03522 (THE LUBRIZOL CORPORATION ET AL.) * page 69, line 25 - page 73, line 8; claims; example 4 *	1-22	
D	& US-A-4 919 178		
D	& US-A-4 956 028		
D	& US-A-4 840 687 -----		
The present search report has been drawn up for all claims			
Place of search	Date of completion of the search	Examiner	
THE HAGUE	17 March 1995	Schut, R	
CATEGORY OF CITED DOCUMENTS		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	
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			