

EUROPEAN PATENT APPLICATION

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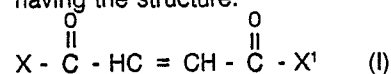
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Lubricating oil additives.

A lubricating composition comprises a major amount of an oil of lubricating viscosity and a minor amount of one or more carboxylic derivatives obtainable by reacting at least one substituted succinic acylating agent, which acylating agent comprises a copolymer of an aliphatic olefin and a monomer having the structure:



wherein X and X' are the same or different provided at least one of X and X' is such that the substituted succinic acylating agents can function as carboxylic acylating agents with a reactant selected from (a) an amine having within its structure at least one H-N group, (b) an alcohol, (c) a reactive metal or a reactive metal compound, and (d) a combination of two or more of any of (a) to (c).

The preferred aliphatic olefin is a C₄-C₃₀ aliphatic olefin for example octadecene-1. The preferred monomer is maleic anhydride. Preferred amines comprises C₁₀-C₁₈ primary monoamines.

EP 0 365 287 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. 4)
X	US-A-4 548 725 (R.F. BRIDGER) * Whole document *	1-4, 6,7	C 10 M 145/16 C 10 M 149/06 C 10 M 159/12
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X	US-A-4 514 314 (A. ROSSI) * Abstract; column 1, line 13 - column 2, line 55; column 2, line 64 - column 3, line 38; examples 1,4-7; column 5, line 31 - column 6, line 33; claims *	1-4, 6-8	
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X	US-A-4 171 273 (O. WALDBILLIG et al.) * Whole document *	1,4, 6-8	
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D,X	GB-A-1 565 627 (THE LUBRIZOL CORP.) * Page 1, line 7 - page 7, line 31; page 9, lines 26-51; page 14, line 5 - page 16, line 11; page 17, line 5 - page 30, line 19; page 31, line 1 - page 32, line 48; examples 10-40; claims 1-3,15,22,23 *	1,2,4, 6-8	TECHNICAL FIELDS SEARCHED (Int. Cl. 4) C 10 M
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A	US-A-2 542 542 (S.B. LIPPINCATT et al.) * Whole document *	5	
	--		
X	US-A-2 615 845 (S.B. LIPPINCATT et al.) * Column 1, line 1 - column 2, line 29, line 46 - column 3, line 4; examples 21-23 *	5	
The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 19-03-1990	Examiner FISCHER
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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</p>			



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

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All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.

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Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid.

namely claims:

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No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions.

namely:

1. Claims 1-4,6-8: Claims 1-3 selection of olefin monomer of acylating agent; claims 4,6-8 anticipated by same prior art.

2. Claim 5: Selection of a specific amine reactant.

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All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

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Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid.

namely claims:

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None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.

namely claims: