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54 **Deposit control additives for hydrocarbon fuels and lubricants for use in internal combustion engines.**

57 Additives for use in internal combustion engines are provided which particularly in unleaded fuels maintain cleanliness of the intake system without contributing to combustion chamber deposits. The additives are hydrocarbyl-terminated poly(oxyalkylene) polyamine ethanes comprising a hydrocarbyl-terminated poly(oxyalkylene) chain formed from 1 to 30 2-5 carbon oxyalkylene units bonded to an ethane or branched ethane chain containing from 2 to 8 carbon atoms in turn bonded to a nitrogen atom of a polyamine having from 2 to 12 amine nitrogens and from 2 to 40 carbon atoms with a carbon:nitrogen ratio between 1:1 and 10:1. The terminal hydrocarbyl group contains from 1 to 30 carbon atoms and the additive has a molecular weight in the range from 300 to 2500. The additive may be formulated as a concentrate in an inert oleophilic organic solvent or may be formulated as a lubricant composition for use in an internal combustion engine by incorporation in a lubricating oil.



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EUROPEAN SEARCH REPORT

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EP 83 30 4397

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. 3)
X	US-A-4 247 301 (L.R. HONNEN) * Claims 1-8,11; column 3, line 7 - column 9, line 42 * ---	1-14	C 10 M 1/32 C 10 L 1/22 C 08 G 65/32
X	US-A-3 373 204 (R.A. HALES) * Claims 1,3,4; column 1, lines 29-30, 39-49, 58-59 * ---	1-5,7, 8,14	
X	US-A-4 332 595 (S. HERBSTMAN) * Claims 1-16 * -----	1-5,7- 10	
			TECHNICAL FIELDS SEARCHED (Int. Cl. 3)
			C 10 M C 10 L C 08 G
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 09-12-1983	Examiner RO TSAERT L.D.C.
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	