

Title (en)
Dispersants for lubricating oil.

Title (de)
Dispergiermittel für Schmieröl.

Title (fr)
Dispersants pour huile lubrifiante.

Publication
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Application
EP 95300225 A 19950113

Priority
US 18304394 A 19940114

Abstract (en)
Novel dispersant compositions for lubricating oil are described. They exhibit little fluoroelastomer antagonism and are effective in controlling sludge, varnish and wear. The dispersants comprise two components. One is formed by reacting aminoguanidine with a long chain succinic acylating agent. The product may be borated if desired. The other component is formed by reacting (i) a succinic acylating agent and (ii) an alkylene polyamine, and then heating the resultant succinimide concurrently or in any sequence with (iii) a dicarboxylic acylating agent having less than 20 carbon atoms, and (iv) a boron compound to form a product having (1) a total base number of about 33-45 milligrams of KOH per gram of product, excluding weight of any solvent or diluent, and (2) a boron level of about 1.0-1.4 wt% excluding weight of any solvent or diluent.

IPC 1-7
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IPC 8 full level
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Citation (search report)
• [A] EP 0460309 A1 19911211 - ETHYL PETROLEUM ADDITIVES LTD [GB]
• [PA] WO 9500607 A1 19950105 - ETHYL CORP [US]
• [A] EP 0310365 A1 19890405 - AMOCO CORP [US]
• [A] EP 0516461 A1 19921202 - ETHYL PETROLEUM ADDITIVES INC [US]
• [A] GB 1121681 A 19680731 - LUBRIZOL CORP
• [A] GB 998869 A 19650721 - MONSANTO CO

Cited by
EP1057884A1; GB2480612A; GB2462696A; GB2462696B; US6147035A; EP0860495A3; GB2307685A; GB2307685B; EP0705322A4; GB2465056A; GB2465056B; US8529643B2; WO2007120712A3; US6303546B1; US8623105B2; US9574150B2; US9663743B2; EP2154231B1

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