

Title (en)

ADDITIVES FOR IMPROVING THE COLD FLOW PROPERTIES AND THE STORAGE STABILITY OF CRUDE OIL

Title (de)

ADDITIVE ZUR VERBESSERUNG VON KALTFLIESSEIGENSCHAFTEN UND LAGERSTABILITÄT VON ROHÖLEN

Title (fr)

ADDITIF POUR AMELIORER LA FUIDITE A FROID ET LA STABILITE AU STOCKAGE DU PETROLE BRUT

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Application

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Abstract (en)

[origin: US6821933B2] The invention relates to additives for improving the flowability of mineral oils, containing:A) 1-40 wt. % of at least one copolymer, which is oil-soluble and improves the cold flow properties of mineral oil, selected from A1) copolymers consisting of 80 to 96.5 mol % ethylene and 3.5-20 mol % vinyl esters of carboxylic acids with 1-20 C atoms and/or (meth)acrylic acid esters of alcohols with 1-8 C atoms, and A2) homopolymers or copolymers of esters, containing C10-C30 alkyl radicals, of ethylenically unsaturated carboxylic acids with up to 20 mol % of other olefinically unsaturated compounds,B) 20-80 wt. % of at least one poly-alpha-olefin with a molecular weight of 250-5000, derived from monoolefins with 3-5 C atoms, andC) 5-70 wt. % of at least one organic acid selected from C1) alkylphenol-aldehyde resins of formula (1),wherein R<1 >and R<2 >independently designate H or alkyl radicals with 1-30 C atoms, but both radicals do not at the same time signify H, n represents an integer of 3-50, and R<3 >represents H or an alkyl radical with 1-4 C atoms, and C2) aliphatic and/or aromatic sulfonic acids of formula R<18>-SO₃H, wherein R<18> stands for C6-C40-alkyl, C6-C40-alkenyl, or an alk(en)yl aryl radical which has 1, 2, 3 or 4 aromatic rings and 1, 2, 3 or 4 alkyl or aryl radicals with respectively 6-40 C-atoms.

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