

Title (en)

Use of metal sulfonates as friction modifiers

Title (de)

Verwendung von Metallsulfonaten als Reibungsmodifiziermittel

Title (fr)

Utilisation des sulphonates métalliques en tant qu'agents modifiant la friction

Publication

EP 0881277 A2 19981202 (EN)

Application

EP 98304251 A 19980529

Priority

- JP 15792197 A 19970531
- JP 10402198 A 19980331

Abstract (en)

Novel metal sulfonates having friction reducing ability and also various lubricating oil compositions containing the metal sulfonates are disclosed. The metal sulfonates which provide a friction modifier comprise a metal sulfonate composed of an organic sulfonic group, which contains a hydrocarbon group, and a metal. The hydrocarbon group of the organic sulfonic group is a chain hydrocarbon group or an aromatic group with at least one chain hydrocarbon group bonded thereto. The chain hydrocarbon group has an alkyl chain linearity of 20% or higher as determined by a carbon nuclear magnetic resonance measurement (¹³C-NMR measurement). Lubricating oil compositions added with the metal sulfonate are also provided.

IPC 1-7

C10M 135/10; C10M 159/24

IPC 8 full level

C10M 135/10 (2006.01); **C10M 159/24** (2006.01); C10N 10/02 (2006.01); C10N 10/04 (2006.01); C10N 20/00 (2006.01); C10N 30/00 (2006.01); C10N 30/06 (2006.01)

CPC (source: EP)

C10M 135/10 (2013.01); **C10M 159/24** (2013.01); C10M 2219/044 (2013.01); C10M 2219/046 (2013.01); C10N 2040/00 (2013.01); C10N 2040/02 (2013.01); C10N 2040/08 (2013.01); C10N 2040/20 (2013.01); C10N 2040/22 (2013.01); C10N 2040/25 (2013.01); C10N 2040/251 (2020.05); C10N 2040/255 (2020.05); C10N 2040/28 (2013.01); C10N 2040/30 (2013.01); C10N 2040/32 (2013.01); C10N 2040/34 (2013.01); C10N 2040/36 (2013.01); C10N 2040/38 (2020.05); C10N 2040/40 (2020.05); C10N 2040/42 (2020.05); C10N 2040/44 (2020.05); C10N 2040/50 (2020.05)

Cited by

EP1384769A1; EP1930401A1; US9550957B2; US7407919B2; WO9955808A1

Designated contracting state (EPC)

DE FR GB IT NL

DOCDB simple family (publication)

EP 0881277 A2 19981202; **EP 0881277 A3 19990908**; **EP 0881277 B1 20050817**; **EP 0881277 B8 20051019**; CA 2235701 A1 19981130; CA 2235701 C 20070522; DE 69831189 D1 20050922; DE 69831189 T2 20060608; JP H1143687 A 19990216; SG 77644 A1 20010116

DOCDB simple family (application)

EP 98304251 A 19980529; CA 2235701 A 19980525; DE 69831189 T 19980529; JP 10402198 A 19980331; SG 1998001723 A 19980529