

Title (en)
Electroviscous electrically insulating fluids.

Title (de)
Elektroisolierende elektroviskose Flüssigkeiten.

Title (fr)
Fluides électrovisqueux électriquement isolants.

Publication
EP 0395359 A1 19901031 (EN)

Application
EP 90304402 A 19900424

Priority
JP 10699789 A 19890426

Abstract (en)
In an electrically insulating liquid medium there are mixed (a) 0.1 - 50 wt% of dispersed solid particles of size 10 nm - 200 μ m (e.g. silica gel), (b) 0.1 - 5 wt% of an acid, base or salt, (c) a polyhydric alcohol (e.g. ethylene glycol) and (d) an antioxidant (e.g. 0.01 - 10 wt% of a phenol or amine) which prevents oxidation of the liquid and the alcohol and/or a corrosion inhibitor (e.g. 0.001 - 10 wt% of a benzotriazole derivative or imidazole) which prevents corrosion of the electrode and generation of metallic ions. Optionally an agent to assist dispersing of the solid particles is included (e.g. a sulphonate or phosphonate). The resultant electroviscous fluid can have good effects, including responsiveness and reproducibility and durability when used at temperatures up to 100 DEG C and can be used in electrical control of mechanical devices by utilizing its viscosity change.

IPC 1-7
C10M 171/00

IPC 8 full level
C10M 129/10 (2006.01); **C10M 129/14** (2006.01); **C10M 133/12** (2006.01); **C10M 133/34** (2006.01); **C10M 133/38** (2006.01); **C10M 133/40** (2006.01); **C10M 133/44** (2006.01); **C10M 133/46** (2006.01); **C10M 135/20** (2006.01); **C10M 135/26** (2006.01); **C10M 135/28** (2006.01); **C10M 135/36** (2006.01); **C10M 171/00** (2006.01); **C10N 30/10** (2006.01); **C10N 30/12** (2006.01); **C10N 40/14** (2006.01)

CPC (source: EP)
C10M 171/001 (2013.01)

Citation (search report)

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Designated contracting state (EPC)
DE FR GB

DOCDB simple family (publication)
EP 0395359 A1 19901031; **EP 0395359 B1 19930922**; DE 69003434 D1 19931028; DE 69003434 T2 19940120; JP H02284992 A 19901122

DOCDB simple family (application)
EP 90304402 A 19900424; DE 69003434 T 19900424; JP 10699789 A 19890426