

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.

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Citation (search report)
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• US 2751351 A 19560619 - YOUNG DAVID W, et al
• [A] CHEMICAL ABSTRACTS, vol. 92, no. 2, 19th May 1980, page 127, abstract no. 166046u, Columbus, Ohio, US; S.D. LIKHTEROV et al.: "Electroviscous effect in oils containing additives", & KHIM. TEKHNOL. TOPL. MASEL 1980, (1), 43-5

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