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(54) Title: SHOCK ABSORBER WITH BIODEGRADABLE HYDRAULIC FLUID AND BIODEGRADABLE FLUID FOR SHOCK ABSORBER OF ANY NATURE

(57) Abstract: New shock absorber of any nature with biodegradable fluid, comes to replace with great advantages the hydraulic fluid currently used in shock absorber that possess a mineral base, or derivations of it, that do not have biodegradable properties and also low thermal stability, being that this new fluid provides improvement of the functional development and life span among other advantages. This new Biodegradable Hydraulic Fluid for Shock absorber can has a synthetic base of the Group V or the Glycol Group, in solution or not, presenting high thermal stability and low viscosity variation, besides having a biodegradable characteristic. The viscosity and density must be compatible with the application of hydraulic fluid for shock absorber, might having fractions of specific additives, such as antifoam, anticoagulants and anti efervescent and still antioxidants and others. Where there is a gasket seal with plasma application, being obtained through the composition of several gases. It can also be presented as a monitoring device for wear and tear of automotive shock absorber, with a Sensor of Cycle Performance with Magnetic Spring, with or without proportional valve with electronic control device of the absorption factor.



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A. CLASSIFICATION OF SUBJECT MATTER IPC: <i>C10M 105/14</i> (2006.01); <i>C10M 171/02</i> (2006.01); <i>C10M 109/00</i> (2006.01) According to International Patent Classification (IPC) or to both national classification and IPC		
B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) C10M Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched Electronic data base consulted during the international search (name of data base and, where practicable, search terms used) EPO: WPI; EPODOC		
C. DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 2399974 A1 & WO 2010094097 (PROMAX PRODUTOS MAXIMOS S/A INDUSTRIA E COMERCIO) 28 December 2011 (28.12.2011) The whole document	1
X	EP 2399975 A1 & WO 2010094098 (PROMAX PRODUTOS MAXIMOS S/A INDUSTRIA E COMERCIO) 28 December 2011 (28.12.2011) The whole document	1
X	WO 2010094097 A1 (PROMAX PRODUTOS MAXIMOS S/A INDUSTRIA E COMERCIO) 28 December 2011 (28.12.2011) The whole document	1
X	WO 2010094098 A1 (PROMAX PRODUTOS MAXIMOS S/A INDUSTRIA E COMERCIO) 28 December 2011 (28.12.2011) The whole document	1
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Patent document cited in search report			Patent family member(s)			Publication date
EP	A1	2399974	AR	A1	076638	2011-06-29
			BR	A2	PI0900835	2010-11-09
			CN	A	102369265	2012-03-07
			EP	A1	2399974	2011-12-28
			US	A1	2012004149	2012-01-05
			WO	A1	2010094097	2010-08-26
EP	A1	2399975	AR	A1	077733	2011-09-21
			BR	A2	PI0900280	2010-10-26
			CN	A	102369266	2012-03-07
			EP	A1	2399975	2011-12-28
			US	A1	2012037841	2012-02-16
			WO	A1	2010094098	2010-08-26
WO	A1	2010094097	AR	A1	076638	2011-06-29
			BR	A2	PI0900835	2010-11-09
			CN	A	102369265	2012-03-07
			EP	A1	2399974	2011-12-28
			US	A1	2012004149	2012-01-05
			WO	A1	2010094097	2010-08-26
WO	A1	2010094098	AR	A1	077733	2011-09-21
			BR	A2	PI0900280	2010-10-26
			CN	A	102369266	2012-03-07
			EP	A1	2399975	2011-12-28
			US	A1	2012037841	2012-02-16
			WO	A1	2010094098	2010-08-26