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(54) **Multi purpose additive for car engine**

(57) The present invention relates to a new additive which can be added to all types of vehicle engines as well as equipment, hydraulic pumps and transmissions in addition to gasoline fuel and biodiesel (from wasted engine and food oil) but not diesel fuel from Crude oil. In brief, one embodiment of the present disclosure involves

mixing a solution of pure Potassium Hydroxide of concentration 88 to 92% by volume with water as solvent, with a solution of either Ethanol or Ethyl Alcohol of concentration 83 to 85% by volume with water as solvent, in a ratio of 4:1 by volume at a temperature not exceeding 25 ° C.

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Description**CROSS-REFERENCE TO RELATED APPLICATIONS****5 TECHNICAL FIELD OF THE INVENTION**

[0001] The present invention relates to a new additive which can be added to all types of vehicle engines as well as equipment, hydraulic pumps and transmissions in addition to gasoline fuel and biodiesel (from wasted engine and food oil). It can only not be added to diesel fuel from Crude oil. So far there is no such one additive that was made for all these purposes together. Moreover, the viscosity enhancer of the invention has never been made before.

BACKGROUND OF THE INVENTION

[0002] Fuel efficiency of new engines is gaining importance from both an economic and an environmental prospective especially when fuel prices are on the rise. If an engine can run longer on a smaller amount of fuel, then this will save the consumer money. It also becomes important that the maximum amount of energy be utilized from every gallon of fuel. One way to achieve better efficiency and power is through the use of engine-cleaning fuel additives in a vehicle's fuel.

[0003] Engine oil (also known as motor oil) has two primary purposes: To lubricate the moving parts of the vehicle engine which minimizes friction and to protect metallic surfaces from corrosion (also known as rust). Oil additives are added to engine oil to help achieve these purposes. The most important of these engine oil additives are viscosity index improvers (VIIs).

[0004] The viscosity of oil is more or less equivalent to its thickness, its willingness to flow freely through the engine and coat all the parts that need coating. Oil with too high a viscosity will be reluctant to flow and will gum up the works; oil with too low a viscosity will flow through the engine like water, not sticking around long enough to do its job. Furthermore, the viscosity of oil changes with temperature, becoming more viscous when cold and less viscous when hot, so viscosity is affected by both the weather and how warm the engine is.

[0005] The tendency of the viscosity of the oil to change with temperature is called its viscosity index and viscosity index improvers are used to adjust this index to make the change in viscosity small enough throughout the car's normal range of temperatures that the oil will be useful whether the car is just being started on a winter morning or driven at engine temperatures of over 200 degrees Fahrenheit (93.3 degrees Celsius).

[0006] Oil additives are chemical compounds that improve the lubricant performance of base oil (or oil "base stock"). The manufacturer of many different oils can utilize the same base stock for each formulation and can choose different additives for each specific application. Additives comprise up to 5% by weight of some oils.

[0007] Oil additives are vital for the proper lubrication and prolonged use of motor oil in modern internal combustion engines. Without many of these, the oil would become contaminated, break down, leak out, or not properly protect engine parts at all operating temperatures. Just as important are additives for oils used inside gearboxes, automatic transmissions, and bearings. Some of the most important additives include those used for viscosity and lubricity, contaminant control, for the control of chemical breakdown, and for seal conditioning. Some additives permit lubricants to perform better under severe conditions, such as extreme pressures and temperatures and high levels of contamination.

[0008] Nearly all commercial motor oils contain additives, whether the oils are synthetic or petroleum based. The choice of additives is determined by the application, e.g. the oil for a diesel engine with direct injection in a pickup truck (API Service CJ-4) has different additives than the oil used in a small gasoline-powered outboard motor on a boat (2-cycle engine oil).

[0009] A big disadvantage of the prior art and conventional engine oil additives is that different additives are needed for different kind of equipment and thus a multitude of differing additives with individual and specific uses have to be manufactured separately. Examples of such products include, gasoline fuel additive in separate can, independent engine oil additive, engine cleaner in specific can, etc among other additives. This creates confusion amongst the customers who therefore sometimes use different engine oil additive for different application, thus affecting the functionality and efficiency of engine. This leads to severe economic loss and stress to the consumers. Also, the different required additives add to the cost of maintaining the engine. Therefore, there is a need to provide a multipurpose additive which be used for both kinds of vehicle engines, whether diesel or gasoline ones, via an engine oil supplemented with the engine oil additive.

[0010] The present invention relates to a new additive which can be added to all types of vehicle engines as well as equipment, hydraulic pumps and transmissions in addition to gasoline fuel and biodiesel (from wasted engine and food oil). It can only not be added to diesel fuel from Crude oil. So far there is no such one additive that was made for all these purposes together. Moreover, the viscosity enhancer of the invention has never been made before.

BRIEF SUMMARY

[0011] The following summary is provided to facilitate an understanding of some of the innovative features unique to the disclosed embodiment and is not intended to be a full description. A full appreciation of the various aspects of the

[0012] It is, therefore, one aspect of the disclosed embodiment to provide an additive which can be added to all types of vehicle engines as well as equipment, hydraulic pumps and transmissions in addition to gasoline fuel and biodiesel (from wasted engine and food oil). It can only not be added to diesel fuel from Crude oil.

[0013] It is another aspect of the disclosed embodiment to provide a new viscosity enhancer.

[0014] The present invention seeks to solve a long standing need for a single multipurpose additive which can be used for all types of vehicle engines and equipment.

[0015] To manufacture an embodiment of the present disclosed invention, a method is provided for preparation of such an additive. In brief, one embodiment of the present disclosure involves mixing a solution of pure Potassium Hydroxide(KOH) of concentration 90% by volume with water as solvent, with a solution of either Ethanol or Ethyl Alcohol of concentration 85% by volume with water as solvent, in a ratio of 4:1 by volume at a temperature not exceeding 25 ° C. Thus, for every 4 parts by volume of KOH (90% conc) solution there would be added 1 part by volume of Ethanol Or Ethyl Alcohol (85% conc). While keeping quick and ultra mixing, we have the additive after less than two minutes of mixing. Upon adding the additive in engines with oil, the additive immediately enhances the oil viscosity through the base reacting with the oil and neutralizes acids. The ethanol, in turn, comminutes and cleans inside the engine. Upon adding the additive in the gasoline fuel tank, the ethanol induced by the hydroxide cleans fuel ducts and makes combustion optimal in the engine thereby saving fuel.

BRIEF DESCRIPTION OF THE DRAWINGS

[0016]

FIG. 1 is illustrating the chemical chain of oil before cracking, cracked chemical chain of oil as well as the chemical chain of the oil after adding the additive.

FIG. 2 is illustrating the working of engine oil additive wherein the comminuted components in the additive stop the harmful effects of the fouling, dust, earth and sediments inside the engine.

FIG. 3 is illustrating the working of engine oil additive in cleansing, resisting and neutralizing acids resulting from combustion process in the engine as the additive being basic in nature is able to neutralize the acidic products resulting from the combustion process.

DETAILED DESCRIPTION OF THE INVENTION

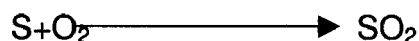
[0017] The particular values and configurations discussed in these non-limiting examples can be varied and are cited merely to illustrate at least one embodiment and are not intended to limit the scope thereof.

[0018] The present invention seeks to solve a long standing need for a single multipurpose additive which can be used for all types of vehicle engines and equipment.

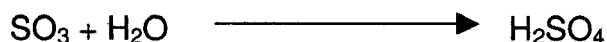
[0019] The engine oil additive is a multipurpose additive which is for example used for maintaining the viscosity index of engine oil, improving the lubricity of engine, and controlling the contaminant in the engine oil.

[0020] It is, therefore, one aspect of the disclosed embodiment to provide an additive which can be added to all types of vehicle engines as well as equipment, hydraulic pumps and transmissions in addition to gasoline fuel and biodiesel (from wasted engine and food oil). It can only not be added to diesel fuel from Crude oil. It is another aspect of the disclosed embodiment to provide a new viscosity enhancer.

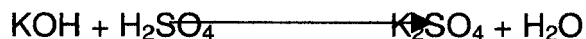
[0021] The following example and equations illustrate the acid neutralizing capability of the additive which helps in reducing contaminants and reducing the emission of CO₂ and exhaust smoke.

Equation (E1):

E1 shows the union of sulfur with oxygen forming sulfur oxide due to air in contact with the fuel.

Equation (E2):

E2 shows the union of sulfur oxide with water vapor of air to form sulfuric acid.

Equation (E3):

E3 shows the how the additive components composed of potassium hydroxide solution dissolved in ethanol or Ethyl alcohol neutralizes the acid components and contaminants in the oil into an inert compound and water.

[0022] To manufacture an embodiment of the additive illustrated in the present disclosed invention, a method is provided for preparation of such an additive.

[0023] In one embodiment disclosed, an engine oil additive comprises an alkali about 88 to 92% percent by volume and an alcohol about 83 to 87% percent by volume, which are mixed at a temperature not exceeding 25°C. The more preferred embodiment of the additive for engine oil comprises of the alkali having concentration about 90% percent by volume and alcohol having concentration about 85% percent by volume, and mixing the two solutions at a temperature not exceeding 25°C. The ratio of the alkali to alcohol is constant and more preferably the alkali and alcohol is combined in the constant ratio of 4:1. It means the mixture has 4 times as much alkali than the alcohol to be more preferably effective.

[0024] Another preferred embodiment of the present disclosure involves mixing a solution of pure Potassium Hydroxide (KOH) of concentration 88 to 92% by volume with water as solvent, with a solution of either Ethanol or Ethyl Alcohol of concentration 83 to 87% by volume with water as solvent, in a ratio of 4:1 by volume at a temperature not exceeding 25 ° C. Thus, for every 4 parts by volume of KOH solution there would be added 1 part by volume of Ethanol Or Ethyl Alcohol.

[0025] Another embodiment of the present disclosure involves mixing a solution of pure Potassium Hydroxide (KOH) of concentration 90% by volume with water as solvent, with a solution of either Ethanol or Ethyl Alcohol of concentration 85% by volume with water as solvent, in a ratio of 4:1 by volume at a temperature not exceeding 25 ° C. Thus, for every 4 parts by volume of KOH (90% conc) solution there would be added 1 part by volume of Ethanol Or Ethyl Alcohol (85% conc).

[0026] The resultant solution then undergoes quick and ultra mixing for about two minutes. During the mixing process, the solution will start showing the resultant viscosity. After about two minutes of mixing, the additive will be ready for use. Upon adding the additive in engines with oil, the additive immediately enhances the oil viscosity through the base reacting with the oil and neutralizes acids. The ethanol, in turn, comminutes and cleans inside the engine. Upon adding the additive in the gasoline fuel tank, the ethanol induced by the hydroxide cleans fuel ducts and makes combustion optimal in the engine thereby saving fuel with an efficiency of not less than 3-15%. The addition ratio in the fuel tank is measured by mL, e.g., every ten liters of gasoline needs 10 ml of the additive, etc.

In the engine, the whole pack (250 ml) can be added to the engine oil with any capacity with no limitation as the ratio of potassium hydroxide to ethanol is constant (4:1 by volume). This raises the total Base Number of (TBN) to more than 12 mg. The higher total Base number helps further neutralize the acids inside the oils and fuels which reduces the emission of CO₂. This also reduces emission of exhaust smoke and therefore the additive is thus more environmentally friendly.

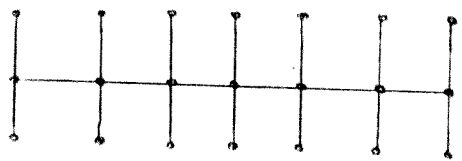
[0027] It will be appreciated that variations of the above disclosed and other features and functions, or alternatives thereof, may be desirably combined into many other different systems or applications. Also that various presently unforeseen or unanticipated alternatives, modifications, variations or improvements therein may be subsequently made by those skilled in the art which are also intended to be encompassed by the following claims.

Claims

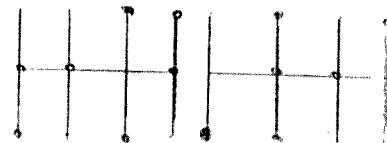
1. An engine oil additive comprising
an alkaline solution; and
an alcoholic solution, wherein the alkaline solution and alcoholic solution are mixed at a temperature not exceeding 25°C.
2. The engine oil additive as claimed in claim 1, wherein the alkaline solution is potassium hydroxide and the alcoholic

solution is ethyl alcohol.

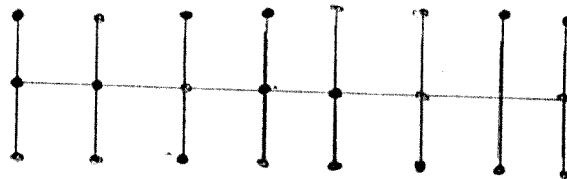
3. The engine oil additive as claimed in claim 1, wherein the concentration of alkaline solution is about 88 to 92 percent by volume and the concentration of alcoholic solution is about 83 to 87 percent by volume.
4. The engine oil additive as claimed in claim 1, wherein the ratio of alkaline solution to alcoholic solution in the additive is constant.
5. The engine oil additive as claimed in claim 2, wherein the ratio of alkaline solution to alcoholic solution in additive is 4:1 by volume.
6. The engine oil additive as claimed in claim 2, wherein the concentration of alkaline solution is about 90% by volume and the concentration of alcoholic solution is about 85% by volume.
7. The engine oil additive as claimed in claim 2, wherein upon adding the additive in an engine with oil, the alkaline solution in the additive reacts with the engine oil and neutralizes the acids in the engine oil.
8. The engine oil additive as claimed in claim 2, wherein the comminuted components in the additive stop the harmful effects of the fouling, dust, earth and sediments inside the engine.
9. The engine oil additive as claimed in claim 2, wherein upon adding the additive in a gasoline fuel tank, the alcoholic solution induced by the alkali cleans fuel ducts.
10. The process for producing engine oil additive comprising mixing an alkaline solution and an alcoholic solution at a temperature not exceeding 25°C.
11. The process for producing engine oil additive as claimed in claim 10, wherein the alkaline solution is potassium hydroxide and the alcoholic solution is ethyl alcohol.
12. The process for producing engine oil additive as claimed in claim 10, wherein the concentration of alkaline solution is about 88 to 92 percent by volume and the concentration of alcoholic solution is about 83 to 87 percent by volume.
13. The process for producing engine oil additive as claimed in claim 10, wherein the ratio of alkaline solution to alcoholic solution in the additive is constant.
14. The process for producing engine oil additive as claimed in claim 11, wherein the concentration of alkaline solution is about 90% by volume and the concentration of alcoholic solution is about 85% by volume.
15. The process for producing engine oil additive as claimed in claim 11, wherein the ratio of alkaline solution to alcoholic solution in additive is 4:1 by volume.



Chemical chain of oil before
cracking



cracked Chemical chain of oil



Chemical chain of oil processed after adding
the invention additive

FIG. 1

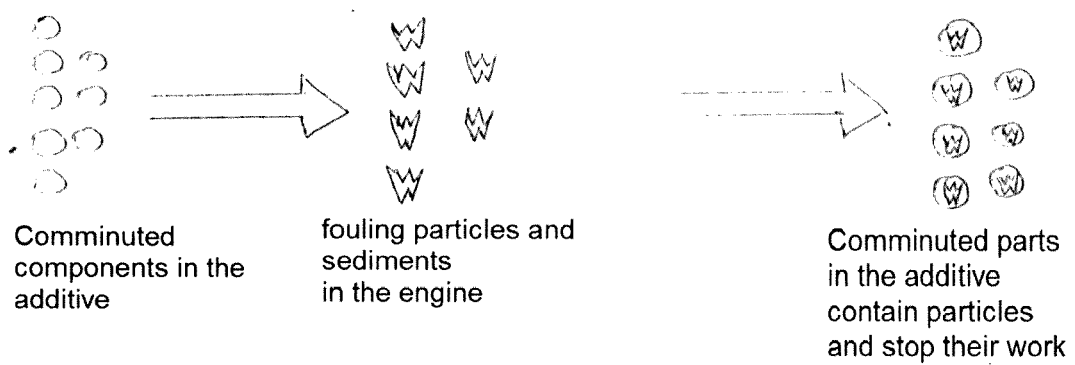


FIG. 2

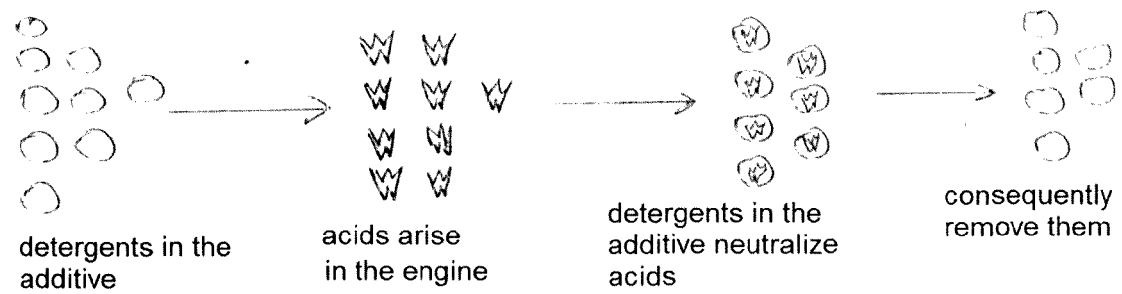


FIG. 3



EUROPEAN SEARCH REPORT

Application Number
EP 14 00 2168

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	DAJKO ET AL: "Etching characteristics of a CR-39 track detector at room temperature in different etching solutions", INTERNATIONAL JOURNAL OF RADIATION APPLICATIONS AND INSTRUMENTATION. PART D. NUCLEAR TRACKS AND RADIATION MEASUREMENTS, PERGAMON, vol. 18, no. 3, 1 January 1991 (1991-01-01), pages 297-300, XP024497856, ISSN: 1359-0189, DOI: 10.1016/1359-0189(91)90021-9 [retrieved on 1991-01-01] * page 298, paragraph 2.3 * * figures 3, 4 *	1-15	INV. C10L1/10 C10L10/02 C10L10/06 C10M141/02 ADD. C10L1/12 C10L1/182 C10N10/02 C10N30/02 C10N30/04 C10N40/25
X	US 4 255 158 A (KING SAMUEL B) 10 March 1981 (1981-03-10) * column 2, line 34 - line 62 * * example 1 *	1-15	
X	WO 80/02564 A1 (KING S [US]) 27 November 1980 (1980-11-27) * the whole document *	1-15	TECHNICAL FIELDS SEARCHED (IPC) C10L C10M C10N
X	US 2 653 909 A (DAVID FRAZIER) 29 September 1953 (1953-09-29) * claims 1, 4, 5, 9, 10; example 6 *	1,3-9	
X	US 4 088 454 A (LEE SOO B) 9 May 1978 (1978-05-09) * column 2, line 48 - line 61 *	1-15	
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 16 September 2015	Examiner Keipert, Olaf
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

EP 14 00 2168

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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16-09-2015

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 4255158 A	10-03-1981	EP 0048748 A1	07-04-1982
		US 4255158 A	10-03-1981
		WO 8102744 A1	01-10-1981
WO 8002564 A1	27-11-1980	CA 1139944 A1	25-01-1983
		EP 0028259 A1	13-05-1981
		US 4231756 A	04-11-1980
		WO 8002564 A1	27-11-1980
US 2653909 A	29-09-1953	NONE	
US 4088454 A	09-05-1978	NONE	