

**An Imperceptible Concept/Methodology of the Conversion of Biodiesel into Lubricants by synthesizing a synergistic blend of Chemicals with Biodiesel of which its Enhanced Load Carrying Capabilities involve Heat-Activated Lubrication Technology.**

## **Description**

**This invention relates to an Imperceptible Concept/Methodology of the Conversion of Biodiesel into Lubricants by synthesizing a Synergistic Blend of Chemicals with Biodiesel which and when activated by heat will enhance its load carrying capabilities.**

## **BACKGROUND OF THE INVENTION**

### **Description**

Shrinking crude oil reserves and the escalating cost of crude oil are factors which have led to a renewed interest of the patentee in using biodiesel as an alternative to petroleum based oil for the production lubricants. The said lubricants are produced from biodiesel derived from methyl and ethyl ester having C-14 to C-18 carbon atoms.

The use of biofuels as alternatives to petroleum based oils, currently used to produce lubricants is an imperceptible concept in the field of lubrication today, the development of which is a product of considerable research and investigation by the patentee. The aspiration and endeavors of the patentee to enlarge the applications of biodiesel led to the said invention.

The objective of the said invention is to widen scope of applications for biodiesel other than using it as fuel.

The special objective of the said invention is to create a new range of lubricants that are renewable, sustainable, less environmentally hazardous and safer for human contact, unlike petroleum-based lubricants.

Another objective of the invention is to develop a new range of bio-lubricants with short carbon chains of C14 to C 18 to reduce the emission of COX (Carbon of Oxides).

A further objective of the invention is to find an alternative source to petroleum based lubricants using a sustainable and renewable source, such as biodiesel.



## SUMMARY OF THE INVENTION

This invention relates to an imperceptible concept of the conversion of biodiesel into lubricants by synthesizing a synergistic blend of chemicals with biodiesel. A range of lubricants is converted from biodiesel, by synthesizing a synergistic blend of said chemicals with biodiesel.

Lubricants produced from the synthesis of biodiesel with the synergistic chemical composition of the patentee, exhibits excellent lubricating, water repellent and high load carrying properties over conventional mineral based lubricants.

The term "lubricant" generally refers to lubricating materials that are applied as fluids or grease-like. To be effective, a lubricant must maintain sufficient film thickness to carry the load while keeping friction and wear at minimum. The lubricant must also cool moving parts by absorbing and carrying away the heat produced by friction.

The mechanism of the lubrication technology is mentioned below;  
Energy that goes into friction is converted directly to heat. This heat originates from billions of collisions of microscopic protruding peaks of metal ("asperities") on the surfaces of the moving parts, caused these asperities to penetrate the oil film. With ordinary lubricant, these asperities impact each other and usually immediately break off, creating "wear metals" that are often visible in used lubricant.

The said invention involves the use surface-attaching electronegative compounds of the synergistic blend of chemicals, when activated by heat, will polarize or fuses itself to the metal surface modifying the molecular structure of the ferrous metal. In this way, it actually seals the pores, thus smoothening out the asperities of the metal surface without changing any tolerances.

Due to its superior film strength and its ability to modify the surfaces of the asperities thermally, it causes most of these impacted asperities to bend or fold over by internal yield-type flow of the metal in the direction of impact, without breaking off. They also tend to flatten out, mostly into their normal plane of shear, which is usually cylindrical or flat.

This flattening greatly increases the total area of potential contact between the two surfaces, thus providing more surface area over which to distribute the load. This is one of the mechanisms which result in greater load carrying capacity, longer wear, or both. This effect tends to reduce the coefficient of friction, hence improving the lubrication properties.

From an economic and environmental perspective, there is an imminent future need for lubricants produced from biodiesel that provide improvements in the above mentioned properties which are environmental friendly and economic to manufacture. In particular, there is a need for lubricants produced from biodiesel that are manufactured through a simplified and reliable process using readily available, economical and non-hazardous raw materials with simplified equipment and relatively short production times.

## DETAILED DESCRIPTION OF THE INVENTION

In accordance with this invention, it is an object of the invention to provide details of the imperceptible concept of the conversion of biodiesel into the range of said lubricants and the mechanism of the heat-activated lubrication technology.

### **The Imperceptible Concept of the Conversion of Biodiesel into Lubricants Involving the Heat-Activated Lubrication Technology is herein described;**

The aspiration and endeavors of the patentee to enlarge the applications of biodiesel led to the said invention. The realization of the said imperceptible concept of the conversion of biodiesel into a range of lubricants that is renewable, sustainable, less environmentally hazardous and safer for human contact was made possible because of years of considerable research and investigation by the patentee.

The mechanism of the Heat-Activated Lubrication Technology is mentioned below; **Figure A** shows the asperities or protruding peaks of the surface of the metal.

**Figure B** shows the micropores of the surface of the metal

**Figure C, numbers 2 and 3** show two moving metal surfaces about to come into contact that will result in friction.

**Figure C, numbers 4 and 5** show that energy that goes into friction is converted directly to heat. This heat originates from millions of collisions of microscopic protruding peaks of metal ("asperities") on the surfaces of the moving parts, caused these asperities to penetrate the oil film. With ordinary lubricant, these asperities impact each other and usually immediately break off, creating "wear metals" that are often visible in used lubricant.

**Figure C, numbers 6-10** show the surface-attaching electronegative compounds of the synergistic blend of chemicals when activated by heat, polarizes or fuses itself to the lower surface areas of metals, referred to as micropores which are crystalline in structure and exhibit a lattice-type matrix. In this way, it actually seals the micropores, thus smoothening out the asperities of the metal surfaces and improved spread characteristics of the metal surfaces. Surface lapping and asperity roll-out is also achieved during this process.

In accordance with the invention, the said converted lubricants: wire rope lubricants, metalworking fluids, greases, engine oils, penetrating lubricants, anti-rust lubricants, and high load carrying capabilities oil additives which are heat activated lubricants are produced by blending a major proportion of biodiesel with a carbon chain of C14 – C18 and a minor proportion of Chlorinated Paraffin containing 35% of chlorine, Silicone Dioxide or Organoclay Grease Gellant, Phenyl-1-Naphthylamine, Alkyl Quaternary Ammonium Montmorillonite, Calcium Sulfonate, Zinc Dithiophosphate, Sulfurized Vegetable Fatty Acid Ester, and quaternary and twin-chain quaternary compound consisting of Alkyl Dimethyl Benzyl Ammonium Chloride, Octyl Didecyl Dimethyl Ammonium Chloride, Dioctyl Dimethyl Ammonium Chloride, and Didecyl Dimethyl Ammonium Chloride.

## EXAMPLES

By way of example and not limitation, the following are illustrative of various embodiments of the foregoing lubricants invention.

### Example 1

This example illustrates the composition and the percentage of raw materials used in the conversion of biodiesel into wire rope lubricant.

In a typical process, 90 wt % biodiesel with C14 – C18 carbon chain, 3 wt % sulfurized vegetable fatty acid ester, 2 wt % of zinc dithiophosphate, 2 wt % of Chlorinated paraffin containing 35 % of chlorine content, 3 wt % of Calcium Sulfonate are mixed in a stainless steel mixing vessel with the help of an industrial mixer at an ambient temperature of 25 degrees Celsius for 30 minutes before it is packaged into drums.

### Example 2

This example illustrates the composition and the percentage of raw materials used in the conversion of biodiesel into metalworking lubricant.

In a typical process, 81 wt % Biodiesel, 1 wt % Zinc Dithiophosphate, 3 wt % Chlorinated Paraffin containing 35 % chlorine content, 5 wt % Nonyl Phenol 6 moles, 2 wt % Phenyl-1-Naphthylamine, 3 wt % Sodium sulfonate and 4 wt % of Dicyclohexylamine, and 2 wt % of Triethanolamine, and 1 wt % of quaternary and twin-chain quaternary compound consisting of Alkyl Dimethyl Benzyl Ammonium Chloride, Octyl Didecyl Dimethyl Ammonium Chloride, Dioctyl Dimethyl Ammonium Chloride, and Didecyl Dimethyl Ammonium Chloride are mixed in a stainless steel mixing vessel with the help of an industrial mixer at an ambient temperature of 25 degrees Celsius for 30 minutes before it is packaged into drums.

### Example 3

This example illustrates the composition and the percentage of raw materials used in the conversion of biodiesel into grease lubricant.

In a typical process, 79 wt % biodiesel with C14 – C18 carbon chain, 2 wt % Zinc Dithiophosphate, 3 wt % Chlorinated Paraffin containing 35% of chlorine, 0.2 wt % Phenyl-1-Naphthylamine, 2.8 wt % Alkyl Quaternary Ammonium Montmorillonite, and 1 wt % Calcium Sulfonate are mixed in a stainless steel mixing vessel with the help of an industrial mixer at an ambient temperature of 25 degrees Celsius for 35 minutes before 12 wt % of silicon dioxide SiO<sub>2</sub> is added to mixing vessel to gel up the biodiesel and the mixtures into a grease-like lubricant with a consistency of NGLI 1.

#### Example 4

This example illustrates the composition and the percentage of raw materials used in the conversion of biodiesel into engine oils.

In a typical process, 85 wt % biodiesel with C14 – C18 carbon chain, 3 wt % Zinc Dithiophosphate, 7 wt% Chlorinated Paraffin containing 35% of chlorine, 3 wt % Phenyl-1-Naphthylamine, 2 wt% Calcium Sulfonate are mixed in a stainless steel mixing vessel with the help of an industrial mixer at an ambient temperature of 25 degrees Celsius for 25 minutes

#### Example 5

This example illustrates the composition and the percentage of raw materials used in the conversion of biodiesel into penetrating oils.

In a typical process, 95 wt % biodiesel with C14 – C18 carbon chain, 4 wt % of amine calcium sulfonate, and 1 wt % of Phenyl-1-Naphthylamine are mixed in a stainless steel mixing vessel with the help of an industrial mixer at an ambient temperature of 30 degrees Celsius for 35 minutes.

#### Example 6

This example illustrates the composition and the percentage of raw materials used in the conversion of biodiesel into anti-rust lubricant.

In a typical process, 95 wt % biodiesel with C14 – C18 carbon chain and 5 wt % of calcium sulfonate are mixed in a stainless steel mixing vessel with the help of an industrial mixer at an ambient temperature of 30 degrees Celsius for 20 minutes.

## Example 7

This example illustrates the composition and the percentage of raw materials used in the conversion of biodiesel into high load carrying capability oil additives.

In a typical process, 68 wt % biodiesel with C14 – C18 carbon chain, 8 wt % of Zinc Dithiophosphate, 17 wt % Chlorinated paraffin containing 35% of chlorine, 5 wt % of Sulfurized Vegetable Fatty Acid Ester, and 2 wt % of Phenyl-1-Naphthylamine are mixed in a stainless steel mixing vessel and with the help of an industrial mixer at an ambient temperature of 30 degrees Celsius for 20 minutes.

The foregoing embodiments are susceptible to considerable variation in its practice. Accordingly, the embodiments are not intended to be limited to the specific exemplifications set forth hereinabove. Rather, the foregoing embodiments are not within the spirit and scope of the appended claims, including the equivalents thereof available as matter of law.

The patentees do not intend to dedicate any disclosed embodiments to the public, and to the extent any disclosed modifications or alterations which may not literally fall within the scope of the claims, they are still considered to be part hereof under the doctrine of equivalents.

## **Claims:**

### **What is claimed is:**

- 1) An imperceptible concept/methodology of the conversion of biodiesel into lubricants by synthesizing a synergistic blend of chemicals with biodiesel involving Heat Activated Lubrication Technology.
- 1a) An imperceptible concept/ methodology of the conversion of biodiesel into a range of derivatives by blending it with the under-mentioned synergistic blends of chemicals.
- 1b) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 1 wherein the biodiesel can be selected from methyl or ethyl ester with C-14 to C-18 carbon chain derived from transforming vegetable or animal fatty acids with methyl or ethyl alcohols.
- 2) An imperceptible concept/methodology/methodologyt of the conversion of biodiesel into lubricants as in claim 1 wherein biodiesel is converted into lubricants by adding a synergistic blend of chemicals into biodiesel, where the of use of heat through friction will greatly enhance the load carrying capabilities/ lubricating properties of lubricants.
- 3) An imperceptible concept of the conversion/methodology of biodiesel into lubricants as in claim 2 wherein the bio-diesel is converted into wire rope lubricants, metalworking fluids, metalworking, greases, engine oils, penetrating lubricants, anti-rust lubricants, and high load carrying capabilities oil additives.
- 4) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 3 wherein the biodiesel is converted into the afore-said lubricants by synergistically blending biodiesel with lubricity agents, extreme pressure additives, anti-wear additives, aminic anti-oxidant additives, corrosion inhibitors, surfactants, organoclay grease gellents, silicone dioxide, biocides and water repellent additives.
- 5) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 4 wherein the said formulation of biodiesel and the synergistic blend of chemicals will exhibit high load carrying capabilities when the surface-attaching electronegative compounds of the synergistic blend of chemicals polarizes the surfaces of the metals.
- 6) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 4 wherein the electronegative compounds of afore-mentioned synergistic blend of chemicals once activated by heat will polarize the asperities of the surfaces of the metal.
- 7) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 6 wherein the load carrying capabilities of said lubricants will be greatly enhanced once the surface-attaching electronegative compounds of the synergistic blend of chemicals polarizes the asperities of the surface of the metal.

- 8) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 3 wherein the biodiesel is converted into high load carrying capabilities wire rope lubricants by synergistically blending a major portion biodiesel with minor portions of vegetable esters, anti-wear additives, extreme pressure additives, anti-oxidant additives, and corrosion inhibitor.
- 9) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 3 wherein the biodiesel is converted into high load carrying capabilities metalworking fluids by blending a major portion of biodiesel with minor portion of surfactants, biocides, anti-corrosion inhibitors, extreme pressure additives.
- 10) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 3 wherein the biodiesel is converted into high load carrying capabilities greases by blending a major portion of biodiesel with a minor portion of organoclay grease gellants, anti-oxidant, extreme pressure additives, water repellent additives, and corrosion inhibitors.
- 11) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 3 wherein the biodiesel is converted into engine oils by blending a major portion of biodiesel with a minor portion of anti-oxidant, corrosion inhibitors, anti-wear additives, extreme pressure additives, and vegetable esters.
- 12) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 3 wherein the biodiesel is converted into penetrating lubricants by blending a major portion of biodiesel with a minor portion of corrosion inhibitor, and anti-oxidant.
- 13) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 3 wherein the biodiesel is converted into anti-rust lubricant by blending a major portion of biodiesel with corrosion inhibitor and anti-oxidant.
- 14) An Imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 3 wherein the biodiesel is converted/ transformed into high load carrying capabilities oil additives by blending a major portion of biodiesel with vegetable esters, anti-wear additives, extreme pressure additives and anti-oxidant.
- 15) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 4 wherein the vegetable ester is sulfurized vegetable fatty acid ester.
- 16) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 4 wherein the extreme pressure additives can be selected from chlorinated alkanes or ZDDP Zinc dialkyl dithio phosphate. A preferred chlorinated alkane is chlorinated paraffin with a chlorine content of 30 wt% to 52 wt%. The said preferred Chlorinated paraffin is selected because of its excellent extreme pressure characteristics.
- 17) An imperceptible concept/methodology of the conversion/methodology of biodiesel into lubricants as in claim 4 wherein the Anti-wear additives can be selected from Polysulfide compound or Zinc phosphate. A preferred Zinc phosphate is ZDP, Zinc Dithiophosphate. Zinc Dithiophosphate is selected for the said composition because of its excellent oxidation and anti-wear characteristics.

18) An imperceptible concept/methodology of the conversion of biodiesel into lubricants as in claim 4 wherein the Aminic anti-oxidant additives can be selected selected from one of these; PAN (Phenyl-1-Naphthylamine), ODPa (Octylated diphenyl amine), NDPa ( Nonylated diphenylamine), ADPA ( Alkylated diphenyl amine). A preferred aminic anti-oxidant is Phenyl-1-Naphthylamine due to its excellent anti-oxidation and higher thermal stability properties.

19) An imperceptible concept/methodology of the Conversion of Biodiesel into lubricants as in claim 4 wherein the Corrosion inhibitor can be selected from amine or sulfonate based inhibitor. Amine base inhibitor can be selected from amine carboxylate or other amine compounds. Sulfonate base inhibitor can be selected from Barium, Lithium, Zinc, Magnesium, Sodium, Calcium sulfonate. A preferred sulfonate is calcium sulfonate due to its excellent compatibility with biodiesel and water.

20) An imperceptible concept/methodology of the Conversion of Biodiesel into lubricants as in claim 4 wherein Water repellent additives can be selected from Bentonite based additives ( Alkyl Quaternary Ammonium Bentonite) or Montmorillonite based additives ( Alkyl Quaternary Ammonium Montmorillonite). A preferred water repellent additive is Alkyl Quaternary Ammonium Montmorillonite due to its high polarity characteristics.

21) An imperceptible concept/methodology of the Conversion of Biodiesel into lubricants as in claim 4 wherein the surfactant can be selected from Nonyl phenol Ethoxylate 6 moles of ethylene oxide or Alcohol Ethoxylate 5 moles of ethylene oxide.

22) An imperceptible concept/methodology of the Conversion of Biodiesel into lubricants as in claim 4 wherein the Biocides can be selected from one or more of these; quaternary ammonium compound, twin-chain quaternary ammonium compound, 1,2-Benzothiazolin-3 (BIT), 2-methyl 4,5-trimethylene-4-isothiazolin-3-one (MTI), Dithio-2,2-bis (benzomethylamide) and phenolic derivatives compound. Preferred biocides are quaternary and twin-chain quaternary ammonium compound due their low mammalian toxicity.

23) An imperceptible concept/methodology of the conversion of biodiesel into wire rope lubricants as in claim 8 wherein its' chemical formulation comprises of:

- a) 80-90 wt % biodiesel
- b) 3-10 wt % sulfurized vegetable fatty acid ester
- c) 2-8 wt % of zinc dithiophosphate
- d) 1-5 wt % of Chlorinated paraffin
- e) 1-5 wt % of Calcium Sulfonate

24) An imperceptible concept/methodology of the conversion of biodiesel into wire rope lubricants as in claim 23 wherein its' chemical formulation comprises of:

- a) 90 wt % biodiesel

- b) 3 wt % sulfurized vegetable fatty acid ester
- c) 2 wt % of zinc dithiophosphate
- e) 2 wt % of Chlorinated paraffin containing 35 % of chlorine content.
- f) 3 wt % of Calcium Sulfonate

25) An imperceptible concept/methodology of the conversion of biodiesel into metalworking fluid as in claim 9 wherein its chemical formulation comprises of:

- a) 65- 90 wt % Biodiesel
- b) 0.1- 4 wt % Zinc Dithiophosphate
- c) 0.1- 9 wt % of chlorinated paraffin containing 35% of chlorine content
- d) 3- 12 wt % of Nonyl Phenol 6 moles.
- e) 0.1- 3 wt % Phenyl-1-Napthylamine
- f) 0.5 - 12 wt % Sodium Sulfonate
- g) 0.5 – 4 wt% of Quaternary and Twin-Chain Quaternary Ammonium Compound

26) An imperceptible concept/methodology of the conversion of biodiesel into metalworking fluid as in claim 25 wherein its chemical formulation comprises of:

- a) 81 wt % Biodiesel.
- b) 1 wt % Zinc Dithiophosphate.
- c) 3 wt % Chlorinated Paraffin containing 35 % chlorine content.
- d) 5 wt % Nonyl Phenol 6 moles.
- e) 2 wt % Phenyl-1-Napthylamine
- f) 3 wt % Sodium sulfonate and 4 wt % of Dicyclohexylamine, and 2 wt % of Triethanolamine.
- g) 1% wt % of quaternary and twin-chain quaternary compound consisting of Alkyl Dimethyl Benzyl Ammonium Chloride, Octyl Didecyl Dimethyl Ammonium Chloride, Dioctyl Dimethyl Ammonium Chloride, and Didecyl Dimethyl Ammonium Chloride

27) An imperceptible concept/methodology of the conversion of biodiesel into grease as in claim 10 wherein its' chemical formulation comprises of:

- a) 65-85 wt % Biodiesel
- b) 0.1-4 wt % Zinc Dithiophosphate.
- c) 0.1- 9 wt % of Chlorinated Paraffin containing 35 % of chlorine
- d) 5 – 25 wt % organo-clay grease gellant or silicone dioxide gelling agent
- e) 0.1- 3 wt % Phenyl-1-Naphthylamine
- f) 1-6 wt % Alkyl Quaternary Ammonium Montmorillonite.
- g) 0.5 to 5 wt % Sodium sulfonate.

28) An imperceptible concept/methodology of the conversion of biodiesel into grease as in claim 10 wherein its' chemical formulation comprises of:

- a) 79 wt % biodiesel
- b) 2 wt % Zinc Dithiophosphate.
- c) 3 wt% Chlorinated Paraffin containing 35% of chlorine
- c) 12 wt % Silicone Dioxide or Organoclay Grease Gellant
- d) 0.2 wt % Phenyl-1-Naphthylamine
- e) 2.8 wt % Alkyl Quaternary Ammonium Montmorillonite.
- f) 1 wt % Calcium Sulfonate

29) An imperceptible concept/methodology of the conversion of biodiesel into engine oils as in claim 11 wherein its' chemical formulation comprises of:

- a) 80-90 wt % biodiesel
- b) 1-5 wt % Zinc Dithiophosphate.
- c) 1- 10 wt % of Chlorinated Paraffin containing 35 % of chlorine
- d) 1- 5 wt % Phenyl-1-Naphthylamine
- e) 1 to 5 wt % calcium sulfonate

30) An imperceptible concept/methodology of the conversion of biodiesel into engine oils as in claim 29 wherein its' chemical formulation comprises of:

- a) 85 wt % Biodiesel
- b) 3 wt % Zinc Dithiophosphate.
- c) 7 wt% Chlorinated Paraffin containing 35% of chlorine
- d) 3 wt % Phenyl-1-Naphthylamine
- e) 2 wt% Calcium Sulfonate

31) An imperceptible concept/mehtodology of the conversion of biodiesel into penetrating lubricant as in claim 12 wherein its' chemical formulation comprises of:

- a) 85 wt % - 95 wt % of biodiesel
- b) 5 wt % - 15 wt % of amine carboxylate or calcium sulfonate corrosion inhibitors.
- c) 0.5 wt % - 5 wt % of Phenyl-1-Naphthylamine

32) An imperceptible concept/mehtodology of the conversion of biodiesel into penetrating lubricant as in claim 31 wherein its' chemical formulation comprises of:

- a) 95 wt % of biodiesel
- b) 4 wt % of amine carboxylate or calcium sulfonate corrosion inhibitors.
- c) 1 wt % of Phenyl-1-Naphthylamine

33) An imperceptible concept/methodology of the conversion of biodiesel into anti-rust lubricant as in claim 13 wherein its' chemical formulation comprises of:

- a) 85 wt % - 95 wt % of biodiesel
- b) 5 wt % -15 wt % of calcium sulfonate

34) An imperceptible concept/methodology of the conversion of biodiesel into anti-rust lubricant as in claim 33 wherein its' chemical formulation comprises of:

- a) 95 wt % of biodiesel
- b) 5 wt % of calcium sulfonate.

35) An imperceptible concept/methodology of the conversion of biodiesel into high load carrying capability oil additives as in claim 14 wherein its chemical formulation comprises of:

- a) 65 wt % - 85 wt % of Biodiesel
- b) 10 wt % – 15 wt % of Zinc Dithiophosphate
- c) 10 wt % - 15 wt Chlorinated paraffin containing 35% of paraffin
- d) 10 wt % - 15 wt % of Sulfurized Vegetable Fatty Acid Ester
- e) 3 wt % - 5 wt % of Phenyl-1-Naphthylamine

36) An imperceptible concept/methodology of the conversion of biodiesel into high load carrying capability oil additives as in claim 35 wherein its chemical formulation comprises of:

- a) 68 wt % of Biodiesel
- b) 8 wt % of Zinc Dithiophosphate.
- c) 17 wt % Chlorinated paraffin containing 35% of chlorine
- d) 5 wt % of Sulfurized Vegetable Fatty Acid Ester
- e) 2 wt % of Phenyl-1-Naphthylamine