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LIXXI-FSRD, A Fuel Efficiency Material "Z" Capsule

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Abstract- New technology to reduce pollution in motor vehicles and increase mileage.

Index Terms- LIXXI-FSRD – FUEL SAVER..

I. INTRODUCTION

The industrial revolution brought a number of developments, innovations & inventions at a very high & fast rate. The changes led to the super fast growth of industrial townships, new means of communication, new methods of transportation & discovery of machines for a total impact on human development. This led to exploring newer forms of energy sources like fossil fuels. The exploration & use of fossil fuel on a larger scale led to high rate of industrialization and development. But unfortunately, under the influence of this development, a human being totally forgotten, that the fossil fuels are non-renewable. Looking the way in which these fossil fuels are being used, that day is not far away when nothing would be left to be utilized.

The fuel resources which are non-renewable and presently available can last only for about 50 years. Being aware of this rapidly exhaustible resource the serious thought needs to be given for its conservation. The most vulnerable resource is the crude oil which is a source for most utilized oils like Petrol, Diesel, and Kerosene, Heavy fuel oil. The increase in the number of automobiles is multiplying every year leading to the use of fuel to a larger extent. The fastest resource that is getting exhausted is the fuel resource, hence there is an urgent need for conserving the fuel resources. The common place where the engines of vehicles are not switched off when the traffic is halting. To study the impact of keeping the engines switched on during the traffic halts at signals is of prime importance.

II. DETAILS OF PRODUCTS

LIXXI-FSRD ,(Fuel Metal Catalyst) A fuel efficiency material "Z" shape metal capsule is made with various compounded material into the "Z" capsules which increases the fuel efficiency in all type of Automobile. Our claim is LIXXI-FSR D , A fuel efficiency material "Z" shape metal capsule is that this compound materials produce a catalytic chain reaction in the fuel, removing impurities and making it more efficient fuel to burn in combustion chamber to produce optimum energy to give extra mileage to your vehicle. Our test has proved already.

The merits of this capsule is hard to measure without the aid of a mass spectrometer or other advanced equipment which can measure the chemical changes that is taking place in the fuel but this could all be a moot point, given another factor: Modern engines are designed to run on modern fuel in its current state. Changing any parts in system puts obstruction to burn optimal fuel in the engine.

Where as our LIXXI-FSR D , A fuel efficiency material "Z" shape capsule dropped in fuel chamber only changes the chemical properties of fuel to burn in optimum stage to enhance the mileage of automobile .

LIXXI-FSR D , A fuel efficiency material capsule catalyses the fuel.

LIXXI-FSR D capsules are, indeed have properties that makes fuel burn cleaner and faster to produce optimum Kilo Meter of Automobile. We can provide a 10 to 25% guaranteed mileage of your vehicles.

Note:- the "OLD TYPE engine's controls may not be able to adapt any mileage improvements,.

III. HOW DOES A FUEL CATALYST BREAK FUEL CLUSTERS APART?

In reality, fuel catalysts do not break fuel clusters apart. Instead, fuel catalysts neutralize the charge of the molecules and the molecules drift apart without a charge, keeping clusters together, agitation of the fuel as it passes down the fuel line and into injectors homogenizes the fuel.

Homogenized fuel has the potential to produce far more energy than a heterogeneous mixture.

So, in the simplest terms, a fuel catalyst is a pre-combustion mechanism that homogenizes fuel.

What Exactly is a Catalyst
In the world of chemistry and physics, catalysts are extremely rare because catalysts can generate elemental changes on the

molecular level, but catalysts do not change themselves. Though catalysts can change the structure and composition of chemical compounds, catalysts do not oxidize, degrade, burn, or decompose.

The BBC's Bitesize Bites and Clips explains the concept of a catalyst simply:

"A catalyst is a substance that can increase the rate of a reaction. The catalyst itself remains unchanged at the end of the reaction it catalyses. Only a very small amount of catalyst is needed to increase the rate of reaction between large amounts of reactants."

"LIXXI-FSR D" advanced fuel catalyst technology works in three ways, first burning existing carbon deposits, second prevents the formation of new deposits and third causes the fuel to burn more quickly so that their energy can be captured and used.

Removing carbon deposits and promoting more complete combustion produces a variety of benefits:

- It increases mileage up to 10% to 25% in gasoline/kerosine/jet kerosine/Furness oil/ and up to 10% to 25% or more in diesel. Heavy Fuel Oil will get 10% Guaranteed.
- Significantly reduces harmful emissions (CO, SO x, NOx, HC, and PM10)
- Reduces the need to use higher octane fuel so you can start using regular gasoline immediately instead of Premium, with the same performance.
- It cleans the engines of carbon particles, the main cause of the fault or malfunction of injectors and catalysts.
- Reduces engine wear by removing carbon and chamber deposits.
- Extends the life of the oil, spark plugs and filters.
- Our LIXXI-FSRD fuel tablets work within 10Hrs with full fuel tank of the Automobile Engine.

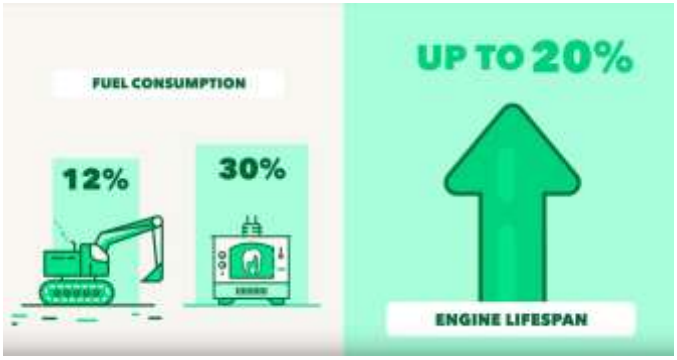

Figure 1: Hitachi Heavy Equipment's with Generator

The savings can be massive. In addition to reducing fuel costs, the LIXXI-FSRD Fuel Catalyst can also reduce wear and tear on the engines and boilers to which it's attached. How? The fuel that isn't burned off typically builds up inside of an engine as soot or carbon build ups. Trapped in the crankcase, it can contaminate the oil and eventually lead to breakdowns apart from slow speed and actual output. Oil analysis tests have proved that by using the LIXXI-FSRD Fuel Catalyst, fuel soot levels are substantially reduced. For boilers, there is less build up of carbon on the internal surfaces of the boiler itself causing constant maintenance and inefficient operation.

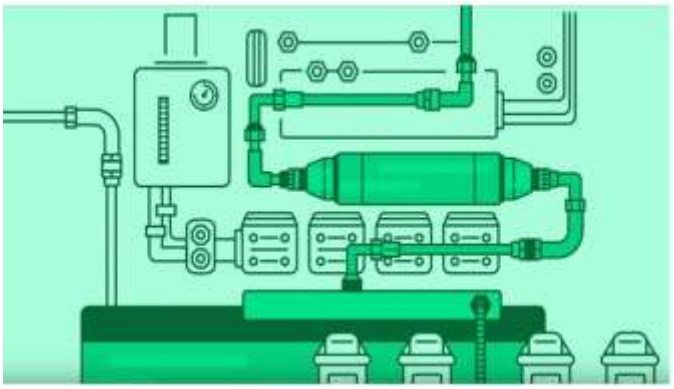
Figure 2: Generator

When fuel passes through the LIXXI-FDR
FuelCatalyst's combination of metallic and rare earth elements, a reaction occurs in fuel tank just prior to combustion that separates the clustered molecules so more combustion fuel are exposed to oxygen. As the combustion process is completed, far fewer fuel molecules are wasted and spewed from the engine as exhaust. In addition the other most important reaction is the change in the proportion of saturated straight chain aliphatic paraffin's to unsaturated ring compound aromatics which lead to dehydrogenation of the saturated hydrocarbon chain resulting in the release of a small quantity of hydrogen gas.

How Long Will it Work?
@ Units are warranted for 15 Years

The LIXXI-FSRD Fuel Catalyst reformulates gasoline, diesel, Heavy fuel oil causing the fuels to produce more energy during combustion than these fuels otherwise would. It is a true catalyst which by definition causes more chemical reactions but does not participate in them.

Because the LIXXI-FSRD Fuel Catalyst causes more complete combustion, it also reduces pollution and toxic emissions in the form of greenhouse gases, polyaromatic hydrocarbons, particulates and soot. When, there is complete combustion, A 100 percent of the potential energy is extracted from the fuel. Combustion's by products are carbon dioxide (CO_2), water (H_2O) and nitrogen

(N). Toxic emissions such as greenhouse gases are a by product of incomplete combustion. Because the LIXXI-FSRD Fuel Catalyst, causes more complete combustion these toxic emissions are reduced substantially. Maintenance costs and unscheduled downtime are also significantly reduced because of reduced carbon build up.

LIXXI-FSRD catalysts Capsule promotes removal of "H" (Hydrogen) and formation of olefins, which are good for combustion and can couple to form higher molecular weight species. The average molecular weight of the result a species is not reduced to a level of low energy content.

Different hydrocarbons behave differently with the catalysts. For mixtures of straight chains or cyclic hydrocarbons oxygen can be incorporated into the hydrocarbons to form oxygenates. Oxygenates like ethanol (top) and MTBE (bottom) are well known to enhance combustion.

The experiments were done in real time. They are fast and reproducible. Experiments were performed at atmospheric P(unusual for mas spectrometry) and are state-of-the-art (there are only about 150 total articles on DART in the literature). Data for aromatics, xylene show ring decomposition, olefin formation and coupling.

IV. HOW DOES A FUEL CATALYST WORK? ARE THEY EQUALLY AS IMPORTANT, WHAT ISN'T A FUEL CATALYST?

What is a fuel catalyst, is a question that results in a wide array of misnomers and misconceptions. While the concept as a whole is not difficult to understand, marketers use the word catalyst to promote products that are not catalysts. The substitution of the words additive, treatment, or supplement with the word catalyst is the impetus to much of the confusion.

If all products, advertised as fuel catalyst work the same as true catalysts — and produce the same results, — there wouldn't have been any issue. However, the fact is that, many products advertises as fuel catalysts are neither catalysts nor provide the same benefits of a catalyst, means it is easy to mistakenly purchase a product or mechanism for the wrong reasons, a product that does not produce the results you want. Consumers hoping to increase fuel efficiency and at the same time they want a fuel catalyst which reduces emissions also.

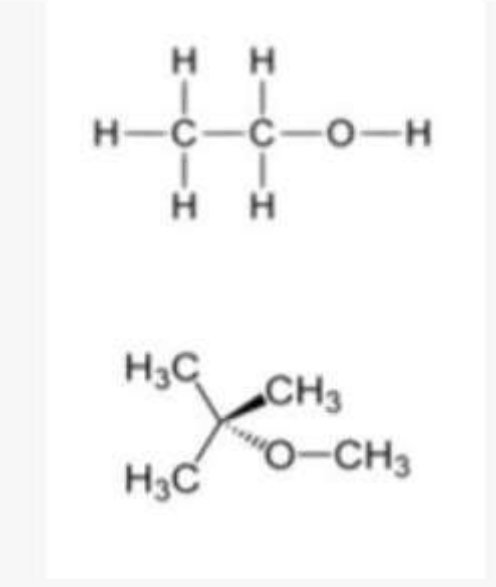

Figure 3: Molecule Action

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What a Fuel Catalyst Is

A fuel catalyst is a mechanism that increases fuel efficiency — "gas" mileage — and decreases emissions. As "FuelandFriction.com" explains, "A combustion fuel catalyst is a type of technology developed to improve internal combustion within the engine. These products can work in many ways by targeting the core problems behind partial combustion"

Combustion fuel catalyst products can help lower the oxygen requirements of the fuel to finally undergo a chemical reaction. With lower air requirements, a more proper chemical combustion happens and more energy is produced. Moreover, a combustion fuel catalyst can also help in the better burning of gas and unburned fuel due to low temperatures."

As simple as the layman's definition is, there is a great deal of confusion about is a fuel catalyst; what isn't a fuel catalyst; and how a fuel catalyst works. Fuel "catalyst" additives are not fuel catalysts. Additives and treatments serve completely different purposes than fuel catalysts, none of which are reducing emissions nor increasing fuel efficiency.

Fuel catalysts are not catalytic converters either. While they serve an important purpose and are by no means a lesser technology, catalytic converters do not increase fuel

efficiency. The purpose of a catalytic converter is to reduce emissions. As important as catalytic converters are, they serve a different end than fuel catalysts.

Again, fuel catalysts increases the combustion efficiency of fuel — which increases fuel economy — side by side reducing the emission of greenhouse gases also. Catalytic converters only reduce emissions. Other Additives and treatments do neither.

Are Fuel Additives and Treatments Catalysts?

Big No, fuel treatments and fuel additives are not fuel catalysts nor they are a true catalysts. They do not contain catalysts nor do fuel supplements — additives and treatments — act as catalysts. Catalysts are typically noble metals or enzymes. Catalysts include noble metals like platinum, titanium, palladium, cobalt, manganese, zinc, silver, and copper. Where as Fuel additives are chemical compounds.
Additives and fuel treatments are typically solvents. The active ingredients in additives and treatments include petroleum and diesel refining by products like acetone, ether silicone, nitromethane, and tetranitromethane.

For a product to be a fuel catalyst, it must contain catalysts.
In addition to not containing catalysts, fuel treatments and additives do not behave like catalysts.

Nevertheless, there are fuel supplements and treatment products on the market labelled "catalyst" that are not catalysts by even the most general definitions.

The Differences between a Fuel Catalyst and a Catalytic Converter

There are several critical differences between fuel catalysts and catalytic converters. The difference between catalytic converters and fuel catalysts is not always clear because both are manufactured by companies using, in part noble metals in catalysts. But again, fuel catalysts and catalytic converters are two very different mechanisms with different design and result purposes.

The most important similarity between fuel catalysts and catalytic converters is the fact that both reduce emissions by exceptional sums. "By most estimates, catalytic converters fitted inside the exhaust pipe of a gasoline-operated car convert over 90% of hydrocarbons (HC), carbon monoxide (CO) and nitrogen oxides (NOx) from the engine into less harmful carbon dioxide (CO2), nitrogen and water vapor. Diesel engines, in addition, emit particulates. The use of a particulate filter, in conjunction with a catalyst, can reduce their mass by 90% and reduce the number of ultra-fine particles by 99%."

But — and again — fuel catalysts also increase fuel economy. Catalytic converters can not.

Difference between a Fuel Catalyst, Additives and Treatments, and Catalytic Converters

Both fuel catalysts and catalytic converters lower emissions. Both contain made by noble metals that function as catalysts when exposed to fossil fuels. So, the difference between a catalytic converter and a fuel catalyst is not immediately obvious. The difference between fuel catalysts, additives and treatments, and catalytic converters are much more so.

Fuel catalysts and catalytic converters are both mechanisms that lower emissions. Additives and treatments reduces emissions but these treatments do not increase the energy output of fuel either.

In other words, like catalytic converters, fuel additives and treatments do not increase fuel efficiency like wise "gas" mileage. Todd Kaho of MotherEarthNews.com explains, "Mileage-boosting fuel additives claim to increase the combustion efficiency of gasoline. But the automaker programs a vehicle's computer to have optimal fuel economy with straight gasoline in the tank. Change the chemistry, and you may find a decrease in both performance and mpg (Miles Per Gallon)— if there is any real change at all."

A cursory explanation of the difference between a fuel catalyst, fuel additives and treatments, and a catalytic converter is: Additives and treatments clean engines and/or raise the cetane or octane rating of the fuel. Catalytic converters decrease emissions significantly. However, catalytic converters do not increase fuel efficiency.
Fuel catalysts increase both, fuel efficiency and reduce emissions.

Why Aren't Additives and Treatments Fuel Catalysts?

Simply, because they are not catalysts. A chemical compound is rarely a catalyst. Elemental compounds like can be catalysts, but there are no fossil fuels nor by products of fossil fuel refinement that are catalysts.

Ethanol — one of the most common active ingredients in additives and treatments — is not a catalyst. At the least, ethanol is not a catalyst in any scientific sense of the word, nor concerning the dictionary definition of a catalyst.

To be a fuel catalyst, a mechanism must contain true catalysts. Noble metal catalysts comprise a portion of catalytic converters. Fuel catalysts also contain precious metal catalysts. Diesel fuel catalyst additives, fuel catalyst treatments, and any other chemical compounds — even though they are marketed with the word catalyst — typically do not contain catalysts.

What is the Purpose of Fuel Additives and Treatments

They do not lower emissions or increase fuel efficiency, but additives and treatments do have benefits. All fuels burn

inefficiently, at least to a degree. The inefficient combustion of fuel is called a “dirty burn.” Since no fuel burns 100 percent efficiently, a clean burn is merely a theoretical concept.

When fuels burn inefficiently, and they always do, hydrocarbon deposits build up on the internal combustion components of an engine. Some fuels and additives are formulated to clean the hydrocarbon off the internal components of an engine.

One of the reasons fuel burns incompletely is because of a low octane rating. There are two manners in which fuels combust: exposure to a spark or flame and compression. If a fuel combusts before compression ratios of an engine, the result is a loss of power and knocking in a petroleum spark-ignition engine. Additives that increase the octane rating of a fuel increase engine efficiency and prevent damage.

The last type of engine additives/treatments are lubricants. Alcohol, ethanol, detergent additives and other high combustion rate additives refineries put in fuel can strip the natural lubricants inherent in diesel and petroleum from the internal components of an engine. This creates friction in an engine and leads to shorter engine life. Lubricant additives can help lower the friction rates of internal combustion and compression engines.

A money saver for motorists - a lifesaver for everyone else
No matter how good the fuel, hidden deposits gradually form in engines as the result of combustion. The large number of relatively young vehicles requiring expensive replacement parts like catalytic converters, EGRs and DPFs, highlights the problem well. In new engines, tiny deposits quickly disturb the spray pattern of fuel injectors affecting acceleration. Carbon build-ups on intake valves interfere with air flow and in EGR valves they cause losses in power and increased emissions. Carbon on O2 sensors interferes with information passed to the ECU so it can’t effectively calibrate the air/fuel ratio which results in over-fuelling.

Carbon deposits are the reason cars, vans and Trucks pump out all those thick clouds of filthy black smoke as they pull away. Worldwide, millions of vehicles are producing dangerous levels of harmful emissions simply as the result of needlessly dirty engines. Raised levels of NOx, CO & HC emissions and highly carcinogenic PM1, PM2.5, PM10 particulates are found in lethal concentrations in the exhaust emissions from dirty engines. However, these dangerous levels of toxic emissions, carcinogens and particulate matter aren’t produced by clean engines. Because clean engines without hidden carbon deposits work efficiently.

Needlessly dirty engines earns billions for the motor industry

Over 2,000,000,000,000,000 of fuel injector & carb cleaner plastic bottles are used every year for cars ,lorries, motorbikes and mowers. These are sold world wide in auto mobile industries.

The world market alone generates annual sales of this fuel injector & carb cleaner plastic bottles far in excess of one billion $. Worldwide and repeat-use of these additives are a multi-billion-dollar industry. Motorists spend a fortune replacing expensive parts like fuel injectors, DPFs, EGRs and catalytic converters. Because, despite premium fuels and millions of bottles of additives- which don't prevent engine deposits, This remains a BIG problem. Actually, this problem was solved 80-years ago.

With the support of motor industry and save guard interests of auto industries They argue that "if Metallic catalyst converter were that good the manufacturers would have fit them" has been firmly embedded in automotive culture. Yet, this well-worn phrase remains as duplicitous today as when it was first used to intentionally deceive the motoring public. After putting fuel catalysts, this dirty engines and excess traffic pollution would have permanently disappeared. But, so would the enormous profits from millions of bottles of chemicals will despair. Probably the biggest reason motorists are still being intentionally misled, about what fuel catalysts actually does.

Fuel catalysts keep engines permanently clean - that's why the manufacturers don't fit them

“The science behind metallic catalysts is very well founded on the established science of surface chemistry. The combination of metals in the catalyst (LIXXI FSR D) is, therefore soundly based on scientific chemical creation of free radicals, which clearly allows these metal compositions to initiate the chemical reactions in fuel compartment. True catalysts take part in these reactions to form intermediary products which are to be retained 100% at the end to produce optimum result. This accounts for the unlimited life of the catalyst (LIXXI FSR D) whilst enhancing the performance of hydrocarbon (petrol & diesel) fuels”.

The Permanent One-Time Treatment
LIXXI FSR D is a solid ‘heterogenous surface catalyst’ similar to the catalysts used in industry to initiate small molecular changes during the production of bio diesel, fertilizer and plastics. Solid surface catalysts are incredibly hard & non-sacrificial which gives them a virtually unlimited lifespan. In the same way the LIXXI FSR D “Z” type tablets don’t dissolve or wear away which means you only add them once. It floats on fuel surface and reacts with fuel to give optimum results in automobile.

The fore runners of today's catalysts allows the Hurricanes Merlin engines to operate effectively in extremely low temperatures with the locally available fuel. The WW2 campaign, code named 'Operation Benedict', is recorded in 'Hurricanes over Murmansk' by John Golly and in 'Force Benedict' by Eric Carter. Which details the early use of fuel catalysts and subsequent post-war development

Figure 4: Normal Fuel Fleming Dust Z Capsule Fleming

- LIXXI FSR D is safe to use with any engine whether old or new
- LIXXI FSR D doesn't break down, wear out or need to be replaced
- LIXXI FSR D is simple and it works. Try it for yourself and see
- It's life time (15 Yrs) product for automobile

With Out Lixxifsrd with Lixxifsrd

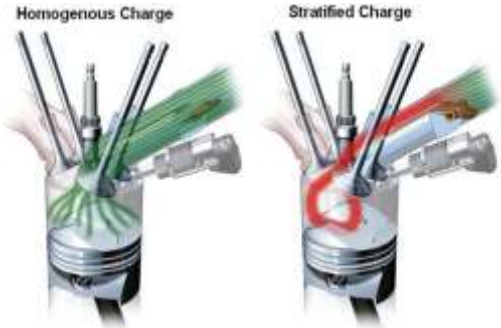

Figure 5: Normal Fuel Fleming Piston, Z Capsule Fleming Piston

Product testing result

Commercial production has to be started soon.

Tank Capacity	Model	Price
0 To 50 Litres	LIXXI-FSRD-1	Euro 99-00
50 To 100 Litres	LIXXI-FSRD-2	Euro 198-00
100 To 200 Litres	LIXXI-FSRD-3	Euro 396-00
200 To 300 Litres	LIXXI-FSRD-4	Euro 792-00
300 To 400 Litres	LIXXI-FSRD-5	Euro 1584-00
400 To 500Litres	LIXXI-FSRD-6	Euro 3168-00
600 To 700Liters	LIXXI-FSRD -7	Euro 6336-00

V. CONCLUSION

Z Capsule Metal has been proven in many motor vehicles, diesel generators and fishing boats for over ten years to be non-polluting and help reduce engine heat.

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