

Saving Your Fuel Tomorrow



An Ecological Technology for The Ecological Product

+ Use in Fuel Additives

+ Competitive

+ Properties

+ Advantages

+ Marketing Outlook





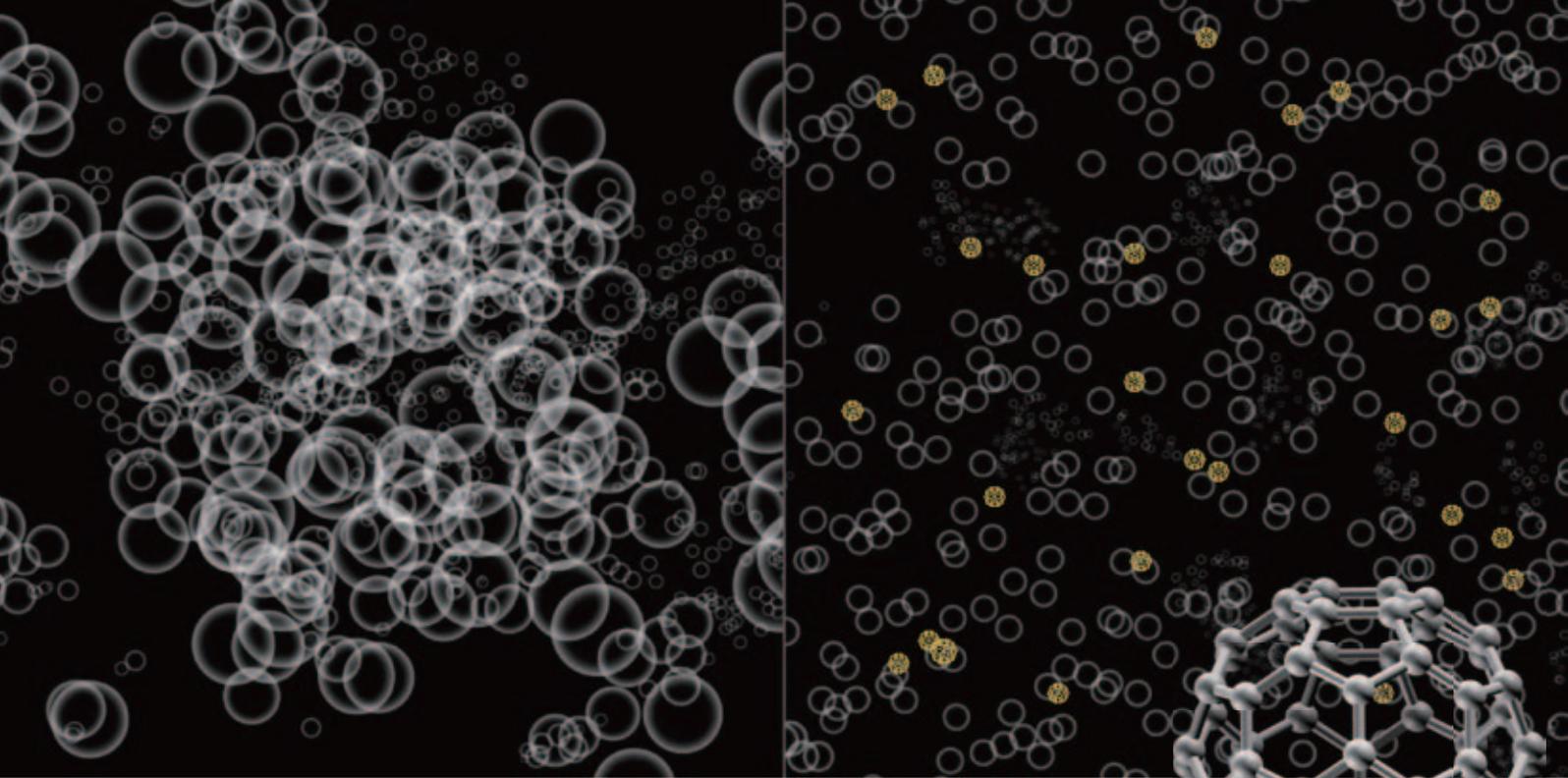
Inventor / David, Wei-Hua, Wang
CEO / Wangtech Enterprise Co.,Ltd.

Patented Japan No. 4564555
Patented Taiwan No. I 359906

Test Report SGS KP/2009/60162A-01
Test Report SGS KP/2009/60163A-01
Test reporti SGS KP/2011/60383
3,330km Highway Test Report CNAS 08-WT-JN-01970



ITIR 2012 New Products Announcement Show



Technologies

The kernel technology of "Full Burn" nano additive for fuel is developed from Dr. Gan Lin Hwang's innovation-HCNC (Hollow Carbon Nanocapsules), a high-purity (>95% carbon) of the average 30 nm cage at the ITRI (Industrial Technology Research Institute) South's Nano Powder & Thin Film Technology Center. As it has high electrical & thermal conductivity similar to the diamonds, by the appropriate functionalized modification, very suitable added to the fuel for nozzle atomization in the combustionable fuel mixture, instantly to provide the nanoscale thermal fluid, in 1/1000 seconds of reaction time led to complete combustion.

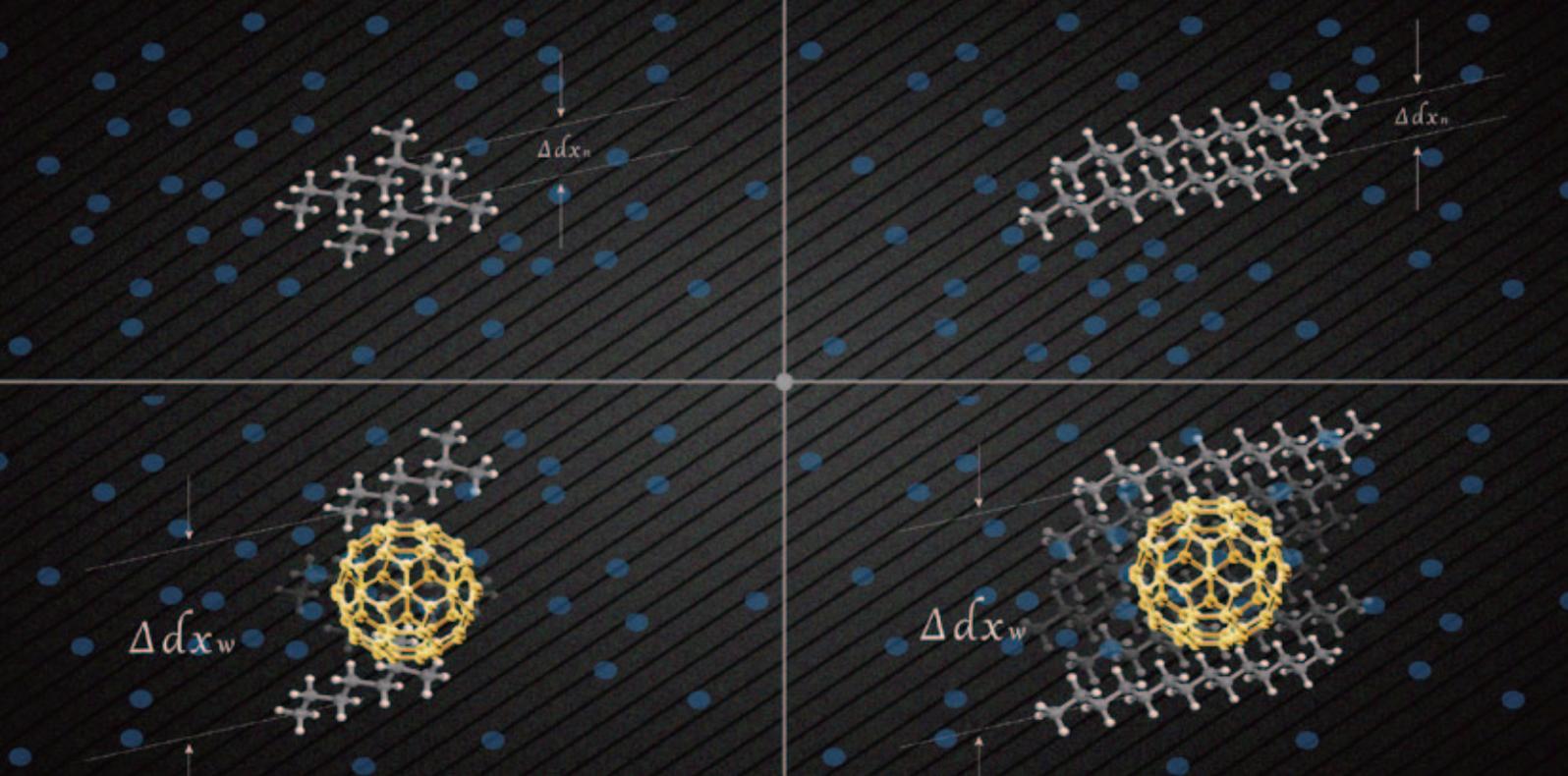
Principles

Proportion of 1 tablet for 50 liters in refueling the tank, after the dissolution, the original different sizes & intertwined alkane base began to disperse, while refinement of the fuel molecules to enable them to maintain the size of the particles in a uniform and independent state.

Hundred millions of hollow carbon nanoparticles (HCNC), intervention particles adsorption by the formation of discrete effect in the size of 30 nm, Pre-purified & separated state alkane-base before they sent to the internal combustion chamber for a 100 percent chemical energy performance.

Performances

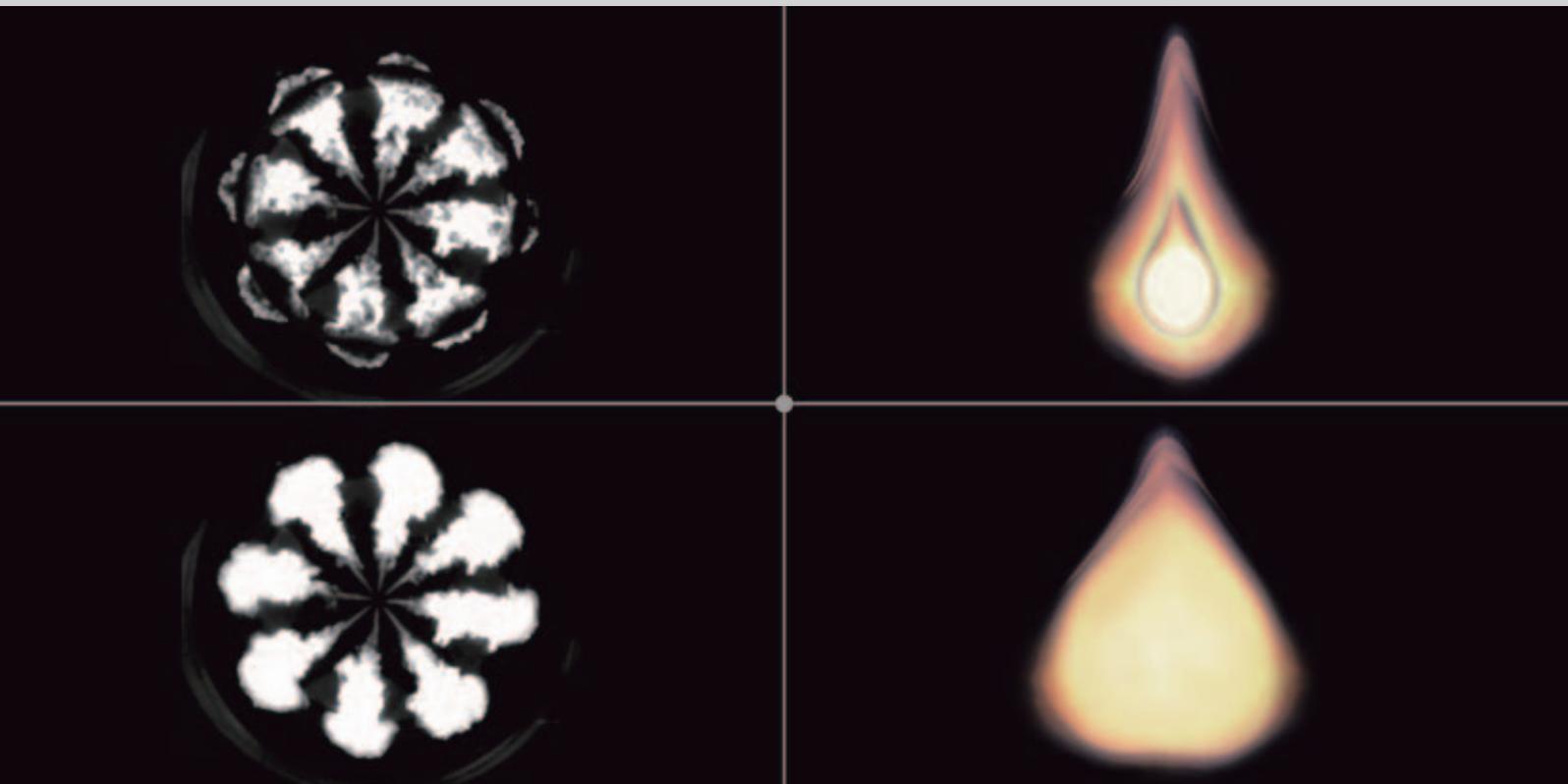
When of the instant of atomization of the combustible mixture air, with the high kinetic energy injected into the internal combustion engine, the oxygen can quickly pass through the wider channel between alkanes base (Δdxw) carry by HCNC, and because the specific surface area of substantial growth in the alkanes in the combustion process completely can diffusion by the nano-molecules with high thermal conductivity and electrical conductivity, 1/1000 seconds of reaction time, synchronous ignited internal combustion engine in hundred of millions of tipping points, after the complete combustion, but also capture the other unstable free radicals, then with the clean air to leave the internal combustion engine.

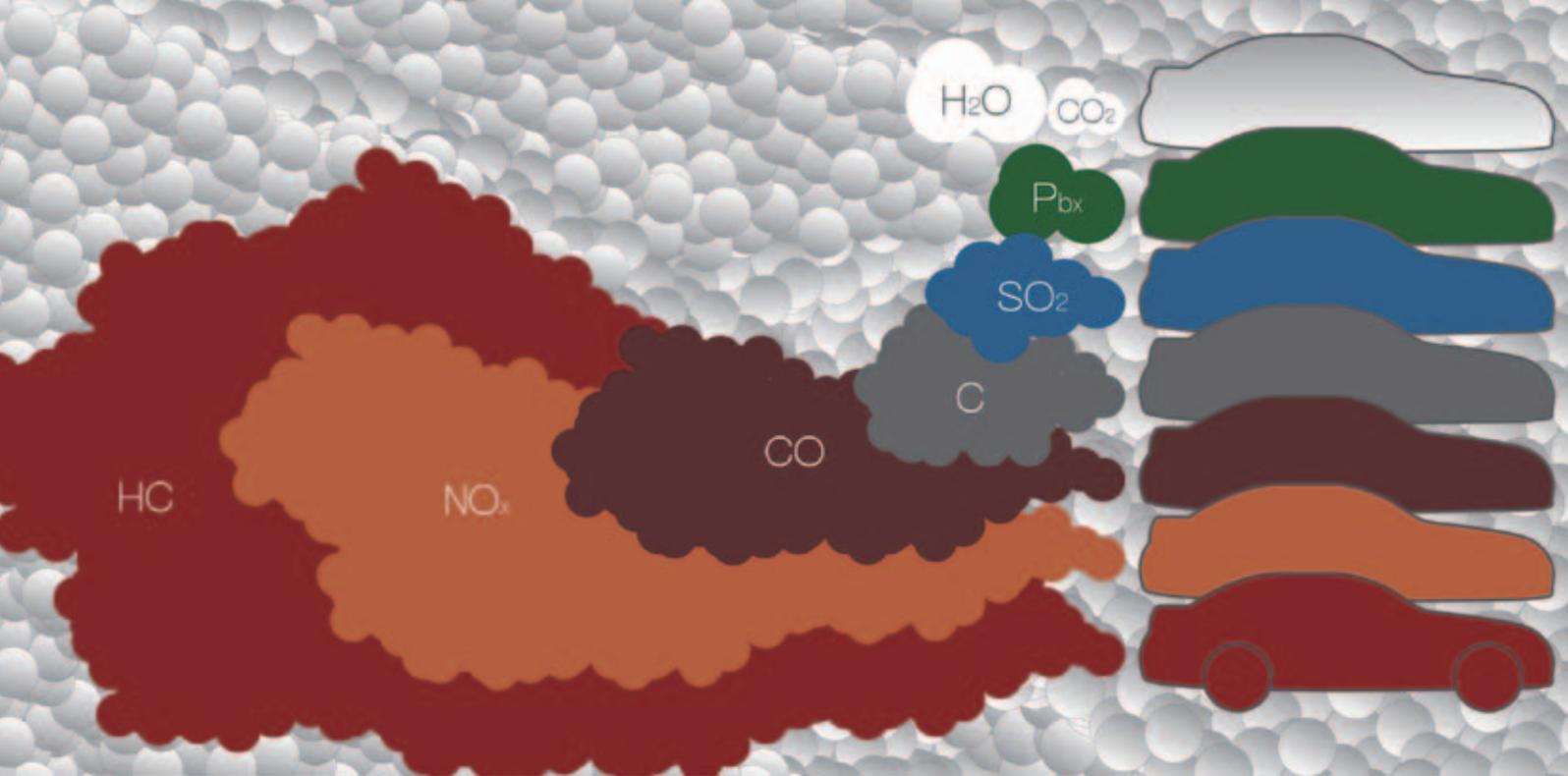


Simulation

Sophisticated computer-controlled fuel injection system, in theory, can design the best atomization nozzle, but in fact caused by the "combustion temperature gradient ladder" or "dead point", is the tangle of the hydrocarbon molecules and fuel droplets-sizes (1 micron to 750 micron).

This additive is available to refine the hydrocarbon molecules and fuel droplets into uniform size (25 microns to 75 microns) the state of dispersion in the ignition instant, any point in the cylinder, regardless of distance, can be synchronized to the combustion chamber.





References & Results

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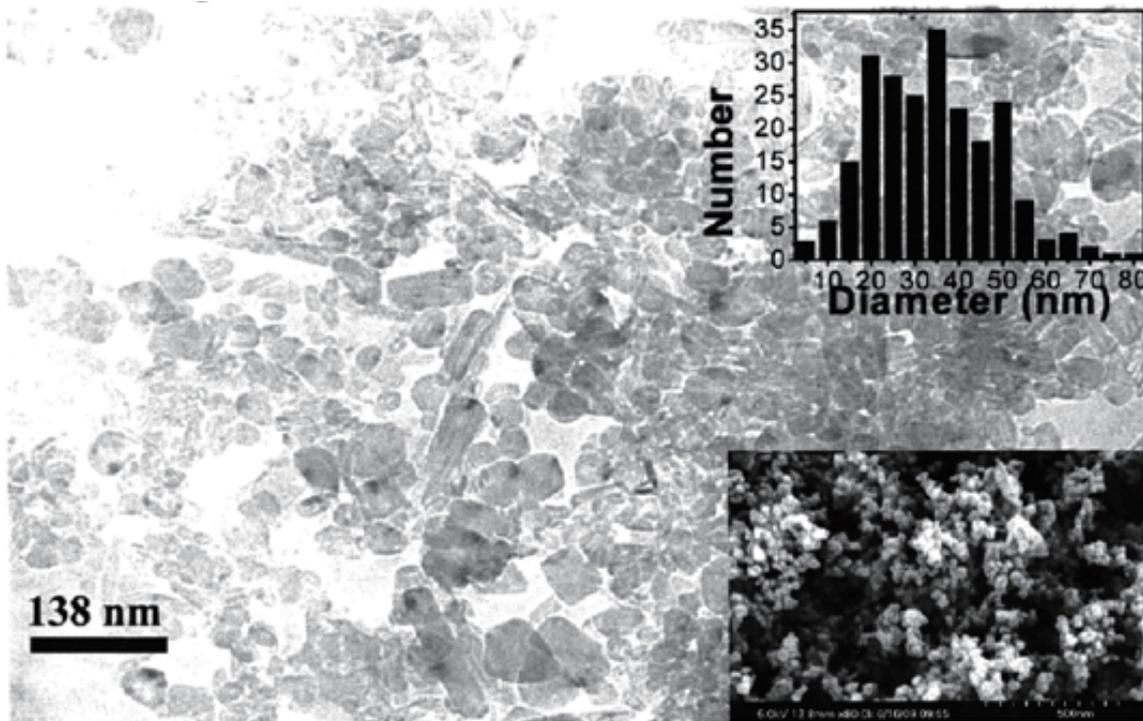
Economic Environment

SGS laboratory inspection reports, the use of this additive were dissolved in gasoline / diesel / lubricant and analysis results were fully in line with the original specification. Shown not to affect the essences, do not hurt the fuel injection system and engine parts of 100% security.

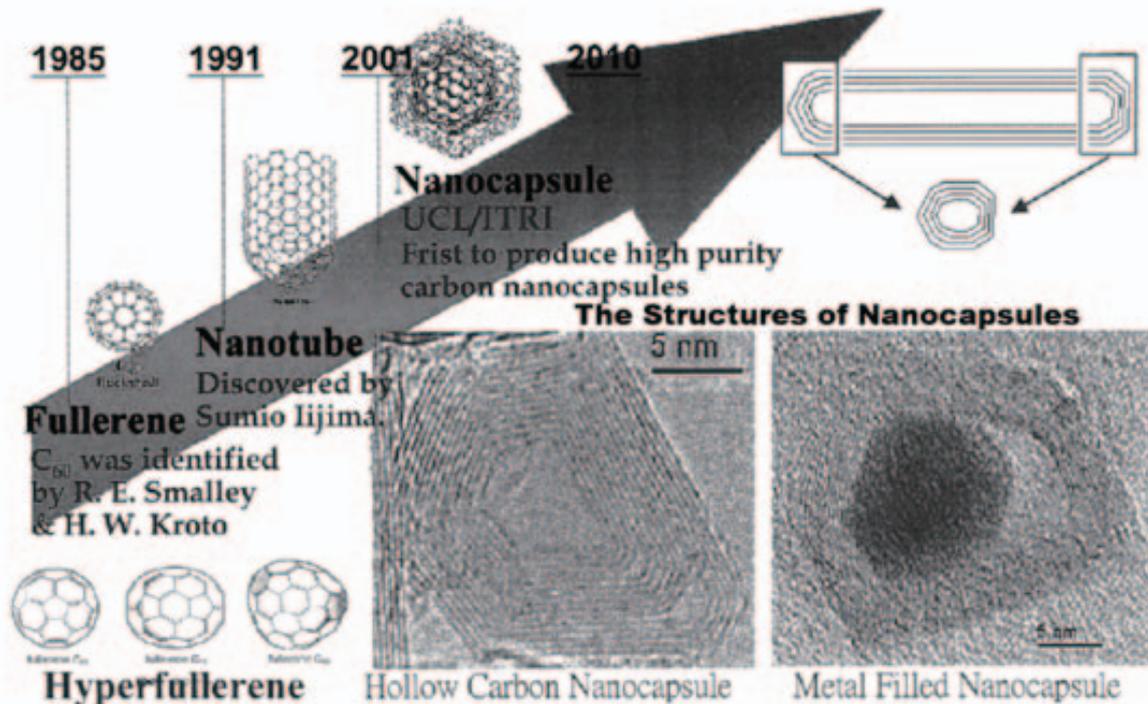
China National Automobile Quality Supervision and Inspection Center, the 3,300 km of highway & real load test use of this additive, has proved a 28% reduction in fuel consumption and reduce carbon emissions by 58 percent.



Low magnification Transmission Electron Microscopy image showing GF-grade HCNCs. The average diameter is about 30nm.



Nano Carbon Materials Roadmap & Structures of HCNC





Use in Fuel Additives

Have demonstrated that Nano Graphite Tablets can be dispersed in fuel without producing the negative effects of today's delivery agents.

Add Nano Graphite Tablets can improve combustion efficiency and thus achieve carbon reduction function.

Nano Graphite Tablets 60ppm in 92 unleaded gasoline testing, can improve the combustion efficiency of 6.4%.

Nano Graphite Tablets can promote fuel conductive explosive combustion in the engine room at the same time, and promote complete combustion to achieve energy saving effect.



Competitive

Carbon nanoparticles as far as we know the more special kind of nano-carbon material, Wangtech Technology own the Nano Graphite Tablets production of carbon spheres, modified and full patent applications. In addition, because Nano Graphite Tablet can be easily dispersed in a variety of materials, a new generation of nano-carbon materials. Wangtech Technology has now developed a complete production technology of carbon Nano Graphite Tablets, confirm the application requirements, the products in the shortest possible time to market.



Properties

Structure: Multi-grapheme layers

Size: d=10-60nm, Aspect ratio=1-2

Thermal Stability (O₂): >600 °C

Dispersion: Easy(40 mg/ml)

Fluorescence Spectrum: Strong (390-560 nm)

Radical Quenching Rate-(OH)(g/L)⁻²S⁻¹: 1.1⁶x10⁸

Electric Conductivity(RT): 10²-10³ S/cm²

Thermal Conductivity(RT): ~1600 W/mk

Complete (Good) Combustion:



Incomplete (BAD) Combustion:



CO₂ Maximum is around 16%. At night the trees convert CO₂ in to Oxygen.

HC + NO_x + Still air + Sunlight = Smog

CO is HIGHLY POISONOUS ODORLESS GAS



Advantages

Clusters of the HCNCs surround the fuel molecules ensuring that they remain separated from each molecules, upon reaching the intended targets, Refine and down size fuel molecules as small as they can be when they are injected into the combustion chambers.



Marketing Outlook

The last five years of international crude oil Graph & Chart (up 78.9%) high oil prices can not turn back the trend.

Fuel additive in the Chinese market in 2007 reached \$ 1.5 billion, will reach \$ 17.6 billion in 2022.

At present, most of the fuel additive from bio-ethanol, have an impact on human and animal food.

Carbon nanoparticles added to the fuel will replace the current fuel additive, to achieve the effect of energy saving and carbon reduction.

Nano graphite fuel additives are the green products for great market economic value.

The Newest Nano GreenTechnology

30 nm Graphite Tablets

Fuel Additive

Save Fuel Consumption 38%

Reduce Harmful Emissions 45%

I am carbon



We are together