



DEAR SECTOR REPRESENTATIVES

Turkey's first nanotechnology firm, NNT Nanoteknoloji A.Ş., is in a process of fast development and is already gathering the fruits of its investment in the future of Turkey by the R&D work going on since its foundation in 1992.

We believe that the solutions offered by BORPOWER to everyone who works for the development of our national economy, our respectable industrialists, representatives of the marine sector, our technicians and engineers sweating to help develop our economy with screwdrivers in their hands, everyone trying to help form a better future for our beloved country, are making both you and us stronger.

NNT Nanoteknoloji A.Ş. is taking firm steps towards becoming a global player among developed countries as a Turkish technology firm in the field of nanotechnology (material science) with the patents, know-how, and the 23 unique nanotechnology projects it developed over the course of 19 years; with the solutions it offers to the defense industry, space industry, clean energy sector, alternative medicine, heavy industry, electronics, information technologies, and the automotive sector; with its successful brand building both in Turkey and in the world by extraordinary products, and with the technology it creates.

NNT Nanoteknoloji A.Ş. shares with the Turkish public and updates every success it achieves via national television, press, internet, magazines, catalogues, brochures, posters, and other communication tools. In the name of NNT Nanoteknoloji A.Ş., I want to express my gratitude and respects to hundreds of industrial firms and millions of car owners for the attention and care they pay

CAFER AKIN
CHAIRMAN OF
THE EXECUTIVE BOARD

and our products.



SOME OF OUR PROJECTS

ALUMINUM SHIELD

Work on the substitution of composite aluminum alloy containing boron and MCDP nano boron diamond crystal compounds for steel gave positive results, and a perfect and unique product we call ST. BD. AL. was created. The hardness of ST.BD. AL. is 70-80 BHN higher than American A-96 and Russian GOST hard aluminums, and it has superior resistance and flexibility.



MEDIBORON

R&D work on the production of artificial bones and medical drugs using the nano and angstrom dimensions of MCDP nano boron diamond crystals are currently going on. MCDP nano boron diamond crystals can be used in oncology, gastroenterology, cardiology, dermatology and in the treatment of vascular diseases. It has no carcinogenic or mutagenic effect whatsoever, and is not poisonous.

METABORON

Research on the application of MCDP nano boron diamond crystals on cutting equipment is in process. The first tests conducted gave very positive results concerning the high temperature, load, pressure, and corrosion resistance of turning chisels and other cutting tools.

POLYBORON

surfaces.

It was proved that, using the ST.POL. (Steel Polyamide), developed from MCDP nano boron diamond crystals and boron end products, materials that are more resistant than steel can be produced to substitute moving steel pieces of engines that are subject to shock. These rubber-like materials modified by MCDP nano boron diamond crystals and boron have structural characteristics like perfect hardness, shock resistance, corrosion and splitting resistance, high heat absorption and elasticity.

COSMIC RADIATION ABSORBENT GLASS

Our firm produces nano cubic boron nitrides (CBN) and carbon nanotubes, and their structures absorbing radiation, and ultraviolet and infrared beams opened new horizons to our R&D team and allowed them to produce glasses that that will absorb cosmic radiation, which is a threat for planes flying above 10.000 meters. These glasses could also provide protection against radiation light that would affect an area of hundreds of kilometers wide in case of a nuclear war.

ORPOWER-INFINITE INFINITE LUBRICANT FOR CLOSED LOOP ENGINES

MCDP nano boron diamond crystals have a unique structure; they are nano crystals, have 8-10 atom diameters, can fly in the air, form a fluid mass, do not enter into chemical reactions, do not connect with each other, and all of these specific features allowed us to create firsts in the science of nanotribology. The 8-10 atom wide MCDP nano boron diamond crystals balls contained in BORPOWER-Infinite are to cover the engine internal surfaces and pieces by homogenized vacuum and belching, and the quadrillions of free flowing MCDP nano boron diamond crystals are thus to provide infinite protection and lubrication between the







NNT NANOTEKNOLOJÍ AŞ A GLOBAL FIRM

By producing, for the first time in the world, MCDP nano boron diamond crystals with angstrom and nano dimensions and carbon nano tubes using the detonation method, the know-how for which belongs to our firm, our technological findings extending the laws of physics have started to form the subject of articles written by the University of California in the United States, Oxford in the UK, and other European universities.

As the managers and employees of NNT Nanoteknoloji A.Ş., we have correctly predicted the important role nanotechnology is to play in the future of the world economy, and have focused our work and investment on this field. Our firm has already started investing in boron nanotechnology projects with high added value, besides the boron nano lubricant BORPOWER already in production line, and is about to contribute new values to the world with the R&D work it undertakes in collaboration with universities and with the public and private sectors.



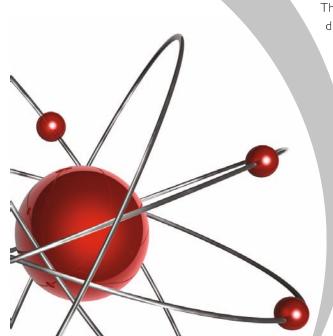
Our production facility has the capacity to produce tons of high technology material a year. Our yearly production capacities for high tech materials are as follows: I 50 tonnes of nanoboron NBN, 6 tonnes of cubic boron nitride CBN-30 million carats, 5 tonnes of wurtzite boron nitride WBN, 5 tonnes of nano boron diamond crystals MCDP-25 million carats. The production technology required to be able to produce these materials in these amounts were developed by the expert scientists and engineers of NNT Nanoteknoloji A.Ş., and owned by NNT Nanoteknoloji A.Ş.

MCDP NANO BORON DIAMOND CRYSTALS

These unique ball-shaped smart nano boron diamond crystals enable us to develop, almost defying the laws of physics and chemistry, strategic and miraculous industrial products. It is a nanotechnology product with one of the highest added values in the world.

More important than that, when turned in to industrial projects, these nano boron diamond crystals create additional added values.

It is the common wish of our people that this success achieved by NNT Nanoteknoloji A.Ş. plays a role in the realization of other boron projects by many other Turkish technology firms, with high added value. For, there is not a single country on earth which paid its foreign debt, developed, and achieved prosperity by selling raw minerals. There is 1,2 trillion USD worth of boron industrial products market on a world scale. Getting our fair share of this market is only possible by producing boron end products with high added value, developing projects from these end products, and marketing them in the global markets.





OUR SUCCESS

> GOLDEN BRAND AWARD
CERTIFICATE

BORPOWER in the Lubricant Additives Sector

The Association for the Protection of All Consumers TTKD has conducted a research among member consumers on the level of "brand interest" in the lubricant additives sector, and measured the level of satisfaction with quality. It was found that Bor Power was one of the most liked and preferred brands last year. The owner of this brand, NNT Nanoteknoloji Bor Ürünleri ve Seramik Malzemeleri Ar-Ge San. Tic. A.Ş. was decided to be awarded the Golden Brand Award in the ceremony to be held on World Consumers Day March 15, 2010 for the respect it has shown towards the consumers in Turkey.

THE TALL OF THE BOYCO

Tüm Tüketicileri Koruma Derneği Tavsiye Sertifikası BOR POWER

> ADVICE CERTIFICATE

BORPOWER in the Lubricant Additives Sector

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> GOLDEN MAN AWARD

The first and most powerful consumer organization of Turkey, TTKD (Association for the Protection of All Consumers) has honored our Chair of the Executive Board Mr. Cafer AKIN with the "Golden Man Award" on its celebration of the World Consumers day on March 15, 2010 for "creating and developing a brand liked" by the consumers, and decided to publicize this achievement among consumers.

Altın Marka Ödül Sertifikası

The Golden Man Award cannot be purchased and reflects the will of the consumers.

TTKD awarding board has explained its reasons for the award as follows:

- > Of the 25.000 complaints received by the association, none or the smallest number was about the firm.
- > It was found that BORPOWER products are the most liked, have the highest performance, and create positive results for the consumers.





FROM INTERNATIONAL ACCREDITATION CENTERS

BORPOWER is the first and only nano boron lubricant in the world whose quality is tested and certified by MIRA, TÜV, BAM, DR. ERMRICH RÖNTGEN LABOR, TEXAS-USA ASTM, BOSCH, and many other accreditation centers.



SOUTHWEST RESEARCH INSTITUTE, TEXAS, USA

Standardized tests with high-grade motor oils showed that friction (ASTM D-5183) and abrasion (ASTM D-4172) are drastically reduced if BORPOWER is applied.

TÜV NORTH (TECHNICAL INSPECTION AGENCY), GERMANY

Exhaust tests following the directives 98/69/EU and 93/116/EU revealed a significant reduction of the test car's fuel consumption and CO2 emissions if BORPOWER is added to the motor oil.

FEDERAL INSTITUTE FOR MATERIALS RESEARCH AND TESTING, BERLIN, GERMANY

The nano-crystalline dimensions (< 100nm) of the active ingredient nano boron in BORPOWER were confirmed experimentally using X-ray diffractometry.

ANALYSIS LABORATORY DR. ERMRICH, GERMANY

The nano-crystalline dimensions (< 100nm) of the active ingredients boron diamond powder and nano boron in BORPOWER were confirmed experimentally using X-ray diffractometry. The dimensions of the boron diamond crystals are less than 5nm.

MIRA-MOTOR INDUSTRY RESEARCH ASSOCIATION, ENGLAND

Tested in heavy duty trucks of 18 tonnes and has proven 10.8 % reduction in fuel consumption.





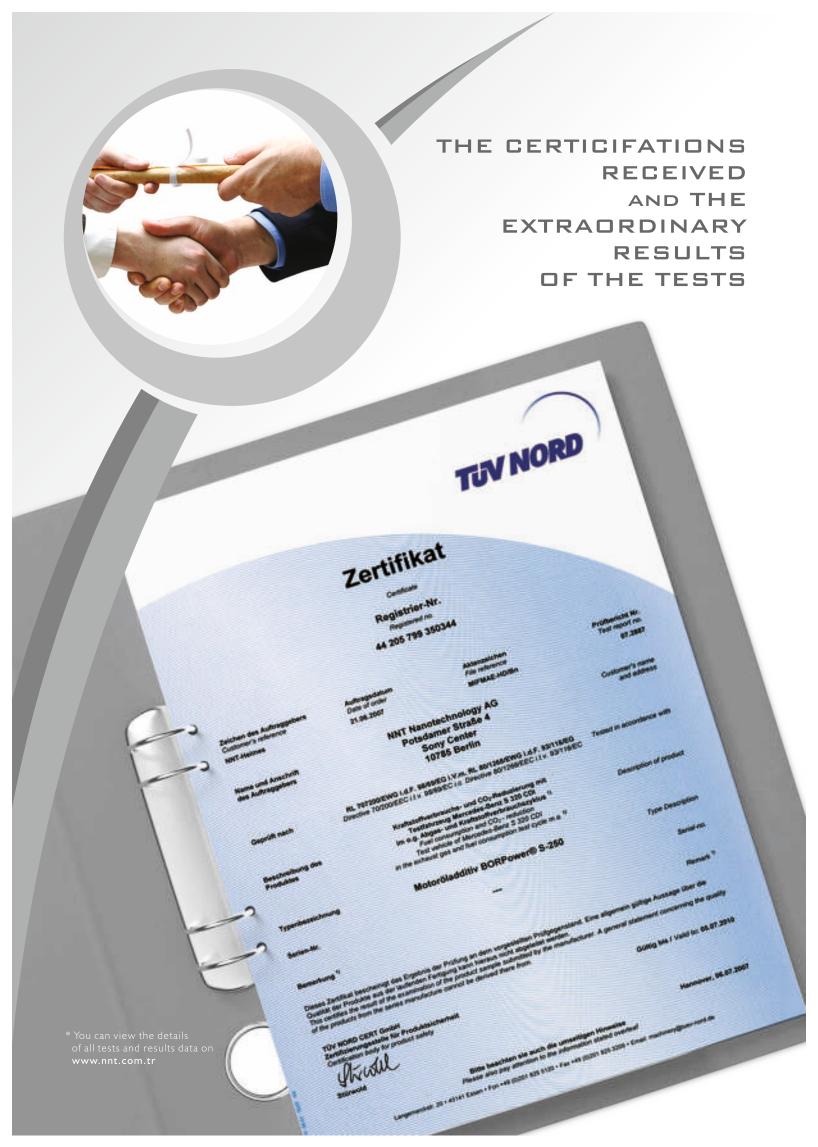








* You can view the details of all tests and results data on www.nnt.com.tr





SOME OF OUR REFERENCES

































































 $[\]hbox{* These facilities, among others, are consuming less electricity and fuel oil with BORPOWER.}\\$

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MARINE SECTOR







MARINE SECTOR

MARINE ULTRA AND NANOLUBE ULTRA

In high tonnage ships, tank ships, military ships, cargo steamers, bulk ships, touristic ships, coasters, passenger ships, speed boats and fishermen's boats, engines are one of the most important factors driving costs up and creating spare part and material problems in maintenance. A technology for a solution that would extend the working life and improve the performance of these engines, which in a sense are the heart of every boat on the sea, is yet to be invented. When we think of the traditional technologies still used in navigation, we can see that sailors are still struggling with problems of this type. It is also known that, considering the seasonal nature of most of the work, engine lubricants and fuel are among the most important factors decreasing revenues. Sailors, racing with the time doing their seasonal work, run their ships at full speed and full maneuver most of the time to be able to meet the deadlines of

delivery contracts. This kind of work, naturally, brings undesired machine breakdowns, and extra costs resulting from extra fuel and lubricant usage. The revolutionary invention of NNT Nanoteknoloji A.Ş., MCDP nano boron diamond crystals, stick to all of the moving machine parts and gears in the system, and creates a I nm. thick Iubricious surface. BORPOWER Marine Ultra and NANOLUBE Ultra are nano lubricants specifically designed to be used in the marine sector. **BORPOWER Marine Ultra** provides big advantages, the first among them saving from fuel, by dealing with the problems created by the

lubricants used in engines run by low quality fuel, and dirty combination oil.





THE FUNCTIONS OF BORPOWER MARINE ULTRA AND NANOLUBE ULTRA IN SHIP M/E MAIN ENGINES AND D/G DIESEL ENGINES

> In a ship on the move, M/E and D/G equipment work under great stroke, and excessive heat is generated. The excessive heat generated causes deformation in the chemical structure of the lubricants that allow the system to function normally, and makes them carbonized. BORPOWER Marine Ultra minimizes friction, which is the source of the heat. Moreover, thanks to the physical characteristics of the boron mineral, specific heat capacity and heat transfer, it prevents carbon generation completely or to a great extent. In addition, it extends the working life of the mechanical parts, and reduces consumable, maintenance, and workmanship costs by making auxiliary equipment that support the system (like detonation and regular oil separators) work longer terms. Lubricant leaks that are a common problem for M/Es and D/Gs used in the ships can only be dealt with in dock pools, with BORPOWER Marine Ultra, the problem is solved without using dock pools.

> Carbonization and diminishing of the lubricants due to excessive heat is a common problem for all ship engines. BORPOWER Marine Ultra minimizes the heat resulting from friction and reduces the carbonization rate of the lubricant. In addition, it prevents or minimizes diminished lubricant and reduces lubricant costs.



SHIP MACHINERY AND EQUIPMENT WHERE BORPOWER MARINE ULTRA CAN BE USED

- > M/E (main engines with four cycle or two cycle crochets)
- > Staffin box hardware and separate camshaft lubricant oil
- > D/G (diesel generators)
- > All other diesel engines in the ship
- > High pressure compressor carters
- > Stern tank
- > Thrust beds
- > L/O D/O F/O separator carter gear lubricants
- > Gas and steam turbines
- > Shaft bearings of steam turbines
- > Auxiliary shaft bearings
- > Cylinder lubricants
- > Ref compressors

MAIN SHIP MACHINES WHERE BORPOWER NANOLUBE ULTRA IS USED

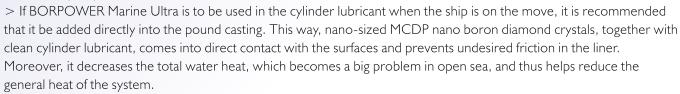
- > Compressors
- > Generators
- > Reducers
- > Hydraulic Systems





THE FUNCTIONS OF BORPOWER MARINE ULTRA AND NANOLUBE ULTRA IN SHIP M/E MAIN ENGINES AND D/G DIESEL ENGINES

> It extends the working life of the gears of the M/E coupled oil pump, outer oil pump, and the abrasion rings. Prevents pressure losses due to abrasion in pumps



- > Minimizes stern tank oil leaks and the heating from friction in the shaft, thus decreasing the heat in this area and providing a better performance.
- > In thrust bearings, there is a very strong reaction power coming from the propeller. This reaction power is the main source of the heat in thrust bearing. BORPOWER Marine Ultra provides a frictionless surface on the friction discs in thrust bearing. Thus, it prevents the generation of heat, and absorbs the high reaction power in the bearings. It prevents, to a great extent, the heat transfer to the crank shaft within the M/E, and thus reduces lubricant and equipment costs.
- > Provides efficiency in the thrust bearings above the shaft. These bearings receive the axial reaction power coming to the crank shaft, and with the MCDP nano boron diamond crystals that reduces friction to one millionth of its previous value, abrasion will be eliminated.
- > Provides better burning and thus prevents potential carbon and sulfur generation on piston heads.
- > The inlet entries of the Turbo Blowers (gas turbines), because they are subject to the heat of the exhaust gases (300 to 420 °C), have shorter maintenance periods compared to the outlet. Hence, it extends the life of the ball bearings used in the entry and the outlet, and makes the turbine lubricant function longer.
- > It can be used in both castings in Turbo Blowers, especially in the inlet casting to cool down the ball bearings.



EXAMPLE

- >> If a machine going at full speed at 24 unit rags can make 10 miles an hour, it can make 10 sea miles under 21 rag using BORPOWER, thus saving on fuel.
- >> High pressure compressors with 20-30 bar pistons, if used for long hour without resting, may heat excessively and cannot generate the desired pressured air, and the compressor constantly works under heavy load, which both shortens the life of the compressor and consumes more energy. BORPOWER Marine Ultra provides compressor efficiency by preventing it from working under excessive heat, thus both extending the life of the compressor and consuming less energy.
- >> BORPOWER Marine Ultra decreases abrasion due to heating, over-heating, excessive energy consumption, consumable expenditure, and maintenance and workmanship costs. (In the Red sea, the water heat is 35 degrees. Hence, heavier usage is recommended in these regions for heat transfer.)



MARINE SECTOR

BORPOWER NANOLUBE ULTRA IN BREAK-IN PROCESS

Break-in is the process of training machine parts in relative motion to each other by running the machine slowly. In the break-in process, there is a fast and strong abrasion. For the post-break-in lives of the machine parts, it is important that the break-in process is completed in a short time, with the lightest load possible, and at the lowest speed. In the break-in process, no other lubricant with special additives can provide the performance offered by BORPOWER Nanolube Ultra.



THE ADVANTAGES OFFERED BY BORPOWER NANOLUBE ULTRA IN THE BREAK-IN PROCESS

Because BORPOWER Nanolube Ultra is a physical nano lubricant, nano sized MCDP nano boron diamond crystals stick to the surfaces during the process, and bring the machine parts to the optimum levels desired.

- > It shortens the break-in process by 25% to 80%. (For example, at some point, it was observed that a 4 hour break-in process was completed in 20 minutes.)
- > Because the break-in duration is shortened, large energy savings (electricity, fuel) can be achieved.
- > It extends the life of the lubricant used in the break-in process by preventing its evaporation.
- > Extends the life of the machine equipment.
 - > Provides saving on workmanship costs due to the shortened break-in duration.

 BORPOWER Nanolube Ultra should be added to the lubricant to be used in the break in process with a ratio of 1/15 to 1/25.







THE BENEFITS PROVIDED BY BORPOWER MARINE ULTRA AND NANOLUBE ULTRA

- > Decreases friction to one millionth of its previous value and prevents abrasion.
- > Provides 2% to 15% energy saving (fuel, electricity).
- > Provides a 10% performance improvement.
- > Provides 10% to 50% saving in starting currents.
- > Decreases heat by 2-10 °C.
- > Prevents over-heating, and keeps the system in normal working heat.
- > Decreases exhaust emissions by 15%.
- > Lowers the noise (db) in the environment by decreasing vibration.
- > Provides savings on lubricant by extending lubricant life up to 10%.
- > Is extremely resistant to excessive heat and pressure.
- > Prevents or minimizes thin oil leaks.
- > Keeps the engines and the bearings clean and prevents ash generation.
- > Minimizes starting abrasion and prevents carbon generation.
- > Provides protection against corrosion and prevents rusting.
- > Extends the life of the leaktightness equipment.
- > Prevents the generation of sludge and debris due to high heat conductivity.
- > Provides strong protection against and minimizes friction abrasion, pitting, and fracturing arising from the sliding and rolling movements of the gears in high and low temperatures.
- > Provides the service life of the filter equipment (improves the efficiency of the filter by preventing clogging).
- > Prevents and minimizes excessive heating and vaporization in the machine or machine parts.
- > Minimizes abrasion in pistons, liners, snap rings, bearings, and the gears.
- > Prevents bearing seizure to a great extent.
- > Improves the resistance of the bearings against heavy load and high pressure.
- > Prevents crank fractures due to bearings, piston rods, and main bearing clearances.
- > Provides a 10% efficiency increase in generators.
 - > Improves the efficiency of compressors and turbines.
 - > Provides additional energy saving by decreasing the idle running interval of the compressor.
 - > Provides pressure increase and a better lubrication in hydraulic systems due to heat conductivity.
 - > Prevents abrasion in pressure relief valves.
 - > Provides superior performance, especially in cement, iron-steel, and mining sectors, in many points that are subject to heavy and pulsed loads like rolling mills, lifters, cranes, conveyors, benches, and gearbox and elevator gears.
 - > Minimizes abrasion in yellow gears in separators that are subject to abrasion.
 - > Extends the life of the consumables and decreases material expenses and maintenance and workmanship costs.







INDUSTRY







INDUSTRY

BORPOWER NANOLUBE ULTRA IN INDUSTRY

BORPOWER Nanolube Ultra can be used together with semi-synthetic, synthetic, organic, and high performance lubricants in reducer systems, compressors, generators, conveyors, elevators, conventional and CNC benches, engineering vehicles, all sorts of metal and antifriction bearings, fan bearings, separators, and even moulds, in short, in every field where closed loop lubrication is used (and in some cases, in open loop lubrication systems). BORPOWER Nanolube Ultra decreases friction to one millionth of its previous levels where applied by creating a covering of nano dimensions and homogenized dispersion, and provides saving by extending the life of the lubricant it is used with up to a hundred percent due to its high heat resistance and the fact that it is the second hardest natural element after diamond.

With all these characteristics, BORPOWER Nanolube Ultra provides industrial firms in many sectors operating under harsh conditions of competition a great opportunity hard to miss, and offers benefits like energy savings, doubling the life of lubricants, decreasing heat and temperatures, increasing rectification lives by 50% and extending the abrasion duration of the machines and equipment it is used on.







> TRIBOLOGY

Tribology is a scientific and technological discipline that focuses on the study of the subjects of friction, abrasion, and lubrication.

> FRICTION

Friction is defined as the resistance of two objects in relative motion against motion. Friction takes the forms of sliding, rolling, and slide-rolling.

TYPES OF FRICTION

- > Static friction (applies if the object is not moving)
- > Dynamic friction (is the case if the object is moving)
- > Friction in rolling objects

If the object is both rolling and sliding, dynamic friction is observed. If the friction coefficient is zero, it means the object is not in contact with the surface, that is to say, there is no reaction power.

- a) Static friction
- b) Dynamic friction with BORPOWER

> ABRASION

Abrasion is undesired loss of material on the surfaces of objects in friction that are in contact and in relative motion with each other. According to the statistics, about 70% of machine parts are scrapped due to abrasion. General abrasion types are adhesion, abrasion, frazzling, and cavitation.

> LUBRICATION

To decrease friction, prevent abrasion in full or in part, and prevent excessive heating, lubricants are used between machine parts that are in contact with each other. Especially in locations where heat increases are not desired and where the heat from friction needs to be removed fast, like sliding bearings, liquid lubricants are used to lubricate.









INDUSTRY

LUBRICATION BY BORPOWER NANOLUBE ULTRA

Many lubrication firms keep producing metallic, synthetic, and organic products to control friction, abrasion, and heating. Nevertheless, no single product that can solve one or all of these problems completely has been found yet. However, NNT Nanoteknoloji A.Ş. has achieved a first in the world with the MCDP nano boron diamond crystals it produces using nanotechnology, and solved these biggest 3 problems of the industry up to 90 % by its products relying solely on Turkish capital. One BORPOWER Nanolube Ultra is added to the lubricant used, a frictionless running environment that cannot be achieved by using only pricants is achieved, and the abrasion and heating on the surfaces due to friction immeters of the MCDP page boron diamond crystals contained in BORPOWER

the lubricants is achieved, and the abrasion and heating on the surfaces due to friction are prevented. The diameters of the MCDP nano boron diamond crystals contained in BORPOWER Nanolube Ultra are 4-20 nms. Because MCDP nano boron diamond crystals stick to the surfaces and create a 1 nm thick film layer, it does not result in any narrowing of the lubricant space. (Imm=1000 microns, 1 micron=1000 nanometers)

THE BENEFITS PROVIDED BY BORPOWER NANOLUBE ULTRA

- > Decreases friction to one millionth of its previous value and prevents abrasion.
- > Provides 2% to 15% energy saving (fuel, electricity).
- > Provides a 10% performance improvement.
- > Provides 10% to 50% saving in starting currents.
- > Decreases heat by 2-10 °C and prevents over-heating, and keeps the system in normal working heat.
- > Decreases exhaust emissions by 15%.
- > Lowers the noise (db) in the environment by decreasing vibration.
- > Provides savings on lubricant by extending lubricant life up to 100%.
- > Is extremely resistant to excessive heat and pressure.
- > Prevents or minimizes thin oil leaks.
- > Keeps the engines and the bearings clean and prevents ash generation.
- > Minimizes starting abrasion and prevents carbon generation.
- > Provides protection against corrosion and prevents rusting.
- > Extends the life of the leaktightness equipment.
- > Prevents the generation of sludge and debris due to high heat conductivity.
- > Provides strong protection against and minimizes friction abrasion, pitting, and fracturing arising from the sliding and rolling movements of the gears in high and low temperatures.
- > Provides the service life of the filter equipment (improves the efficiency of the filter by preventing clogging).
- > Prevents and minimizes excessive heating and vaporization in the machine or machine parts.
- > Minimizes abrasion in pistons, liners, snap rings, bearings, and the gears.
- > Prevents bearing seizure to a great extent.
- > Improves the resistance of the bearings against heavy load and high pressure.
- > Prevents crank fractures due to bearings, piston rods, and main bearing clearances.
- > Provides a 10% efficiency increase in generators.
- > Improves the efficiency of compressors and turbines.
- > Provides additional energy saving by decreasing the idle running interval of the compressor.
- > Provides pressure increase and a better lubrication in hydraulic systems due to heat conductivity.
- > Prevents abrasion in pressure relief valves.
- > Provides superior performance, especially in cement, iron-steel, and mining sectors, in many points that are subject to heavy and pulsed loads like rolling mills, lifters, cranes, conveyors, benches, and gearbox and elevator gears.
- > Minimizes abrasion in yellow gears in separators that are subject to abrasion.
- > Extends the life of the consumables and decreases material expenses and maintenance and workmanship costs.





USE OF BORPOWER NANOLUBE ULTRA IN INDUSTRIAL MACHINES

> COMPRESSORS

Especially in screw and piston compressors, overheating due to the pressuring of the air and the frictions causes the compressors to go out of order, decreases their efficiency, makes them consume more energy, and results in abrasion.

BENEFITS OF BORPOWER NANOLUBE ULTRA IN ROTOR (SCREW, GEAR, ROLLER), PISTON, AND TURBO COMPRESSORS

- > Provides energy savings of 2% to 9%,
- > Extends lubricant life up to 100% and provides lubricant savings,
- > Minimizes starting abrasion,
- > Prevents overheating to a great extent, and decreases the temperature by 2-10 °C,
- > Lowers the sound decibel in the environment by decreasing vibration,
- > Makes compressors work more efficiently,
- > Has superior resistance to excessive heating and pressure,
- > Prevents carbon generation,
- > Decreases maintenance and workmanship costs by decreasing consumable expenditures.

> GENERATORS

Generators are apparatuses that convert mechanical energy into electrical energy, mostly using electromagnetic induction. They are very similar to the engines, which realize the reverse process of converting electrical energy into mechanical energy.

BENEFITS OF BORPOWER NANOLUBE ULTRA IN GENERATORS

- > Provides energy and fuel savings of 2% to 10%,
- > Improves power and efficiency by 9%,
- > Prevents overheating to a great extent and decreases the temperature by 2-10 °C,
- > Extends lubricant life up to 100% by regular lubricant analysis (for example from 250 hours to 500 hours),
- > Lowers the sound decibel in the environment by decreasing vibration,
- > Minimizes starting abrasion,
- > Has superior resistance against excessive heating and pressure,
- > Prevents previous lubricant leaks to a large extent (thin leakages and those created by overheating)
- > Decreases consumable expenditures and maintenance and workmanship costs to a great extent.





INDUSTRY

> HYDRAULIC SYSTEMS

are viscosity, oxidation, lubrication ability, flowing point, polymerization. However, no hydraulic lubricant has consumable, lubricant, maintenance and workmanship desired levels.

diamond crystals contained in BORPOWER Nanolube layer over all metallic surfaces, thus providing both and a lubricious layer. In addition, they make a smooth surface and minimize friction. The life of the lubricant is also extended due to the specific heating capacity and high heat conductivity of the boron mineral.

BENEFITS OF BORPOWER NANOLUBE ULTRA IN HYDRAULIC CIRCUITS

- > Provides energy saving.
- > Provides lubricant saving by extending the life of the lubricant used up to 100%.
- > Prevents excessive heating, thus decreasing the temperature of the lubricant by 2-10 °C.
- > Prevents clogging in suction line filters and pipes to a great extent.
- > Minimizes hydraulic pump mill abrasion and holes forming in pump bearings.
- > Minimizes the abrasion on the friction surfaces of the valves and prevents particle generation inside.
- > Increases lubricant pressure.

> BENCHES

BENEFITS OF BORPOWER NANOLUBE ULTRA IN BENCHES LIKE TURNING MACHINE, MILLING MACHINE, AND GRINDING MACHINE

- > Provides energy savings of 10% to 50%,
- > Extends lubricant replacement interval up to 100% by regular lubricant analysis,
- > Has superior resistance against excessive heating and pressure,
- > Makes the gearbox work more quietly,
- > Extends the life of the leaktightness equipment,
- > Provides protection against corrosion,
- > Prevents rusting,
- > Minimizes starting abrasion,
- > Provides strong protection against friction abrasion, pitting, and fracturing arising from the sliding and rolling movements of the gears in high and low temperatures,
- > Prevents lubricant leakages to a great extent,
- > Prevents lubricant losses due to overheating,
- > Decreases consumable expenditures and provides savings on maintenance and workmanship costs.

WARNING: Because automatic gearboxes require clutching, our products are not fit for use in automatic gearbox systems.







> SLIDEWAY LUBRICATION

The MCDP nano boron diamond crystals contained in the BORPOWER Nanolube Ultra added to the lubricant used first disperse within the lubricant in a homogenous manner. In the slideway lubrication phase, these crystals stick to the slideway surface and provide nano-level hardening and a slippery surface due to the lubricant nature of the boron mineral.

BENEFITS OF BORPOWER NANOLUBE ULTRA IN SLIDEWAY LUBRICATION

- > Hardens the slideway surface at nano levels,
- > Provides strong protection against abrasion on the slideway surface,
- > Creates a nano-level slippery layer over the slideway surface and prevents or minimizes jamming and abrasion,
- > Has high thermal consistency,
- > Provides high performance even under heavy work conditions,
- > Does not enter into reaction with any acids or bases,
- > Provides strong protection against corrosion,
- > Because they are in nano sizes, MCDP nano boron diamond crystals do not cause clogging in any filter,
- > Extends the life of the lubricant used by minimizing friction,
- > Decreases consumable expenditures and provides savings on maintenance and workmanship costs.

> WIND TURBINES (WIND ROSES)

Wind turbines are systems that convert the kinetic energy in the wind first into mechanical energy, and then into electrical energy. Wind turbines generally consist of a tower, generator, speed converter (gear box), electric-electronic parts, and a rotor. The kinetic energy of the wind is converted into mechanical energy in the rotor. The revolution movement of the rotor shaft is speeded up and transferred to the generator in the body.

BENEFITS OF BORPOWER NANOLUBE ULTRA IN WIND TURBINES

- > Extends lubricant life up to 100%,
- > Minimizes friction and improves efficiency by allowing wing movement to be transferred more easily,
- > Provides a nano-level hardening on all gear surfaces by nano boron diamond crystals, thus preventing abrasion to a great extent,
- > Prevents jamming and fracturing of the gears by 80% to 90% even when the reducer is subject to overloading,
- > Decreases lubricant temperature by 2-10 °C,
- > Decreases consumable, maintenance, and workmanship costs.





INDUSTRY

> MOULDS

It was found that if BORPOWER Nanolube Ultra is used instead of metallic lubricants during the training work done in the process of mould production, material seizures are prevented.

When moulds like plastic injection moulds are being used in the production process, if the nano lubricant BORPOWER

Nanolube Ultra is used, the mould surfaces will be hardened after a while because MCDP nano boron diamond crystals will stick to the surfaces of the mould. Thus, the usage period of the mould will be extended, and less lubricant liquid will be consumed because the surface will become more slippery. The firms will thus be able to decrease their costs because they will use moulds for longer periods. Because the mould replacement and maintenance intervals will be shortened, production will increase and lubricant costs will decrease.

> BORPOWER NANOLUBE ULTRA IN CUTTING LUBRICATION

BORPOWER Nanolube Ultra is used in cutting lubricants that are not mixed with water. MCDP nano boron diamond crystals in nano sizes provide a more healthy cutting operation. Because MCDP nano boron diamond crystals stick to the surface of the consumable cutting equipment in time, it extends the life of the consumable equipment.

BENEFITS OF BORPOWER NANOLUBE ULTRA IN CUTTING LUBRICATION

> Minimizes the roughness of the outer surfaces generated (including in chrome material),

> Decreases heating of the cutting equipment to a great extent,

- > Brings cog tolerances to exact measures.
- > Provides energy saving because of the decreased load during the cutting operation,
- > Provides lubricant saving by decreasing vaporization due to heat transfer during cutting,
- > Provides saving on consumable material and workmanship costs.

Chippings displayed in the picture are chippings generated by screw cutter on a universal bench from chromium 10 material.





> BORPOWER NANOLUBE ULTRA IN BREAK-IN PROCESS

Break-in is the process of training machine parts in relative motion to each other by running the machine slowly. In the break-in process, there is a fast and strong abrasion. For the post-break-in lives of the machine parts, it is important that the break-in process is completed in a short time, with the lightest load possible, and at the lowest speed. In the break-in process, no other lubricant with special additives can provide the performance offered by BORPOWER Nanolube Ultra.

THE ADVANTAGES OFFERED BY BORPOWER NANOLUBE ULTRA IN THE BREAK-IN PROCESS

Because BORPOWER Nanolube Ultra is a physical nano lubricant, nano sized MCDP nano boron diamond crystals stick to the surfaces during the process, and bring the machine parts to the optimum levels desired.

- > It shortens the break-in process by 25% to 80%. (For example, at some point, it was observed that a 4 hour break-in process was completed in 20 minutes.)
- > Because the break-in duration is shortened, large energy savings (electricity, fuel) can be achieved.
- > It extends the life of the lubricant used in the break-in process by preventing its evaporation.
- > Extends the life of the machine equipment.
- > Provides saving on workmanship costs due to the shortened break-in duration.

BORPOWER Nanolube Ultra should be added to the lubricant to be used in the break in process with a ratio of 1/15 to 1/25.

> LUBRICANT LOSSES

Oil pans mutually wrong fastened, wrong fastened flanges, and leaktightness gaskets like klingerit gaskets, o-ring, v-ring, x-ring gaskets that are deformed, hardened, and had their original structures modified due to the oil deformed by the carbonization arising from excessive heat cause lubricant losses and leakages.

BORPOWER Nanolube Ultra, once added to the machine or its equipments: First minimizes abrasion and thin lubricant leakages in moving metal surfaces and the leaktightness equipment by decreasing friction to one millionth of its previous value. In addition, it prevents carbon particles in the environment that are generated due to overheating arising from friction and pressure, and extends the lives of the lubricant and the leaktightness equipment thanks to the high heat conductivity of the MCDP nano boron diamond crystals.



INDUSTRY

> ENGINEERING VEHICLES

Because engineering vehicles operate under harsh working conditions, they are frequently subject to abrasion and heating. BORPOWER Nanolube Ultra, because it is produced to operate under the harshest conditions in the industry, is fit for use in the engines, manual gearboxes, and differentials of the engineering vehicles. Is not fit for use in automatic gearboxes.

Because it creates a 1 nm thick film later in engines not by plastering but by sticking, BORPOWER Nanolube Ultra allows honing lines to work longer and extends engine usage life at least two times.

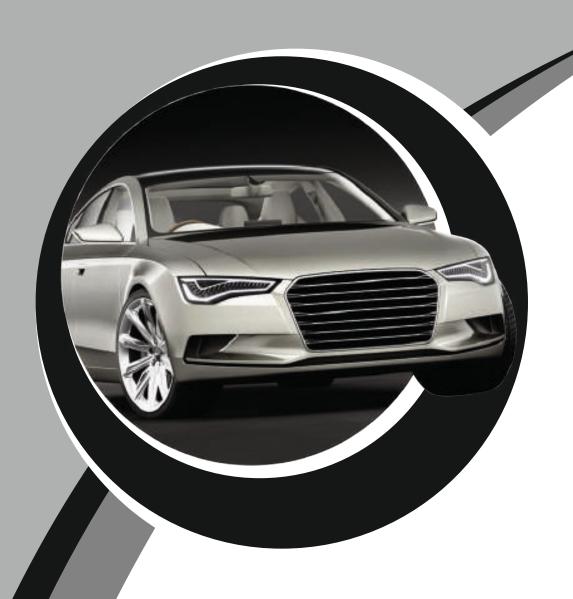
BORPOWER Nanolube Ultra is not a repair tool. It does not repair an already abraded surface, hydraulic pump gears, leaktightness equipment, or parts like piston, engine bearing, piston rings, etc. However, it does prevent, to a great extent, abraded parts from abrading even more. In first hand or rectified engineering vehicles, on the other hand, it minimizes friction and thus extends the usage life of the vehicles at least two times.

Because they operate under harsh working conditions, engineering vehicles are subject to excessive heating. BORPOWER Nanolube Ultra, because it is designed for machinery and equipment working under harsh conditions, is perfectly fit for use in engineering vehicles.

BENEFITS OF BORPOWER NANOLUBE ULTRA IN THE ENGINES AND DIFFERENTIAL SYSTEMS OF ENGINEERING VEHCLES

- > Provides fuel savings of 3% to 15%,
- > Provides power increases of 5% to 15%,
- > Decreases CO2 exhaust emissions by 10% or more,
- > Prevents overheating,
- > Extends lubricant replacement interval up to 100% by regular lubricant analysis (for example, from 250 hours to 500 hours),
- > Decreases lubricant consumption,
- > Provides pressure increase in the hydraulic system,
- > Minimizes starting abrasion,
- > Has superior resistance against excessive heat and pressure,
- > Provides strong protection against friction abrasion, pitting, and fracturing arising from the sliding and rolling movements of the gears in high and low temperatures,
- > Extends the life of the leaktightness equipment,
- > Prevents the generation of sludge and debris due to high heat conductivity,
- > Prevents or minimizes carbon generation,
- > Prevents thin leakages and lubricant leakages due to overheating to a great extent.
- > Keeps the engine and the bearings clean and prevents ash generation,
- > Decreases consumable material expenditures and maintenance and workmanship costs to a great extent.











BORPOWER MS-ULTRA SERIES

Once BORPOWER MS-ULTRA is added to the lubricant used in the system, around 60% of the MCDP nano boron diamond crystals stick to the metallic surfaces, provide surface hardening and a higher quality surface, and creates an almost frictionless surface.

The remaining 40% of the MCDP nano boron diamond crystals disperse homogeneously among the lubricant molecules during operation, and fills scars on the surfaces that come into contact with the lubricant with flowing MCDP nano boron diamond crystals so that a smooth surface is achieved. Thus, first, it prevents metals from coming into contact with each other, and then, it minimizes friction by rolling between moving parts like a ball.

No mineral or synthetic lubricant can prevent abrasion, particle split, or heat arising from friction and pressure in full. However, BORPOWER MS-ULTRA does prevent friction, abrasion and overheating due to the physical characteristics of the MCDP nano boron diamond crystals it contains

like specific heat capacity, high heat conductivity, and the fact that







FUNCTIONS OF BORPOWER MS-ULTRA SERIES

I) BORPOWER MS-ULTRA products provide better burning and prevent potential carbon or sulfur generation in the pistons.

2) Moving engines work under great stroke. As a result, excessive heat is generated. The excessive heat generated causes deformation in the chemical make-up of the lubricants that keep the system running regularly, and starts carbonization. BORPOWER MS-ULTRA series prevent carbon generation completely or to a great extent because it minimizes friction, which is the source of overheating, and because of its physical characteristics like specific heat capacity and high heat conductivity.

Moreover, it extends the life of mechanical parts, and decreases the consumable, maintenance, and workmanship costs by helping keep ancillary system equipment running longer.

- 3) In some engines, there is a problem of diminishing lubricant due to carbonization from overheating. Because our product minimizes the heating caused by friction, it also decreases the carbonization rate of the lubricant. At the same time, lubricant diminished in unit time is also minimized or completely eliminated. Thus, lubricant costs come down.
- 4) Prevents pressure loss in pumps due to abrasion, protects the gears of the engine oil pump and extends their lives.
- 5) Creating a nanometric protective shield around all surfaces in the engine coming into contact with the lubricant, the MCDP nano boron diamond crystals provide better lubrication. As a result, abrasion, bearing seizures, and fractures are prevented to a great extent.
- 6) When used in new engines, it prevents or minimizes abrasion from the beginning. As a result, the engine is protected from deformation and harmful effects from day one onwards.
- 7) Due to the heat conductivity of the boron mineral, problems like bearing seizure due to overheating are prevented to a great extent.

ADVANTAGES OF BORPOWER MS-ULTRA SERIES

- > Provides fuel savings of 5% to 20%,
- > Increases power by 10%,
- > Extends lubricant life up to 100%,
- > Prevents overheating,
- > Decreases CO² exhaust emissions by 25% to 30%,
- > Decreases vibration and lowers the noise (db) in the environment,
- > Prevents or minimizes lubricant leaks,
- > Decreases lubricant consumption,
- > Completely prevents or minimizes abrasion,
- > Prevents starting abrasion even in cold weather thanks to its superior protective qualities,
- > Prevents or minimizes carbon generation,
- > Displays superior resistance against high temperatures and pressure, thus is not deformed and provides continuous protection with regular use,
- > Keeps the engine and the bearings clean and prevents ash generation,
- > Prevents sludge and debris generation thanks to its high heat conductivity,
- > Provides protection against corrosion,
- > Prevents abrasion in pressure relief valves,
- > Prevents crank fractures due to bearings, piston rods, and main bearing clearances.
- > Extends the life of the consumable materials,
- > Extends the life of the leaktightness equipment,
- > Because the yellow gears of the lubricant pumps, which are subject to the highest abrasion, will be covered by boron diamond crystals, abrasion will take much longer, and consumable material, maintenance, and workmanship costs will decrease,
- > Extends the life of the turbo by preventing the overheating and abrasion of the turbo shaft, which is the biggest problem of the turbo vehicles,
- > When used in new engines, it prevents abrasion to a great extent,
- > Decreases consumable material expenditures, and maintenance and workmanship costs to a great extent.









FOR PASSENGER'S CARS

This is a product with perfect optimation, having a balance between sufficient concentration to ensure constant benefits and economic use as long as it is used with each oil change. I bottle (250 ml.) of the product is added to the lubricant in all diesel-driven, gasoline-driven, and LPG-driven vehicles with four-stroke engines that can intake up to 5 liters of lubricant.

BENEFITS

- > Provides 5% to 20% fuel savings,
- > Improves power by up to 10%,
- > Extends the life of the lubricant by up to 100%,
- > Prevents overheating,
- > Decreases CO² exhaust emissions by up to 30%,
- > Decreases vibration and lowers the noise (db) in the environment,
- > Decreases maintenance and workmanship costs to a great extent.







MS 600 ULTRA SERIES

FOR LIGHT
COMMERCIAL
VEHICLES

This is a product with perfect optimation, having a balance between sufficient concentration to ensure constant benefits and economic use as long as it is used with each oil change. I bottle of the product is added to the lubricant in all diesel-driven, gasoline-driven, and LPG-driven vehicles with four-stroke engines that can intake 6-18 liters of lubricant.

BENEFITS

- > Provides 5% to 20% fuel savings,
- > Improves power by up to 10%,
- > Extends the life of the lubricant by up to 100%,
- > Prevents overheating,
- > Decreases CO² exhaust emissions by up to 30%,
- > Decreases vibration and lowers the noise (db) in the environment,
- > Decreases maintenance and workmanship costs to a great extent.



I bottle of the product is added to the lubricant in all diesel-driven, gasoline-driven, and LPG-driven vehicles with four-stroke engines that can intake 6-18 liters of lubricant.







MS 900 ULTRA SERIES

FOR HEAVY
COMMERCIAL
VEHICLES

This is a product with perfect optimation, having a balance between sufficient concentration to ensure constant benefits and economic use as long as it is used with each oil change. I bottle (900 ml.) of the product is added to the lubricant in all diesel-driven, gasoline-driven, and LPG-driven vehicles with four-stroke engines that can intake 19-40 liters of lubricant.

BENEFITS

- > Provides 5% to 20% fuel savings,
- > Improves power by up to 10%,
- > Extends the life of the lubricant by up to 100%,
- > Prevents overheating,
- > Decreases CO² exhaust emissions by up to 30%,
- > Decreases vibration and lowers the noise (db) in the environment,
- > Decreases maintenance and workmanship costs to a great extent.



I bottle (900 ml.) of the product is added to the lubricant in all diesel-driven, gasoline-driven, and LPG-driven vehicles with four-stroke engines that can intake I9-40 liters of lubricant.





GBX

GEARBOX AND
DIFFERENTIAL
NANO

LUBRICANT

MCDP nano boron diamond crystals have a very important role to play in the prevention of adhesion, abrasion, and corrosion wears. Once added to the system lubricant, BORPOWER GBX provides a frictionless working environment that cannot be achieved by the lubricant only, prevents abrasion and overheating on the surfaces due to friction, enables the gears in the gearbox to operate more smoothly, and provides smoother gear shifting.

BENEFITS

- > Minimizes starting abrasion,
- > Provides strong protection against friction abrasion, pitting, and fracturing arising from the sliding and rolling movements of the gears in high and low temperatures,
- > Provides a smoother gear shifting,
- > Lowers the high temperatures,
- > Has superior resistance against excessive pressure and heating,
- > Extends the life of the lubricant,
- > Prevents lubricant leakages due to overheating,
- > Extends the life of the leaktightness equipment,
- > Provides protection against corrosion, prevents rusting,
- > Decreases maintenance and workmanship costs to a great extent.

I bottle (250 ml.) of the product is used in vehicle manual (mechanic) gearboxes that have a lubricant capacity of up to 5 liters.





NANOFUEL FORONE

vehicles, BORPOWER Nanofuel Forone is a NanoHydroBorazine Fuel and octane improving and cleaning effects in the fuel borazine technology.

hydrobor molecules, with very high flash points and heat conductivity, make up a very high quality new generation boron fuel providing superior performance especially in aviation and rocket systems.

Billions of tiny nano hydro boron molecules with positive electrons disperse within the fuel system they are added in, increase the octane values of the fuel oil to a great extent, and make the fuel burn with higher performance and more economically. Moreover, it cleans all sorts of potential particles with corrosion effect within the system, prevents them from piling up, and provides ideal

lubrication of the injection system. In addition, it decreases the emission of harmful exhaust gases, and helps protect the ecological environment.

CONCLUSION

Thanks to its special nanotechnological boron formula, it provides extra economic benefits due to better burning, maximum power, low fuel consumption, and savings from the maintenance. It is a completely environment-friendly formula and contains no chemical or petrol based flammable material.

> Decreases the risk of freezing of the fuel in extremely cold weather.

> If you use NanoFuel Forone together with a BORPOWER MS-Ultra nano lubricant suitable for

your car, extra fuel saving is achieved and you

get many more extra benefits.

Add all of BORPOWER Nanofuel Forone to the fuel tank prior to adding fuel. To get the best results and to achieve maximum savings, it needs to be used regularly with each tank fill. I bottle of Nanofuel Forone is sufficient for up to 50 liters.



BORPOWER NANOFUEL FORONE FUEL ADDITIVE

In recent years, much R&D work is conducted on alternative fuel systems, considering the ecological problems, global heating, diminishing oil reserves, and the environmental pollution created by carbon fuels. In these studies conducted by leading scientific research laboratories, hydrogen systems were identified as a clean, efficient, and safe alternative. However, storage difficulties form the greatest obstacle before the production of vehicles with hydrogen fuel.

The problem of storing hydrogen has led science and technology circles to a quest for other alternative materials, and a near consensus was achieved as a result of the research and experiments conducted, since the second half of the 1970s, that the boron mineral could be the alternative fuel, and the fuel capacity of the boron mineral was recognized by respectable authorities all over the world after countless R&D experiments conducted to this day.







THE EXTRADRDINARY

ADVANTAGES

OF THE BORON FUEL

The superior qualities and advantages of engine run by NANO HYDRO BORAZINE Nanofuel forone boron fuel, developed by NNT Nanoteknoloji A.Ş., compared to gasoline-driven, dieseldriven, and hydrogen-driven engine systems can be summarized as safety, ease of transport and storage, and zero emissions.

> SAFETY

Boron fuel is not flammable. Hence, there is no risk of explosion, or ignition by spark or fire. In case of an accident, so explosion will be observed. By this criterion, boron is a very important fuel and the zero risk associated with its transport makes it unique and superior to all other fuels.

> EASE OF TRANSPORT AND STORAGE

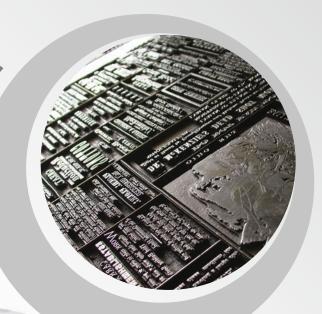
The fuel value of I gr. hydrogen is equivalent to the fuel value of 2.2 gr. boron mineral. At first sight this looks like a disadvantage, but when we consider the fact that the volume of the boron minerals is only one eleventh (I/II) of the volume of I gr. hydrogen, it becomes obvious that the volume of the hydrogen to be stored in vehicles is not economical and hydrogen use is not a viable option. For it is volatile and is the lightest flammable element on earth. Boron fuel has a volume that is II times smaller, is not volatile, can be used for many years to come, and does not diminish. With its inert structure, it will never cause pollution when mixed with soil or water in road accidents or sea accidents, will be nutritious for plants in the soil, and in the sea, will easily be solved and not create an additional risk for it already is contained in the sea water.

> NO GAS EMISSIONS

As an inert material, boron is environment-friendly, and generates no gas emissions after burning. When used in the industry in bulk quantities, besides the automobiles, a product called "boria" is generated, which can be collected in hydrocarbon tanks, pressed, re-processed, and re-used as a fuel. As a boron fuel, NANO HYDRO BORAZINE NanoFuel Forone generates no waste.



FROM THE NATIONAL PRESS





Sanavive borla dopingi



TÜRK TEKNOLÖJİ ŞİRKETİ AB KARARINA RAĞMEN AVRUPA PAZARINA GİRDİ



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FROM THE FOREIGN PRESS

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Nano boron additive boosts economy

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