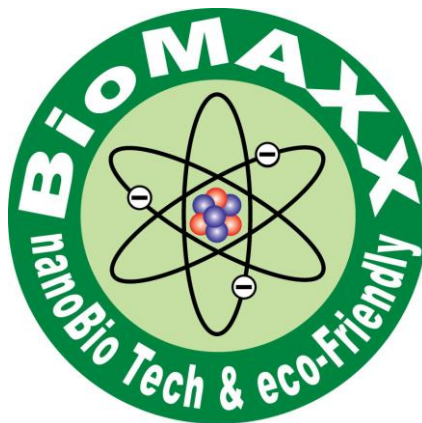


Far Infrared & nanoBio Tech

BioMAXX

Anion, 100% Natural, eco-Friendly



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BioMAXX(water-soluble silicate) ?

Water-soluble silicate (Na_2SiO_3) is a pure substance that combines silicon and oxygen by high concentration of pure quality over 98 % silica raw material at $1,800^\circ\text{C}$ with proprietary nanoBio Technology.

It emits strong **anions and far-infrared rays** and has characteristics with strong alkalinity, permeability, cell activity, and anti-inflammatory properties, disinfection, excellent purification ability, etc

eco-friendly
non-toxic, 100% natural
fast absorption to plant, corp and body.



Together with BioMAXX
For your manufacturing of premium quality,
valuable product

Miracle and extensive usages in high tech industries such as agricultural & livestock materials, water treatment, detergents, automobiles, medical care, cosmetics, and BIO industries.



Home Care: indoor solution
for antibacterial, antimicrobial, deodorization, discoloration

Health Care: edible, Premium Soap, shampoo, Bath additive,
humidifier additive, cosmetics, skin care, toothpaste, health food,
medical application, toxic substance detoxification products, etc.

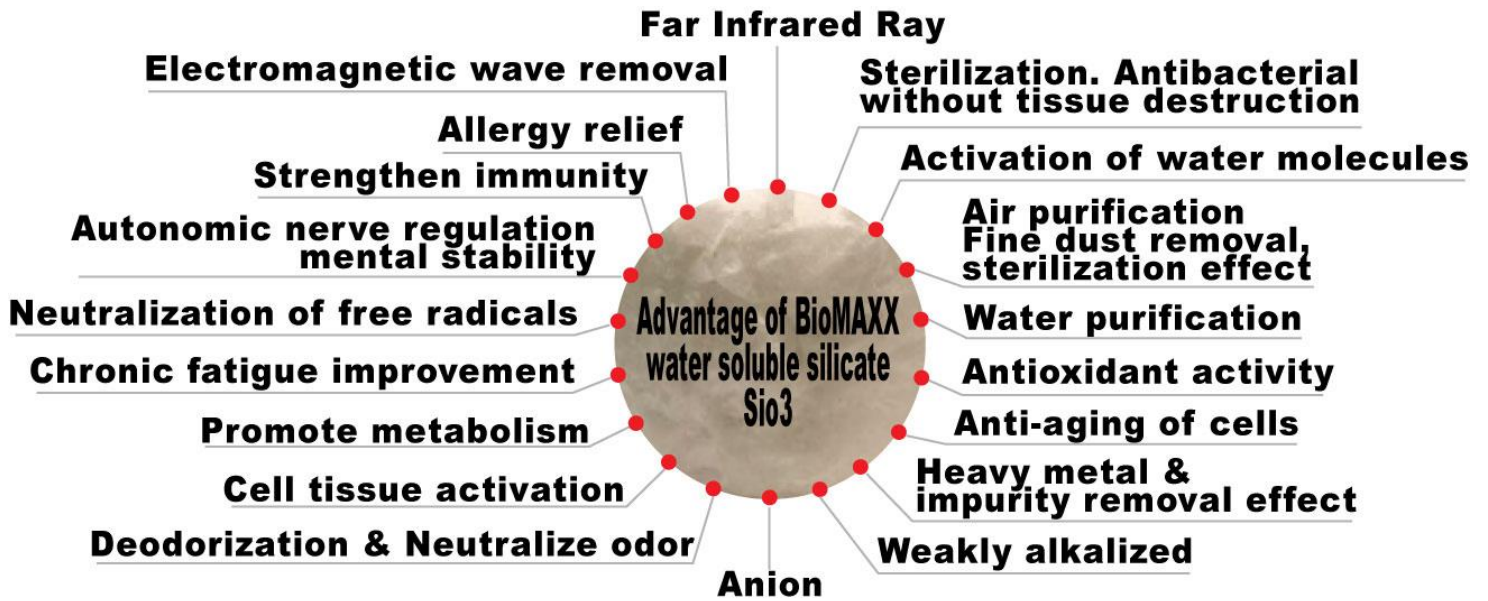
Agricultural, Horticulture,
Vegetable, Fruit, greenhouse, pest control, air control, hydroponic cultivation,
soil improvement, edible, spray, fountain, etc

Livestock, Fishery & Pet applications
edible, spray, fish farm,

water treatment
Piping anti rust prevention, improvement of thermal efficiency, automotive radiator
Public Bath, aquarium,

Environmental application
Soil improvement, water quality management, air control
substitutes for chlorine sterilization, etc.

Advantage of BioMAXX: water soluble silicate(Sio3)





Application to Agriculture Effective of BioMAXX For soil improvement and crop growth

Prevention of pests & diseases, mite
Root increase effect (excellent effect on grass and crop growth)
Soil improvement effect
Maintaining crops freshness
Alkalization of acid soil
Increase crop productivity
competitiveness in quality(Premium super food)
Promote growth



**Increased fruit sugar content average by 3 - 4 Bix
Increases crop yield by more than 20%**

Rice & wheat field, crops, cultivation of various vegetables, orchard, green house cultivation, golf course, reforestation, landscaping Hydroponic cultivation, Cultivation of Flowers





Application to Crops: Rice. Wheat etc

**Effective of BioMAXX For soil improvement and crop growth
& radiation of Far Infrared & Anion**

Prevention of pests & diseases, mite

Root increase effect (excellent effect on grass and crop growth)

Soil improvement effect

Maintaining crops freshness

Alkalization of acid soil

Increases crop yield by more than 15%

Reduction in consumption of toxic pesticide: max 60%

competitiveness in Premium super crop

Promote growth





**Application to Horticulture
Effective of BioMAXX
For soil improvement and crop growth**

effect by radiation of Far Infrared & Anion

- Prevention of pests & diseases, mite
- Root increase effect (excellent effect on grass and crop growth)
- Soil improvement effect
- Maintaining freshness
- Alkalization of acid soil
- Promote growth

**Greenhouse cultivation
Hydroponic cultivation,
Cultivation of Flowers
House Garden**





VEGETABLES

Effective of BioMAXX For soil improvement and crop growth

effect by radiation of Far Infrared & Anion

Prevention of pests & diseases, mite

Root increase effect (excellent effect on grass and crop growth)

Soil improvement effect

Maintaining crops freshness

Alkalization of acid soil

Promote growth

Competitiveness with Premium super food





Effective of BioMAXX For soil improvement and crop growth

Prevention of pests & diseases, mite

Root increase effect (excellent effect on grass and crop growth)

Soil improvement effect

Maintaining crops freshness

Alkalization of acid soil

Increase crop productivity

Competitiveness with Premium super fruit

Promote growth

Increased fruit sugar content average by 3 - 4 Brix

Reduction in consumption of toxic pesticide: max 60%





Pest Control & Air Control with BioMAXX

The outstanding effectiveness of

BioMAXX: water soluble silicate diluent is applied to various kinds of crops, forestry through personal, mechanical spray or air control.

Non-toxic, odorless, harmless substance

100% natural, eco-friendly

Far-infrared rays and negative ions are widely sprayed:

Bacteria removal, antibacterial, odor removal, etc.

Excellent function.





LIVESTOCK

Application to Livestock

Strengthen immunity from infectious diseases
promote growth and improve meat quality (Premium super meat)
Strengthening the immune system from various harmful diseases
Deodorization effect, humidity, temperature control effect in Barn
Increase in fertility
Improvement of Bran and surrounding environment with excellent antibacterial function
100% natural material, no side effects.
Product competitiveness and product price increase effect





Laying hen

Stable egg quality: thick & hard

High spawning rate and extended spawning period

Egg yolk is strong, dark, and less fishy.

The meat is chewy and the smell of chicken is reduced.

Absolute odor and gas reduction



Broiler

The flesh is chewy

Less mortality, less odor and less gas

Shipment period shortened by more than 10 days

Faster growth rate 3 times or more





Pig

The meat taste is good, the moisture is low, and the Corel sterol is low.
No diarrhea, strong intestine,
Clean & lower mortality in piggery
Suppresses odors and pests in piggery
Eat less food
The breeding pig's estrus improves and the fertility rate is improved.
Reduces fat content and improves meat quality



Sheep

Reduce Breast cancer & calculus
Produce much milk
Prevention disease and odor
Effect of growth rate
Improves good meat quality and taste



Cow

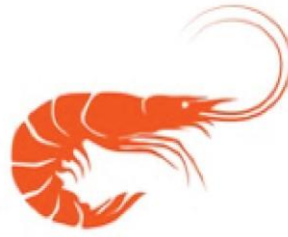
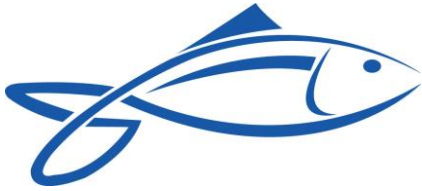
Reduce Breast cancer & calculus
Produce much milk
Prevention disease and odor
Effect of growth rate
Extend the life of the Bull
Improves good meat quality and taste



Fattening cattle

Excellent meat quality and low moisture
Marbling degree is faster
No need to feed premium forage
Very fast growth
Reduce smells





Fish Farm, Freshwater (eel, shrimp, trout, etc.)

Effect by radiation of Far Infrared Ray & Anion

- Detoxification and heavy metal discharge
- Strengthening immunity
- Increase Natural healing power
- promotion action of Endorphin & Interferon
- Outstanding Oxygen supply action
- Dehydrogenation

How to use

Applied BioMAXX 1L per 20-30 tons of fresh water





Effect by radiation of Far Infrared Ray & Anion

Non Toxic, 100% natural & eco friendly

Maintains the proper pH of water quality

Protects the skin & scales of fish,

decomposes heavy metals

Reduction of fish-specific odor & fishy odor

Prevention of waterborne diseases

Excellent sterilizing power to sterilize all viruses such as Legionella and E. coli in an instant.

How to use

Applied 1L per 20-30 tons of fresh water

Applied 5mg per 25-30L of water tank



antibacterial Sterilization Test-Aquarium



In an aquarium that has not been changed for **more than two years**, the **water is crystal clear and the fish are lively.**

When water evaporates and replenishes, if added little BioMAXX water soluble silicate diluent, you do not need to change the water, and you only need to wipe away food debris or excrement left on the glass wall.

This is evidence that no harmful bacteria can survive in antibacterial Sterilization process.



Pet care

Various beneficial effects such as sterilization and purification power of water soluble silicate work on all animals such as dogs, cats and birds.

If feed water-soluble silicate diluent in the drinking water of a pet, the smell of the animal disappears, and the immunity against various diseases is strengthened, making it stronger against diseases.

As a result of poorly healed skin disease, spray water-soluble silicate diluent on the itchy or hairy area, or in bath water.

improve symptoms.

How to use

Edible water for pets
with BioMAXX 1,000 times dilution

When spraying for deodorization
1,000 times dilution





Effectiveness of Bath(Lower Body Bathing) with BioMAXX

- Radiation of Far Infrared & anion
- Skin beauty effect
- Relieve fatigue
- Excretion of waste products and toxins
- Muscle relaxation
- Improved blood circulation

How to use

- BioMAXX 1,000 – 2,000 times dilution into water
- General 50ml – 100ml BioBAXX into Bath tube





BioMAXX for soap manufacturing

Strong & Active Radiation of Far Infrared & anion

water soluble silicate with 100% natural, nontoxic, eco-friendly

To develop **Premium soap with natural**

Cleansing and moisturizing effect: Excellent cleansing and moisturizing function of skin or scalp. It has a good moist feeling and helps the skin to turn into dry due to the moisture absorption and lubrication action that replenishes moisture.

Improves and maintains skin elasticity

Cleansing effect: Washes off contaminants and impurities from the skin, protects the skin from UV rays, has excellent skin care effects that are irritated and damaged by fine dust, prevents skin damage caused by troubles, and helps to improve wrinkles.

It prevents aging of the skin, penetrates deep into the skin with powerful far-infrared rays and negative ions emission functions, helps skin respiration and metabolism, maintains clean and healthy skin, and suppresses the environment in which Demodex inhabits, so it relieves itching. It is also good for skin and scalp health by helping weaken freckles, spots and hair roots caused by skin aging.

Skin regeneration function: The powerful antioxidants contained in the soap neutralize heavy metals and pollutants for contaminated and damaged skin from exposure to air pollutants.

You can expect the sun protection effect to make the skin elastic.

Anti-aging skin

Wound healing function: Soothes itchiness caused by acne and atopy. Eczema, inflammation

Antibacterial action: Demodex removal

Protects the skin with strong antibacterial action

Applied for solid & liquid soap, and Hair Shampoo





BioMAXX for hair shampoo manufacturing

Strong & Active Radiation of Far Infrared & anion water soluble silicate with 100% natural, nontoxic & eco-friendly
To develop **Premium shampoo with natural**

Strong & Active Radiation of Far Infrared stimulating & awakening follicle, scalp, pore.

Prevent hair loss

Helps for scalp & hair health

Relieve scalp inflammation, etc.

Antibacterial action reduces dandruff occurrence

Remove smell on crown of the head





Home Care with BioMAXX

Effect by Radiation of Far Infrared Ray and Anion

revolutionary indoor solution for antibacterial, antimicrobial, deodorization, discoloration

Virus infectious prevention

Removal Germs, house dust mite

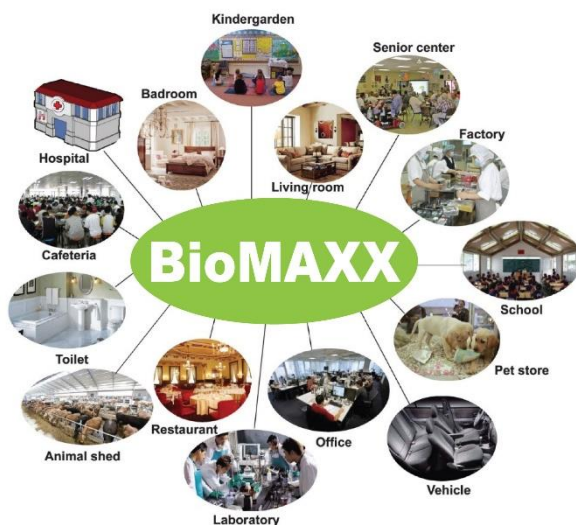
Keep long term self air purification and anti-air pollution

Sterilize and decompose harmful bacteria such as viruses and bacteria immediately after spraying

Non Toxic, Non-alcoholic and 100% natural(ingredient of BioMAXX is approved as a food additive by the Ministry of Food and Drug Safety.)

eco-friendly disinfectant.

No harm to human body and animals and plants



Application to be used

1. House, Office, school, church:
Easy removal of remained formaldehyde and VOC after constructed and re-modeling
2. Baby Care Center, Kindergarden, School, Sanatorium:
Keep sanitary clean especially for the infants and the elderly
3. Hospital: Removal and prevent Hospital related infections
Prevent secondary infection
4. Toilet, Bathroom, Living Room, Bedroom etc:
5. Automobile Inside: Removal toxic, Formaldehyde, toluene
Cigarette & pet smell, mold & bacteria Harmful smell
6. Animal Shed



7. Laboratory
8. Super Market
9. Senior Center, Kindgarden,
10. Factory
11. contaminated places: Industrial sites, livestock, waste landfill, sewage treatment plant, etc.

How to use

Spraying method

After diluting BioMAXX by 100 times, spray at the proper distance(over 25cm) to the object.



Application material:

any materials: textile (curtain, blanket, pillow, sofa, carpet, shoes) & leather sofa, wooden furniture & decoration, metal, plastic, ceramic floor & toilet, wall paper except glass, all indoor decoration & construction materials



How to use
BioMAXX 500 – 1,000 times dilution
into purified water





Strong & Active Radiation of Far Infrared & anion
water soluble silicate with 100% natural, nontoxic, eco-friendly
To develop **Premium humidifier additive with natural**

by Strong & Active Radiation of Far Infrared
Odor removal,
Maintaining a clean room with antibacterial action
Helps relieve fatigue and calm down
Allergy relief
Removal of active oxygen

The effect By radiation of anion(negative ion)
Strong cleaning power in room
Autonomic nerve regulation
Autonomic nerve control ability
increase immunity,
sterilization effect

How to use
BioMAXX 500 – 1,000 times dilution
into purified waster





Rust inhibitor with BioMAXX water soluble silicate

Excellent anti-corrosion function

Excellent anti-scale function

Non-toxic to human body

Environmental friendliness

Water soluble silicate improves water quality and prevents piping corrosion with harmless to the human body.

Toxic free anti rust additive with excellent of environmental issues.

Water soluble silicate is Eco friendly and proven nano technology for excellent effects in inhibiting corrosion and improving water quality.

The characteristic of Water soluble silicate not solidified or not calculus, tasteless, odorless, and non-toxic.

Forms a thin film on pipes or metal surfaces to prevent contact with air or water When dissolved in water, it is ionized with electrochemical affinity to form a soft film (1um) on the surface of metal or non-ferrous metal to suppress corrosion and rust phenomenon.

Compared to existing products, it is harmless, tasteless, and non-toxic, making it optimal for beverage systems. Regardless of high temperature and low temperature, solubility is constant and does not interfere with heat conduction

Dissolved water is an inert alkali that softens hard water components such as calcium and magnesium in raw water.

Can be used irrespective of cold or hot water, and its solubility is effective not only for iron but also for non-ferrous metals

NON TOXIC

Prevent water pollution by activating dissolved oxygen(DO) in wastewater

By preventing corrosion and rust in water supply pipes and heating and cooling pipes, it semi-permanently protects pipes and facilities, preventing loss of manpower, time, and expenses from pipe corrosion and rupture. Used for clean water.

How to use

Water that flows once and cannot return - Use Solid silicate powder

Circulating water and stationary water- Use liquid silicate
Install a dispenser in the inlet line of raw water and insert BioMAXX inside to dissolve the proper amount (4-7ppm).

Input control according to pipe condition
No effect on temperature.

Calculation standard/daily water quantity x 5g
Input standard 7-10gr depending on scale status



NON TOXIC

Comparison of silicate rust inhibitor and phosphate rust inhibitor

	silicate rust inhibitor	Phosphate rust inhibitor
Effects on the human body	Silicate rust inhibitors are approved by FDA as food additives	Drinking phosphate-added tap water causes deficiency of calcium and prevents bone growth, and it is reported to the medical community as causing blood vessel strengthening, uremia, neurosis, renal failure, and high blood pressure.
Environmental issues	Increases the amount of dissolved oxygen (DO) to prevent eutrophication and purify the water quality to inhibit the propagation of Legionella bacteria	By promoting eutrophication, it promotes the reproduction of green algae or red algae in the water, and causes the death of fish and microorganisms due to lack of oxygen in the water.
Antirust effect	Anti-rust effect of ferrous and nonferrous metals	Anti-rust only for iron, not for non-ferrous metals
Dissolved ingredients	It dissolves constantly at low and high temperatures, allowing accurate injection. Does not stick to the dispenser and soleplate	P ₂ O ₃ exudes the greatest effect in neutral, but it is transformed into SO phosphoric acid as the temperature rises, and the effect can be seen only when continuously added.
Ingredient usage Technology	SiO ₃ 4ppm – 7ppm The fourth invention in the world after Germany, the United States, and Japan. There is a large amount of high-quality raw materials in Korea	P ₂ O ₅ 6ppm – 10ppm



**BioMAXX water soluble silicate
to hot spring, public bath, swimming pool**

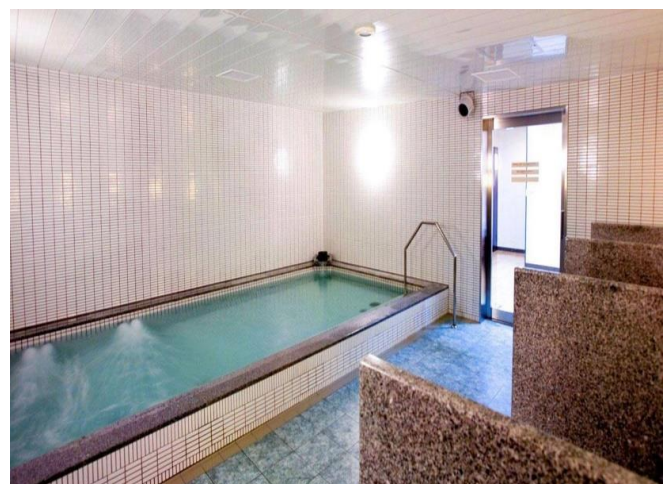
non-toxic, eco-friendly
100% natural, pollution-free product
with alkali properties and self-cleaning ability (far-infrared rays).

When added into hot spring, public bath, swimming pool

promotes blood circulation
keeps the skin smooth and elastic with excellent moisturizing effect
effective for curing acne, dandruff, eczema, rash,
water purification with far infrared radiation
Maintaining clean water quality
Odor removal

How to use

Applied BioMAXX 0.5L per 10 - 20 tons of fresh water





Car radiator rust inhibitor

It completely removes the scale (rust) from various radiator engagements such as automobiles and heavy equipment with rust circulation and scale, and maximizes the cooling effect of the radiator due to the inhibitor action. In addition, it makes air conditioner in summer and heating in winter smoothly.

removes the scale (rust) from various radiator engagements such as automobiles and heavy equipment with rust circulation and scale,

maximizes the cooling effect of the radiator by the inhibitor action
In addition

More smooth & silent for Air conditioner in summer and heating in winter

effect of BioMAXX: water soluble silicate in radiator

Anti-Rust

Thin film ($1\mu\text{m}$) is formed inside the radiator to prevent contact with air or water.

softens the existing rust and cleans the circulating water.

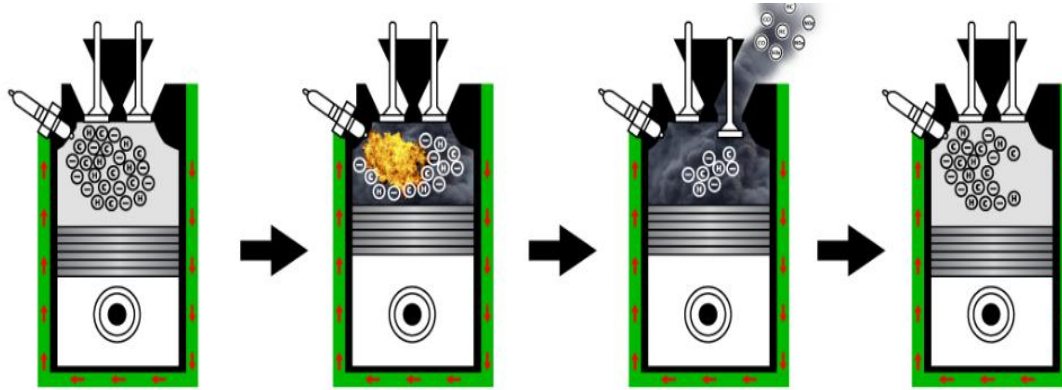
prevents clogging by removing rust or scale (scale) from the radiator.

When the temperature rises in summer, the heat accumulates through the cooling action.

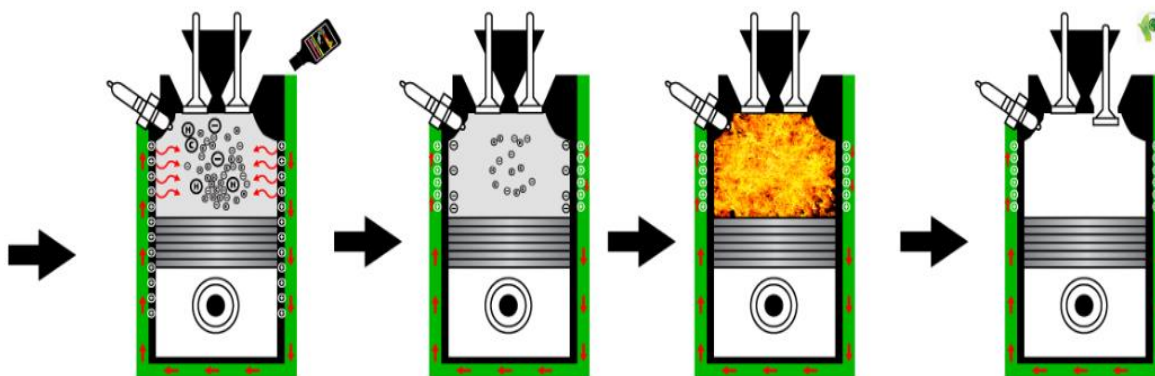
Even if discharged without a separate wastewater treatment facility, natural alkali components neutralize soil and water to save the environment.

additional effective by far infrared radiation

emission reduced,
fuel saving.
Power improvement,
Noisy reduced



incomplete combustion
waste 35% - 25% fuel with emission



inject nanoMAXX into Radiator
atomized fuel size by electron wave

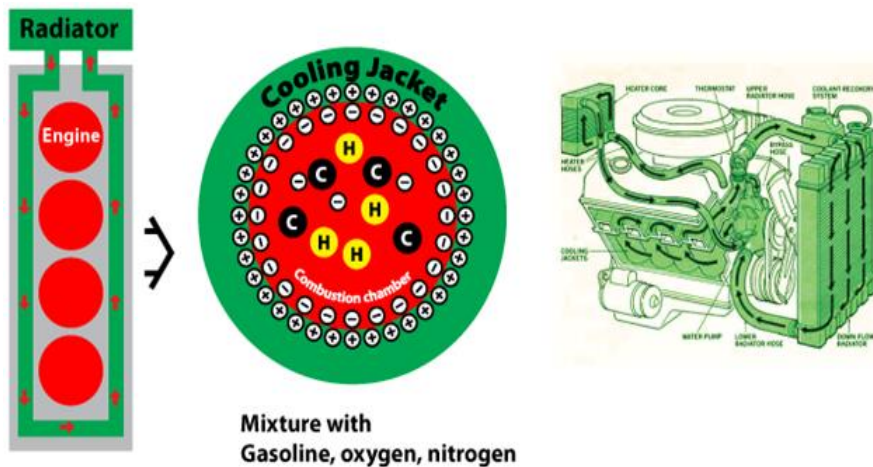
electromagnetism radiated &
H & C bonded between wall of
combustion chamber and cooling jacket

complete combustion
Fuel saving 8 - 30%

no emission

When fuel triggered in cylinder, generally 70 -75% fuel converts to kinetic energy and balanced fuel (30 – 25%) is wasted with harmful emission during high speed movement of piston.

Upon injection of bioMAXX into coolant radiator, anode + generated on wide surface of water circulation jacket next to engine combustion chamber and anode + with hydrogen and carbon in triggered fuel is well bonded by far infrared electromagnetism induction to maximize complete combustion.



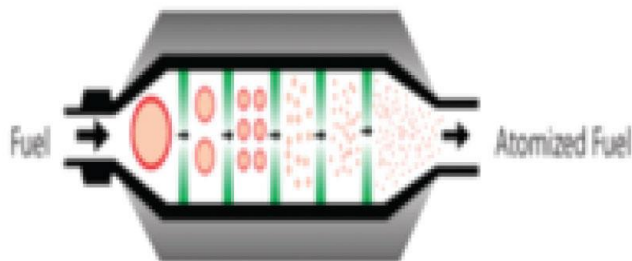
Complete combustion of fuel mixture is achieved by electromagnetic reaction on widely spread surface of chamber and atomized fuel size which is transformed by far infrared wave energy accelerates high level combustion efficiency.

High combustibility with bioMAXX in cylinder contributes to positive fuel saving, power improvement, reduction of emission & noise.

bioMAXX; water soluble silicate concentrate must be added into conventional type of coolant.

Liquid: slightly alkaline
 Ingredient: Water soluble Silicate ($\text{Na}_2\text{SiO}_3 \cdot 10\text{H}_2\text{O}$)

Capacity: Small vehicle 20ml BioMAXX
 Large vehicle 30ml BioMAXX
 Heavy equipment 50ml BioMAXX





Purification of the environment

Environmental substances that pollute the air have positive ions, but the negative ions of water soluble silicate neutralize positive ions to quickly purify contaminated air.

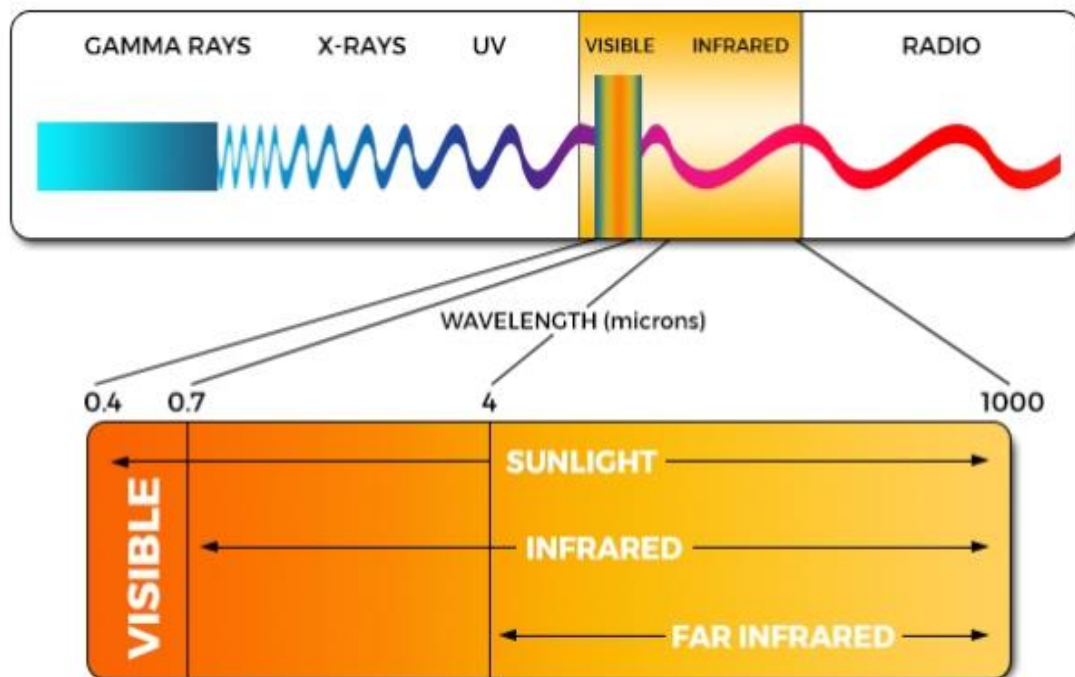
Quickly remove all odor-causing substances such as formaldehyde odor, cigarette smoke, food cooking odor, gas burning odor, sulfur dioxide gas, and carbon monoxide (briquette gas) caused by sick house syndrome to create a pleasant indoor environment.

Quickly removes bacteria, dust and pollen mold, which are the causative agents of rhinitis.

Restores land that has been acidified and lost fertility.

Unauthorized, but when radioactivity (cesium) was leaked from Japan's Fukushima nuclear power plant, the only silicate-containing substance among 400 test substances proved to have a miracle-like effect in which only silicate-containing substances evaporate to almost zero in 72 hours.





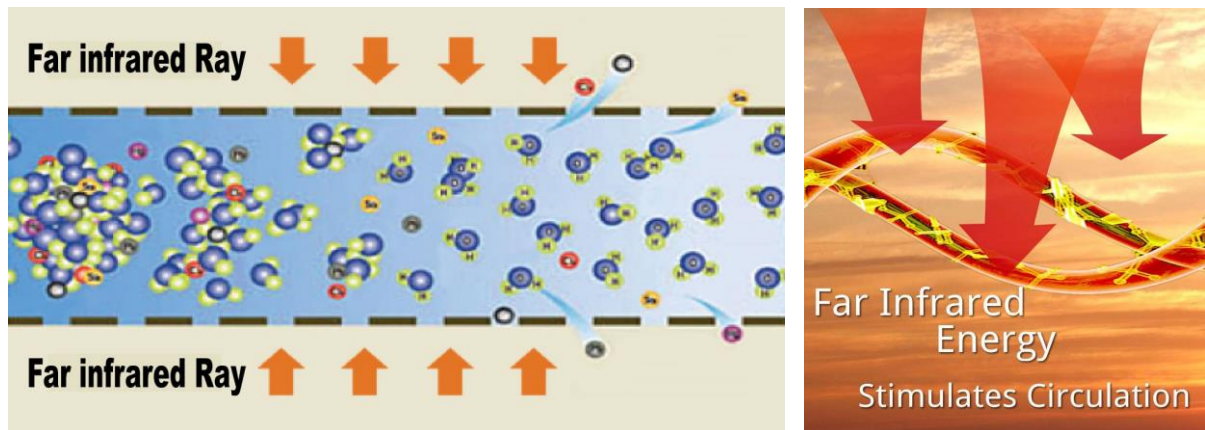
Far infrared Ray(FIR)

Far-infrared rays are light with a very long wavelength between 5.6 μm - 1,000 μm .

Only far-infrared rays with a central wavelength of 8-11 μm are beneficial to the human body, Agricultural & livestock.

It is a ray of light that is essential for health promotion by promoting biological activity.

Far-infrared rays go through space at the same speed as light, and when absorbed by an object, energy changes to heat. Convert to positive energy such as the cultivation effect of animals and plants: widely applied from advanced materials such as health care products, electronics, construction materials, beauty products and feed additives (toxin binds, immunity enhancing agents), agriculture (fertilizer), livestock farms, water purification, wastewater treatment, etc. to daily necessities.



Far-infrared rays activate water molecules

Far-infrared rays break water molecules into small pieces to help release harmful substances out of the body, and increase the adhesion and permeability of water molecules to cell membranes to help revitalize the body.

Almost all rocks containing far-infrared rays have failed to get positive effectiveness due to the lack of economy and the lack of far-infrared rays content:

Ore that emits far-infrared rays such as elvan, red clay, sericite, etc., has a very insignificant amount of far infrared emission and insoluble minerals that are crushed in small amounts is extremely insufficient to see the effect due to lower rate of absorption.

**Compared with insoluble stone particle,
Water-soluble silicate (Na_2SiO_3): The effective of far infrared**

Water-soluble silicate emits powerful far-infrared rays, penetrates deep into the skin, and moves cells with light waves.

**Emission of far-infrared rays:
Water-soluble silicate (Na_2SiO_3) 0.568A
Germanium 0.439A**



pure quality water soluble silicate without impurities developed by Korean Scientist has completely soluble in water and extraordinary effectiveness in far infrared radiation.

100% pure quality Water-soluble silicate (Na_2SiO_3) is an indispensable mineral for all living things on Earth and highly estimated all over the world now as top mineral becoming the basis of life.

the purest "natural stone" among the minerals that God gave to humans and nature.

emits most stable far-infrared ray beam.
absorbed by many substances and causes a thermal reaction.

Release very stable far-infrared rays and negative ions to remove odors, promote blood circulation, sterilize, and increase immunity.

E. coli or Legionella bacteria are sterilized in an instant with antibacterial/sterilizing properties

Less than 0.4 nanometers of water-soluble silicate is permeable quickly into the cell

function of purifying chemicals or pollutants

works to activate cells

Odor removal : Refrigerator odor removal, etc.
Decomposition of cation, removal of odor, activity to expand oxygen of anion

Promotion of growth

Promote metabolic activity, improve growth rate
pigs, chickens, corn, etc. Proof of comparative advantage in plant growth test results

Life Extension: gold fish experiment = Extend the average life span (30 hours → 60 days) when sealed

Water purification: sewage. Used for wastewater treatment

Increased immunity: Excellent effect in preventing diseases

Harmless to the human body: Unlike magnetic force or ultraviolet rays, it is completely harmless even when exposed to a lot.

Reduces chemical and heavy metal damage

Maintaining the freshness of food

Insect repellent effect: Prevents insects living in humid places such as cockroaches

change to weak alkali constitution

Saving energy

Efficient heating by penetrating deep into the material

Sterilization effect

Sterilization at low temperature without tissue destruction or damage

Activation of water molecules

Inhibits bacterial penetration and maintains freshness by activation of water molecules

Growth promotion: pigs, chickens, corn, etc. plant

Life Extension: Goldfish experiment

Extend the average life span (30 hours → 60 days) when sealed

Water purification: sewage. Used for wastewater treatment

Increased immunity: Excellent effect in preventing diseases such as colds due to low probability of getting sick and having resistance

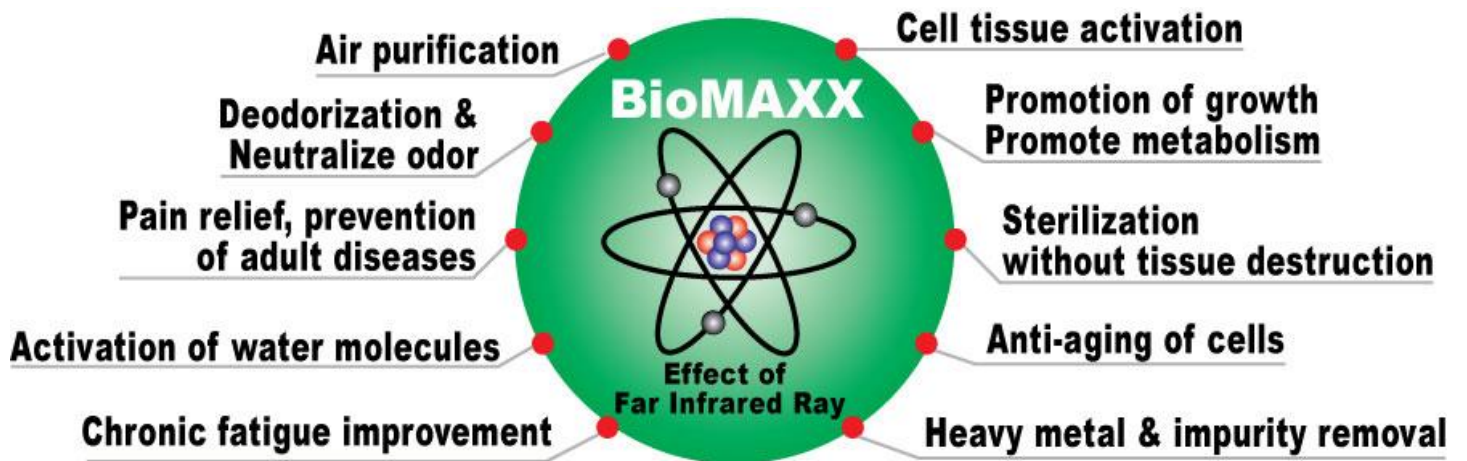
Harmless to the human body: Unlike magnetic force or ultraviolet rays, it is completely harmless even when exposed to a lot.

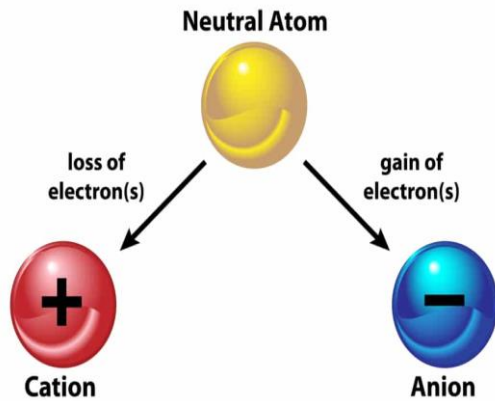
Increases the sugar content of fruits: apples, grapes, etc.

Sleep effect: You can get a good night's sleep even in a short time while going to bed to relieve fatigue

Insect Repellent Effect: Prevents insects living in humid places such as cockroaches







Characteristics of anions from BioMAXX

Air purification action

Various pollutants present in the air, such as cigarette smoke, sulfurous acid gas (SO₂), nitrogen oxides (NO_x), carbon monoxide (CO), and various organic substances form cations, and anions are adsorbed and precipitated by these cations to remove air. Keeps them clean and fresh

Dust removal and sterilization

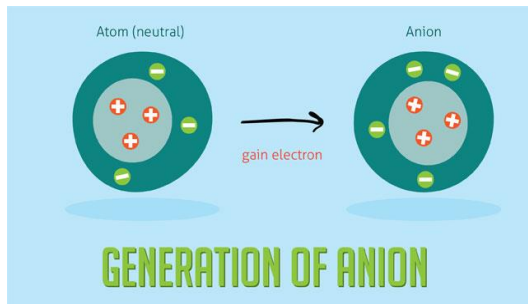
Cations make the air turbid by allowing germs, dust, pollen mold, and contaminated particles to float freely, while negative ions neutralize and remove them.

Blood purification action

Healthy blood is weakly alkaline. Cations make blood pathologically acidic, and negative ions neutralize acidic blood, converting it into resistant weak alkaline blood, preventing adult diseases, cancer, and allergic diseases.

Cellular activity

If you look at blood with a lot of negative ions, you can see that the movement of the cells is noticeably high. This facilitates the exchange of electrical substances in the cell membrane, facilitates the supply of influences within the cells, and allows waste products to be discharged to the outside of the cells. The increase in negative ions eventually boosts the cell's metabolism, resulting in increased calcium, which in turn makes the muscles, especially the myocardium, active, making the heart healthier.



Resistance to increase action

As negative ions in our body increase, gammagropyrin in the blood also increases. Gamma globulin is a type of protein contained in serum and contains antibodies with immunity among its components. As gamma globulin increases, resistance to various diseases also increases, and the body becomes healthy.

Autonomic nerve control action

When the negative ions are more than 1,000 per cc of air, it increases the activity of α -waves in the brain to relieve anxiety and tension, and suppresses the neurological hormones serotonic and freehistamin to improve psychomotor performance and In addition, negative ions regulate the autonomic nervous system, which responds to our thoughts and feelings, such as all blood vessels and intestines, to be beneficial to the human body.

Pain relief

Negative ions increase ionized calcium and produce substances called endorphin and enkephyrin. When the ionization rate of calcium and sodium in the serum rises, it cleanses the blood, recovers fatigue, restores stamina, and relieves pain by activating the cells in the areas where there was a strong pain.

Relationship between average life span and concentration of negative ions

German medical scientist Dr. Ertege reported there is a remarkable difference in the average life span of each local resident according to the concentration of negative ions in the air we breathe.

average life span of each region varies from 85 to 50 years old.

The negative ions in nature are almost multi-neutralized by the cation emitted by the enormous smoke of automobiles, pollutants and industrial waste, and the negative ions measured in downtown Metropolitan cities

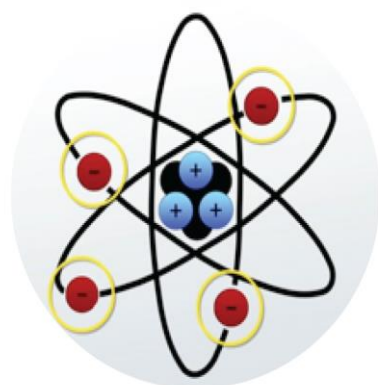
showed a value of almost zero, and the minimum necessary to lead a healthy life. It is reported that the amount of about 1,000 in the volume of 1cc, which is the concentration of negative ions, is insufficient.

Moreover, the fact that a lot of positive ions are generated by various chemical substances applied to interior decoration materials and various home appliances and office equipment in the room, which neutralizes negative ions, has almost no negative ions. Will.

Life expectancy in an area rich in negative ions = 85 years old

Average life span in the middle area = 75 years old

Average life expectancy in areas lacking negative ions = 65 years old



Negative ions are absorbed through breathing or through the skin. Anions promote cell metabolism, increase vitality, clear blood, stabilize nerves, recover from fatigue, and increase appetite, so they are called [Air Vitamins]. .

Air is composed of 78% nitrogen, 21% oxygen, and 1% of various gases including argon. In nature, atoms and molecules in the air are ionized by cosmic rays such as ultraviolet rays, and even when a thunderstorm strikes, they are ionized by a strong electric field.

In addition, it is ionized by radiation from the radiation materials, and some negative ions are generated through carbon assimilation of plants. Negative ions are generated near waterfalls or when it rains. In the air, nitrogen is about 3 times more than oxygen, but oxygen binds with electrons to form negative ions (high electron affinity). Therefore, oxygen anions are almost always the anions in the air.

The best places where we can feel negative ions with our bodies are waterfalls or pine forests. The fresh air you feel here comes from negative ions. You can experience similar experiences in parks after rain, ravines with fast currents, and wavy beaches. Waterfalls and forests contain 800 to 2,000 negative ions per cc of air. Conversely, positive ions are abundant in polluted dry air.

Most of the negative ions in the air are oxygen anions and are called health ions. When oxygen anions are absorbed through breathing and skin, they react with hemoglobin to dissolve in the blood, and are transported to the cells of the body through blood circulation to produce various nutrients and energy through metabolism.

Oxygen anion promotes health by smoothing metabolism, and promotes natural healing power by activating the immune system. Therefore, we must make an effort to achieve the dream of disease-free longevity by creating an air environment rich in oxygen anions, that is, health ions.

Anion distribution (number of negative ions per 1cc)

- * Indoor or city center = 30-70
- * Outdoor and downtown area = 80-150
- * Outside the city center = 200-300
- * Mountains or fields = 700-800
- * Deep in the mountains, waterfalls, and beaches = 1,000-2,000





The effects of ions of cations and anions on the human body are shown

Air with a lot of negative ions	Air with a lot of cations
Immunity improves	Dizziness, vomiting, headache
Mental stability	Anxiety, anxiety
Improving the functioning of the body	Hardening of the arteries
Improves respiratory function	Asthma, allergies
Relief of fatigue	Dementia, aging, etc.
Refreshing	Fatigue



	Negative ions	Cations
Blood vessel	Expand	reduced
Blood pressure	normal	becomes high
Blood	be alkaline	be acidic
Urine	Diuretic is promoted	Diuretic is inhibited
Breath	Less frequent & comfortable	increased & painful
Pulse	reduced	increased
Fatigue	Accelerates recovery	Recovery is late
Autonomic nerve	Soothes function	Tension function

In the case of some mineral resources, rare earth minerals such as tourmaline, precious stones, and mosaics are used for negative ion bracelets and necklaces.

It emits negative ions, but it cannot be effective due to its inherent limitations and some emits the dangerous radiation.

Environmental pollution and negative ions

Living in a contaminated modern society, we drink polluted air every day, whether we want or not, such as polluted air from factories and waste treatment, incineration facilities, and automobile exhaust. We live in contaminated air such as filthy odors, dust and mites generated from clothing and furniture.

This pollutant causes positive electricity to be charged and turns each invisible dust into cation. When these cations are absorbed into the body, cellular activity in the body weakens, and the function of cells normally absorbing nutrients or excreting waste products weakens. As a result, we lose our health little by little and cause various diseases.

We enjoy anion from natural environment: clean air, fresh forest, waterfall. But **the way to get non-harmless & abundant negative ions is BioMAXX.**

The main action of BioMAXX

Strong negative ions and far-infrared radiation

Rapid blood purification

Strengthening of blood vessels

Purification of the human body-Detox

Strong antibacterial and sterilizing power

Anti-inflammatory pain relief

Allergy relief

Removal of active oxygen

Calcium transport

Strong cleaning power

Strong decomposition power

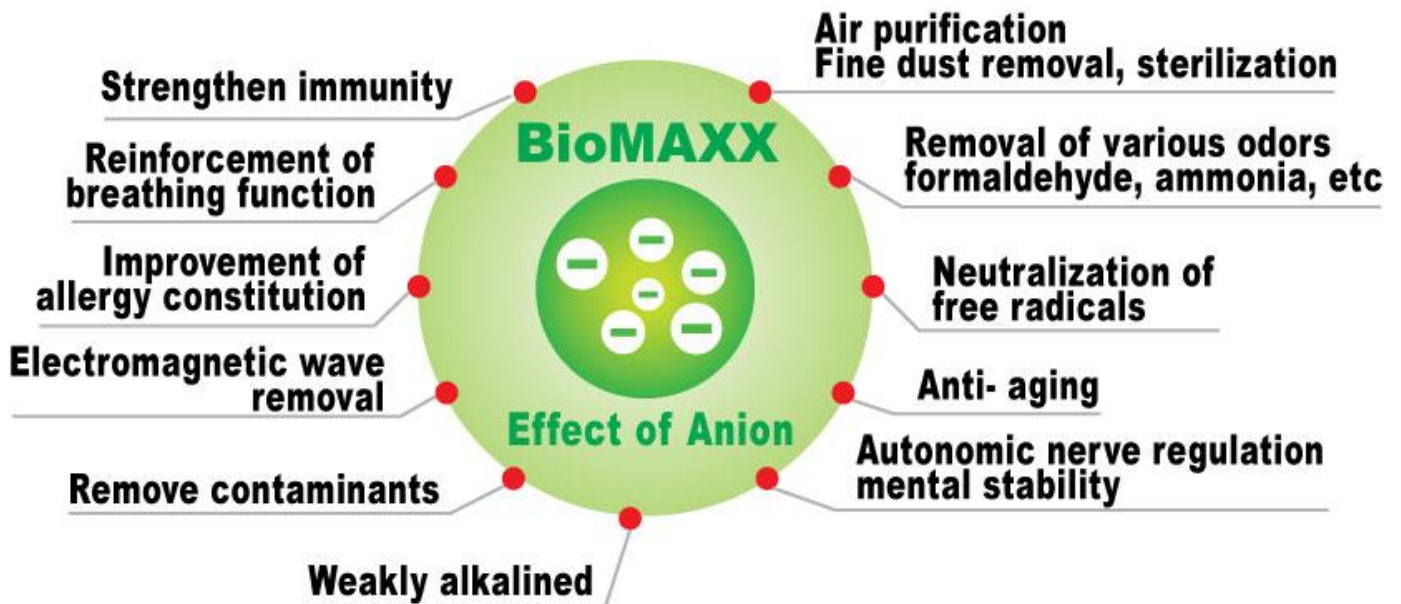
Elastic skin care and diet

Reinforcement of nutrient absorption

Autonomic nerve regulation

Clean the environment







Currently, 4 countries: Korea, USA, Germany and Japan have the technology of water soluble SiO_3 , but **only Korea could produce pure quality of water soluble SiO_3 as only Korea mines 99.8% natural raw material in Korea.**

Only Korea has abundant reserves of high-purity silica gemstones.

High-purity silicate minerals cannot be mined in other countries except Korea.

Application of water-soluble silicon in each country

Water treatment agent, Agricultural & livestock related
by

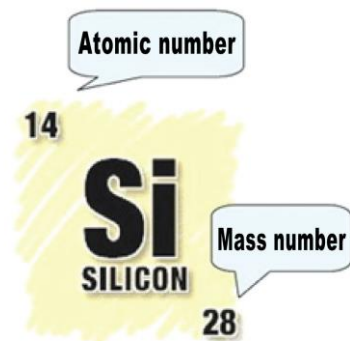


Food additives by US FDA



Mineral by Germany BWG
Medical Water by Japan Health and Welfare





si/Silicon

known as the raw material of glass, is an element with the element symbol No. 14 and is present in more than 99% of silica (white pebble, quartz), and occupies 18% of the earth's weight as the second largest element after oxygen.

Si efficacy

It is an essential mineral that is indispensable for the composition of all cells in the human body and healing of all diseases, and has the effect of restoring the polluted environment.

It exists in the cell membrane of the human body producing collagen and strongly adhering each cell for maintain the shape and elasticity of the human body. As the growth phase passes, aging begins as it is not accumulated but is depleted.

Along with the function of transporting calcium to the bones during growth It produces collagen in the bones and attaches the transported calcium to the bones.

Water Soluble Silicate $\text{Na}_2\text{SiO}_3\cdot 10\text{H}_2\text{O}$

We developed Water-soluble silicate which could be consumed from Si mineral material.

Si accumulates when young, but does not accumulate after the growing period, but gradually depletes and aging begins.

Si is not easily ingested from a food, but water-soluble Si which could be absorbed into the body in large amounts has been developed by Korean Scientist.

Our manufacturing water soluble silicate

By nanotech International

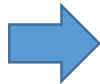
World unique & proprietary nanoBio Technology



High-quality water soluble silicate could be produced only with over 99% purity of silica gemstones



Silicate mineral SiO_2 .



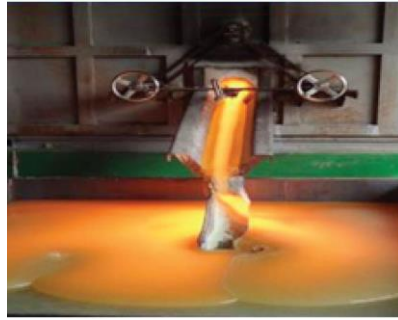
Heated silicate stone SiO_2



Water soluble silicate crystal SiO_3



water-soluble silicate concentrate SiO_3



heating silica mineral with a purity of over 99.8% at 2,200 degrees (lava temperature) in a furnace for 17 hours.

The silicate mineral is **sublimated** into a gaseous state of **0.4 nanometers**

It becomes a **solid water-soluble crystal mineral**

100% Natural mineral becomes **water-soluble silicate liquid** with **proprietary nanoBio technology**.





Lack of si

When depleted with si, people age quickly

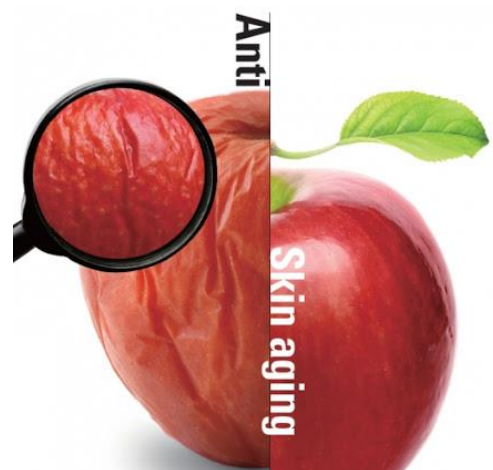
The skin becomes saggy and wrinkles a lot.

The nails are broken and a lot of white hair and loss occurs.

The back is bent, the bones are deformed, pain occurs, and osteoporosis occurs.

Decreased resistance to cancer and other diseases

Loss of elasticity of blood vessels, arteriosclerosis, cerebrovascular disease, and heart disease occur.



Strong penetration of si

Water soluble silicate is an ultrafine particle of 0.4 nanometers and has excellent penetration and absorption power into cells such as skin, food, and livestock.

Penetration Test with Green Tea



Cold water + green tea

Cold green tea water + water soluble silicate addition

If water-soluble silicate is added to cold green tea, it can be quickly and darkened.

water-soluble silicate with ultra-fine 0.4 nano particle could be **extracted and absorbed immediately**. It is a proof that penetration power of water-soluble silicate is excellent.



Penetration Test - Sweet Potato



Tap Water

Tap Water+Water Soluble Silicate

In tap water, it is easy to absorb nutrients to roots and stems, growing up roots and stems. In water-soluble diluent, it provides stable nutrition on body.

and hardly makes roots and juliennes.

Sweet potatoes that are deprived of nutrients in stem and the roots have little nutrients left.

Above test shows Water Soluble Silicate stably supply nutrients of all plants to the body.



Strong antioxidant power with BioMAXX

Being sick and getting old means that the human body oxidizes and iron (Fe) component in the body is rusty.

Si has is a super-strong reducing power of ORG (oxidation reduction index) approx -400mv, which helps to prevent oxidation of the human body.

This action removes free radicals, and is effective in improving skin aging, hair loss, and age spots through the regeneration of cells.

Acidified blood cells are regenerated and NK cells are activated to increase immunity

Antioxidant power experiment iodine experiment



When water-soluble silicate is added to the dilute solution of strong acidic iodine, it is **instantly neutralized** with clear water.

water-soluble silicate plays an important role in purifying acidified human body, soil, plants, and animals immediately.

oxidation experiment:

Oxidation process experiment using general material and BioMAXX



Experiment day 2

Experiment day 5

Experiment day 20

Even after 20 days of experimentation, the water containing BioMAXX does **not oxidize** regardless of the concentration of the diluent.

It is said that 90% of free radicals are the cause of 200,000 species of all diseases on the planet.

The World Health Organization's WTO also reports that 70% of human diseases can be solved by only eating clean water.



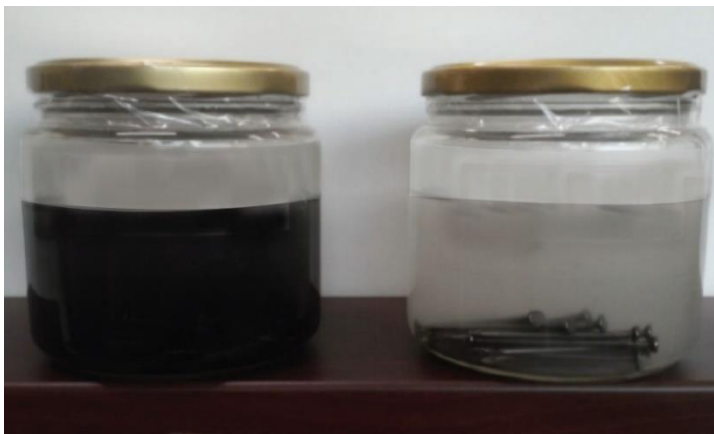
antioxidant activity tests - Various water



Water purifiers, mineral water, hydrogen water, calcium water, etc.

All of the nails immersed in various healthy waters started to rust after about ten days, but the nails immersed in BioMAXX(water-soluble silicate diluent) did **not rust** for more than a year.

Antioxidant power test - nail



Ordinary water

Ordinary water + water-soluble silicate diluent

Unlike ordinary water, nails dipped in water-soluble silicate diluent do **not rust**.

It has been proven that water-soluble silicate diluent can help prevent oxidation of the human body and animals and plants by acting as a powerful antioxidant.

Strong decomposition power with BioMAXX

water-soluble silicate diluent promotes cell metabolism, decomposes and discharges harmful substances such as triglycerides accumulated in the body, helps blood and blood vessels, as well as liver health, and

helps in basic diet metabolism because it decomposes and discharges the accumulated fat.

When beef is immersed in a water-soluble silicate diluent, fat is decomposed and the cell tissue changes like a sponge.

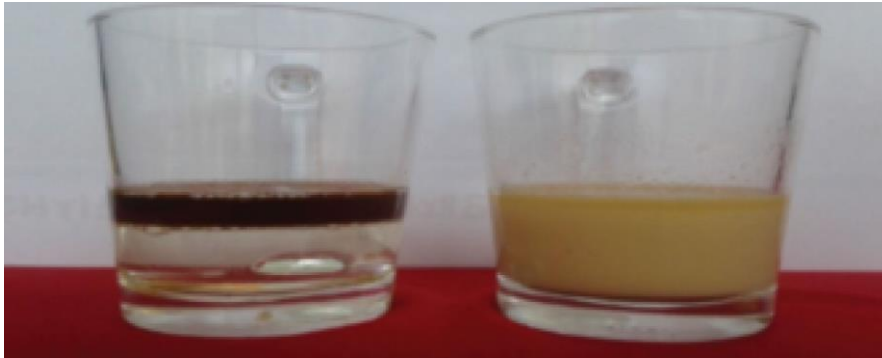
Hangover is an adverse effect of harmful ingredients such as acetaldehyde, which cannot be neutralized in the liver, but when added to alcohol, water-soluble silicate diluent decomposes and neutralizes the substances that cause hangover in advance.

When water-soluble silicate diluent is added, food additives in various kinds of ramen or synthetic soybean paste, etc. are neutralized.

When added to tap water, residual chlorine is instantly neutralized and various minerals remain alive and become very good drinking water.



Decomposition power experiment -sesame oil



sesame oil + water

sesame oil + water + BioMAXX

When water is added to sesame oil, BioMAXX(water soluble silicate diluent) is added and stirred, the fat component is **decomposed and emulsification occurs**.

This is evidence that the body breaks down and excretes fat, which can help with blood and blood vessel health, as well as a continuous non-temporal diet.

Decomposition power experiment -pork fat



A chunk of pork fat dipped in BioMAXX(water soluble silicate diluent)

Pork fat chunks have been soaked in BioMAXX(water soluble silicate diluent) for over a year.

Pork does not spoil, only fat components are **decomposed and melted**. It is evidence that it can help to break down and excrete fat, helping blood and blood vessels health, as well as a continuous non-temporal diet.



Strong cleaning power with BioMAXX

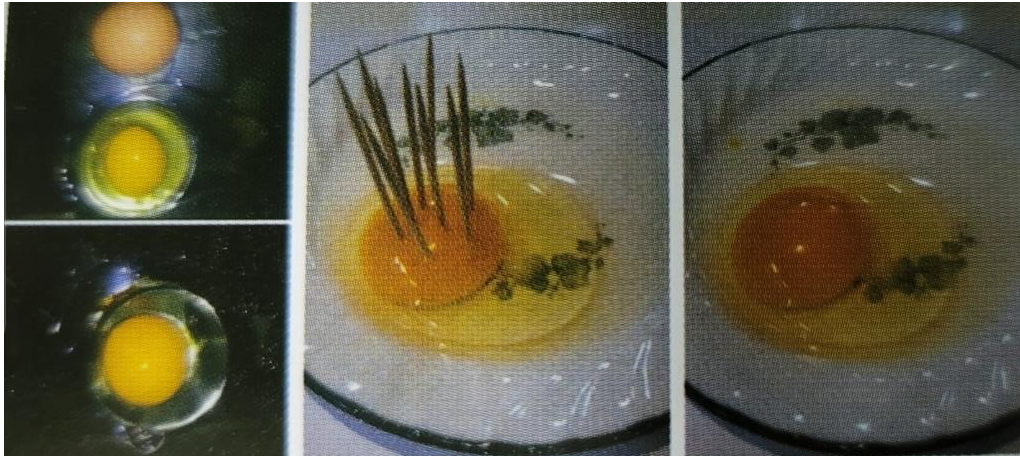
Contaminants on fruits and vegetables, pesticides, artificial colors and preservatives contained in instant foods, and harmful chemicals in food additives are quickly decomposed and cleaned.

After applying water soluble silicate diluent to dirty or stained clothing, It is cleaned perfectly.



Detergency experiment - rice

When BioMAXX(water soluble silicate diluent) is added to the rice washing water, heavy metals such as various pollutants and pesticides on the rice **are cleaned**. However, if it is soaked for a long time, the nutrients of the rice will also be removed, so it is enough to wash it lightly.



The freshness of eggs was tested when BioMAXX was added into edible water in a poultry farm.

After placing a toothpick in the yolk for 10 minutes, the appearance after removal.

When applied BioMAXX to plant,

**Root increase effect:
(excellent effect on grass and crop growth)**

Prevent overgrowth,
Resistant to pest,
Increase harvest,
Makes better taste,
Makes fresher, stored longer
Make maturing period shorter,
Make better color,
Prevent falling fruit



Not treated,

BioMAXX Treated



Strong antibacterial and sterilizing power with BioMAXX

Excellent sterilizing power to sterilize all viruses such as Legionella and E. coli in an instant.

Sterilizes bad breath by sterilizing bacteria that cause bad breath and helps to prevent and treat gum disease by sterilizing bacteria that cause periodontitis.

Gargling is said to have only sterilizing effect of about 25% of the bacteria in the mouth. In Japan, water soluble silicate diluent is used in dental clinics for the purpose of treating periodontitis.

Use water soluble silicate diluent to make a natural gargle solution and air freshener that is completely free of chemicals. It quickly sterilizes bacteria that cause bad breath as well as all odors in the room, refrigerators, shoes, and pets.

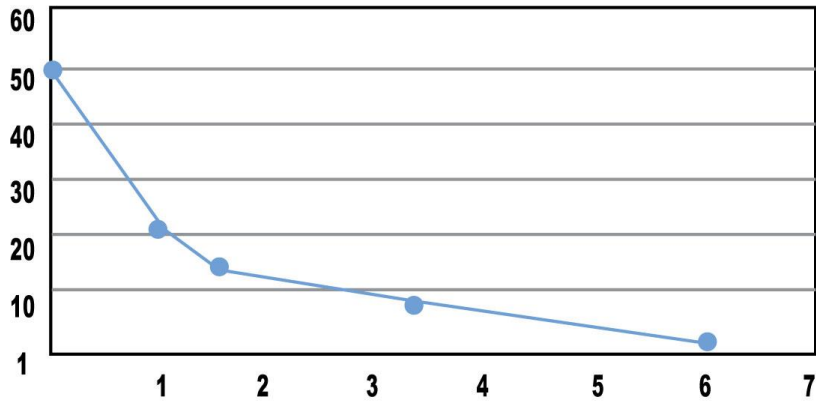
Add water soluble silicate diluent to humidifier water for use.

Sterilizes skin bacteria such as athlete's foot, ringworm, psoriasis, and vitiligo.



NON TOXIC

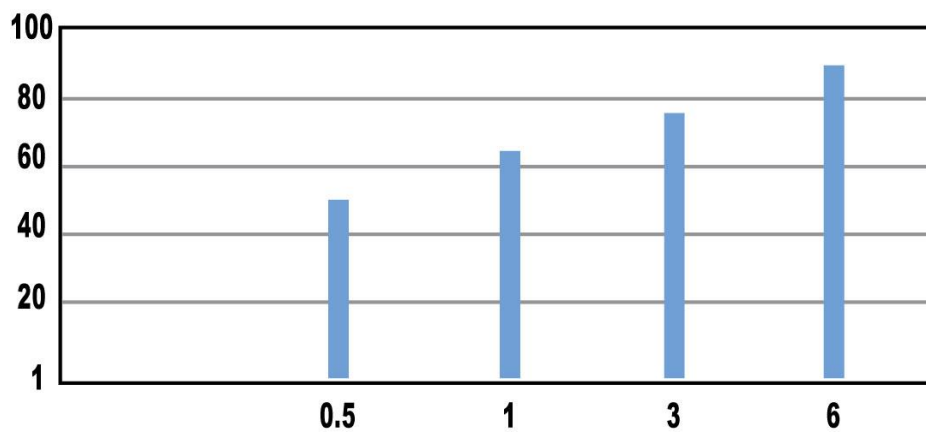
Ammonia deodorization ability chart



Comprehensive result of ammonia deodorization test

Test Item		unit	Initial concentration	0.5 hour	1 hour	3 hour	6 hour
Deodorant test	Ammonia NH ₃	ppm	50.0	21.0	14.5	9.6	4.7

Ammonia removal rate table Removal rate (%)



Effectiveness of ammonia deodorization for Cow & Pig

The generation of odor (ammonia gas) in the livestock house is significantly reduced, reducing the cost of odor removal.

Reduce feed and production costs by shortening the time to reach shipping time

By emitting far-infrared rays, it inhibits the proliferation of bacteria or viruses, reducing disease occurrence and reducing drug costs

The fat is low, the meat is soft and chewy, and the highest quality meat is produced, helping the income of farm households.

High-quality milk production
pollution-free premium milk production

Effectiveness of ammonia deodorization for Laying hen

The generation of odor (ammonia gas) in the livestock house is significantly reduced, reducing the cost of odor removal.

By emitting far-infrared rays, it inhibits the proliferation of bacteria or viruses, reducing disease occurrence and reducing drug costs

Excellent egg quality
Pollution-free clean egg production

Effectiveness of ammonia deodorization for Broiler

By activating the broiler organisms, becomes healthy.

The fat is less and the meat is soft and chewy

Remaining antibiotics are reduced, the growth rate is increased, and the mortality rate is greatly reduced.

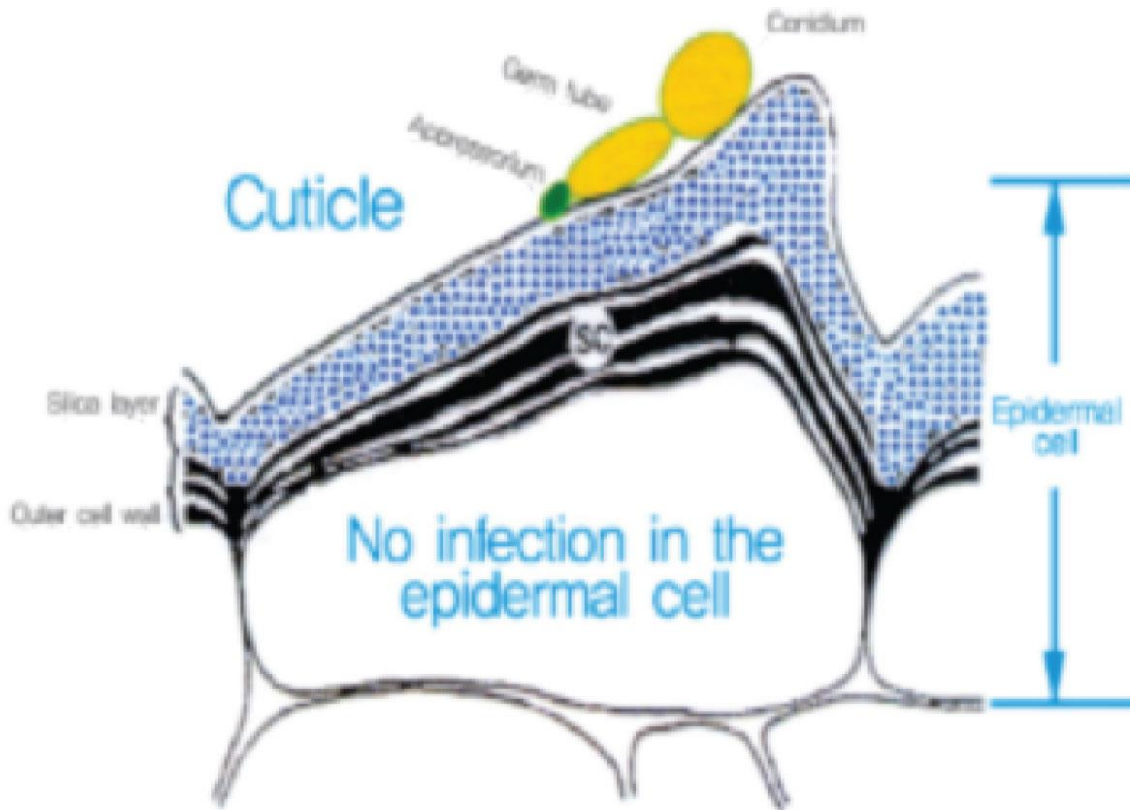
Fast growth

Activates beneficial microorganisms, promotes cell regeneration, inhibits cell aging, and prevents diseases of the digestive system such as livestock skin disease and enteritis.

NON TOXIC

The mechanical barrier hypothesis

Cuticle-silica double layer



The mechanical Barrier Hypothesis **Cuticle double layer**

A silicate layer is formed on the surface so that organs of the pathogen molecular cannot enter the crop body

The Effect of Silicate (cuticle layer) formation

Strengthening stem, leaf, and root tissue

Reduction of pests and diseases

Reduction of meteorological disasters (drought, cold damage, high temperature disturbance, etc.)

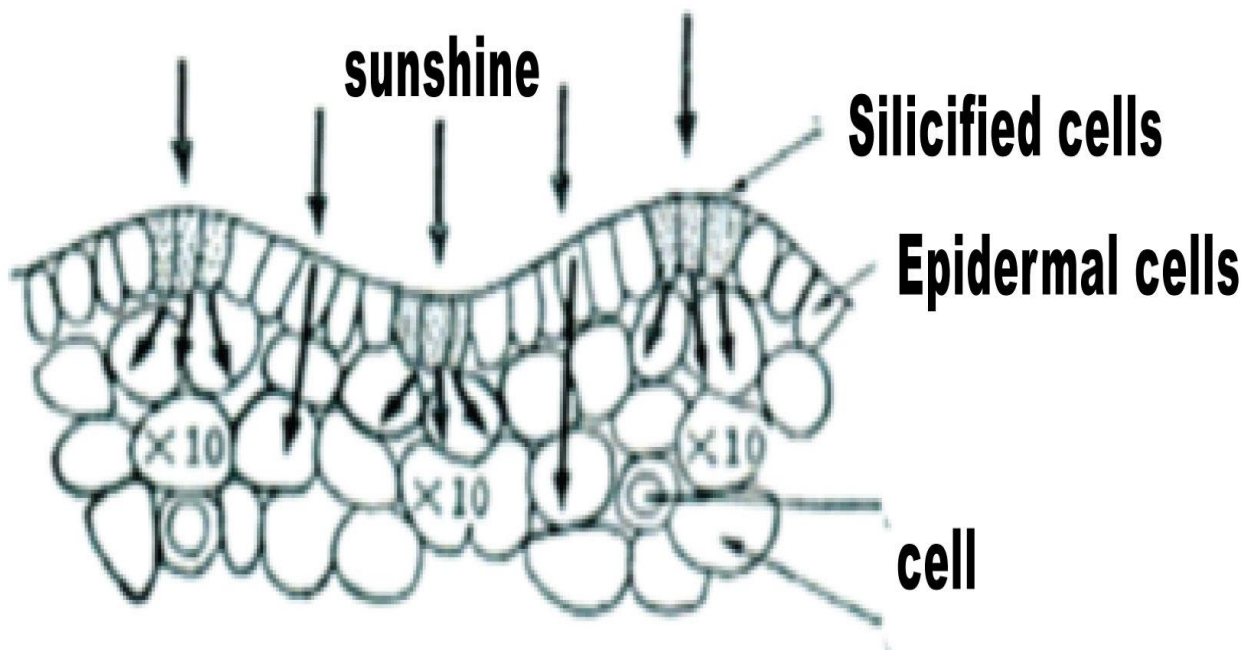
Delayed aging

Extension of photosynthesis period

Strengthen stem support:

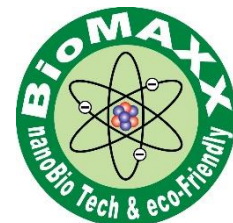
Prevents stem breakage with strong rain

Mechanism of controlling nutrient absorption in crop plants



Light scattering effect of silicate

When one light passes through silicate effected cells, photosynthesis increases due to the effect of multiple light scattering.



Characteristic of BioMAXX: water-soluble silicate

BioMAXX is a new technology that makes the stone dissolved in water by eluting the main ingredient silicate in a liquid state from the natural mineral silicate stone, producing it in a crystal form, and then making it dissolved in water again.

The original pure silicate is Si, but Korean scientist developed **100% water soluble silicate** through proprietary manufacturing processes and nanoBio Technology.

Water-soluble silicate was developed in order to be able to **absorb or utilize easily by plants and humans**, compared with insoluble silicate.

The biggest characteristic of BioMAXX: water-soluble silicate is that it is highly alkaline and has excellent self-cleaning ability to purify water.

It has the property of emitting far-infrared rays and has the effect of adsorbing, decomposing, and neutralizing pesticide ingredients.

It also contains essential trace elements and plays a role in activating beneficial microorganisms. All of these characteristics can contribute to eco-friendly farming method and well-being industry.

Differences from conventional siliceous fertilizers(Insoluble)

The fact that silicic acid is essential for the growth of various crops including wheat & rice was first discovered at the University of California in the 1920s, but silicic fertilizers began to be supplied to Korea only in 1957.

The ingredients that plants can absorb as 'insoluble substances' are only about 0.002% per year, and the rest are accumulated in the soil.

So there is a problem that a large amount of spraying must be continuously carried out within a certain period of time.

On the other hand, BioMAXX:water-soluble silicate has the advantage of being **100% adsorbed to the soil**, leading to an essential element in the nutrition of all plants, including crops.

In addition, the existing siliceous fertilizers put a tremendous burden on the farmers in terms of transport and fertilization, and the effectiveness of fertilization is greatly reduced due to a large number of harmful substances and foreign substances.

Characteristics of crops that sufficiently absorbed silicic acid

The leaves and stems become stiff and hard to fall, the lower leaves of the plant receive a lot of sunlight, and carbon assimilation is active. The silicic acid component enters the plant body and **forms a silicic acid layer (cuticula layer)** on the cell wall, strengthening the cells, thereby increasing resistance to diseases such as blast disease, Ewha larvae.

It increases resistance to root rot, sesame sprouts, bacterial diseases, viral diseases, as well as cold damage by increasing disease resistance. It not only promotes growth, but also controls soil improvement and fertilizer effects to prevent nitrogen excess and phosphate absorption disorders. It maintains the freshness of the plant, increases storage, and has the effect of greatly increasing the sugar content of fruits.

Silicate is especially beneficial for wheat & rice cultivation.

It increases the harvest of wheat & rice through actions such as increasing photosynthesis and fertilization efficiency, promoting material current, alleviating diseases and insects, and reducing weather disturbances. Improves the quality of the body.

100% water-soluble silicate can be used for foliar spraying on plants and mixed with general pesticides

Colorless, odorless. non-toxic, & eco friendly

It can be used in combination with pesticides, nutrients, and microbial agents.

Silicate layer is formed to suppress pathogens, and photosynthesis increases by an average of 40% **due to the light scattering effect.**

Cell tissue is strengthened to alleviate pests and to prevent high temperature damage by inhibiting the evaporation of moisture in cells.

BioMAXX secretes anti-aging substances to help plants grow healthy and blocks various germs

This effect is not only essential for humans, but rice & wheat cultivation as well as it is not toxic, and it has the function of neutralizing various harmful ingredients. have.

Successfully applied for

sweet potato, potato, tomato, strawberry, radish, cabbage, carrot, peanut, cucumber, watermelon, sesame, ginseng, pumpkin, green onion, garlic, ginger, pear, apple, peach, grape, persimmon, tangerine, grass, flower, etc. Regardless of field crops, fruit trees, and horticultural crops,

It shows excellent efficacy and has the effect of **increasing productivity by more than 20%.**

NON TOXIC

Chemical stress reduction by BioMAXX: water-soluble silicate

silicic acid has an anion in the crop cultivation environment and in plants, which temporarily binds and inactivates various chemical components with strong adsorption power, and releases it gradually in case of deficiency to alleviate excess or deficiency disorders.

Chemical stress includes excessive obstacles such as fertilizers, pesticides and herbicides, excess and deficiency of plant essential elements, and unbalanced disturbances, and toxic metal disturbances that are naturally supplied from the soil.



Reducing the excess and deficiency of nitrogen fertilizer

Nitrogen excess obstruction is a major cause of food and environmental pollution as well as increase in production costs as it requires a second input such as pesticides to control such obstructions,

because leaves are sagging and tissues become fragile, which degrades photosynthesis and causes disease and pests. Silicic acid plays an essential role in large-scale cultivation by not causing excessive disturbance even if more nitrogen is given. However, in recent years, silicic acid is used as an essential means in eco-friendly farming that reduces the input of chemicals such as fertilizers and pesticides.

Even if the standard fertilization amount with silicic acid is reduced by half, silicic acid absorbs and stores fertilizer components in the soil to obtain a yield that can be produced at the standard fertilization amount, and safety against various disasters and diseases and pests as well as quality improvement such as lowering the protein content is guaranteed.

Excessive disturbance of toxic metals and heavy metals

Components that cause toxic damage to plants include toxic metals such as sodium (Na), germanium (Ge), iron (Fe), manganese (Mn), aluminum (Al), zinc (Zn), and mercury (Hg) and cadmium (Cd), copper (Cu), cobalt (Co), etc. If excessive, it appears as a toxic disorder, and if it appears as a deficiency disorder when it is insufficient, it must be supplied as an essential ingredient for plant growth.

Water soluble Silicic directly inhibits the over absorption of these components, and in the case of deficiency, it reduces the action of indirect components that induce deficiency disorders, so that excess or deficiency disorders are easily treated, thereby protecting the safe growth of plants.

BioMAXX: water-soluble silicate is eco-friendly material in crop cultivation.





Soil improver with BioMAXX: water-soluble silicate

BioMAXX is slow-acting, effecting gradually neutralizing the acid in the soil for a long term, suppressing excessive absorption of nitrogen, and increases the ineffectiveness of phosphoric acid.

BioMAXX is particularly effective in paddy fields such as sandy soil, humus, cold water, shallow water, blasting wetland, etc

water-soluble silicate is the only fertilizer component that does not have excessive obstacles. In particular, if silicic acid is given, the amount of nitrogen is increased and increase harvest, and it can reduce diseases and insects.

Nitrogen fertilizer is the most necessary for rice & wheat cultivation, but rice & wheat grows by absorbing silicic acid more than eight times than nitrogen. In the production of 100 kg of rice, nitrogen absorption is 1.8 kg and silicic acid absorption is 14.8 kg. This shows how important silicic acid is in rice & wheat.

BioMAXX: water soluble silicate reduces pests and pests and makes rice & wheat taste very good.

If you give BioMAXX: water soluble silicate to the rice & wheat field, the leaves and stems of rice grow stiff, so the sunlight is evenly distributed to the lower leaves, and diseases is reduced by 56.3%.

In other words, it is possible to produce safe rice & wheat with less pesticides.

In addition, if you give 113~225kg of silicic acid per 10a, the strength of the stem is 3~4 times stronger, so it does not fall down by the wind, so the ripening ratio and the weight of grains increase, so the quality (taste) of rice & wheat is very good.

Since silicic acid is usually given to rice fields with a silicic acid content of 60 ppm, rice harvest increased by 11% on average without additional nitrogen. In particular, normal cultivated farm by 51% and mountainous highlands by 20%.

BioMAXX: 100% dissolving and absorbing power **-Soil improvement & foliar fertilization effect**

A water-soluble silicate has been developed that not only improves the soil, but also boasts excellent absorption in plants as foliar fertilization.

The difference between BioMAXX: water-soluble silicic acid and silicic acid.

silicic acid is a completely bound material, insoluble in water, and that water-soluble silicic acid is an ion-binding substance and is 100% soluble in water.

Particularly, insoluble silicic acid is a mixture and has a very slight absorption capacity of 0.02% in the plant, and the physicochemical action of the soil is small and air control is not possible.

BioMAXX: water soluble silicate :
the physicochemical action of the soil is active, and soil spraying & air spraying is also possible.

Once sprayed on the soil, the effectiveness lasts for one year, saving labor, and neutralizing acidic soil, heavy metals, and residual pesticides. In particular, it is absorbed into the roots of crops to form a double silicic acid layer, and a physical film is formed on the cellular tissues to inhibit invasion and spread of pests.

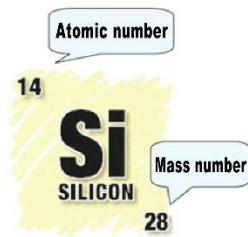
When foliar fertilization is applied, BioMAXX forms a double layer of silicic acid, which not only strengthens the structure of the crops, but also boasts excellent effects in preventing pests such as blast disease.

In fact, as a result of using it in the rice cultivation complex in Korean farm, general rice was damaged by leaf blast disease, but in the rice field using BioMAXX solution, it was found that there was no disease due to the formation of a double silica layer, and **the yield increased by over 20%.**

BioMAXX: Water-soluble silicate is a material that neutralizes pesticides, discharges pollutants, and helps crops grow robustly as it is excellent function in preventing pests.

It boasts excellent effects compared to existing insoluble silicate agents, such as the prevention of pests and disease."





The element symbol: Si

There is a considerable amount of 27.5% on the earth's surface, but The silicon present in the soil is always completely combined with other elements and thus dissolves in water.

Because it exists in the form of insoluble silicic acid (SiO_2) that cannot be absorbed by plant.

Therefore, Water-soluble silicate which is easily soluble in water and be absorbed & used by plants must be supplied after changing it into (SiO_3) form.

Types and differences of silicon

Types of silicon include silica (Silica, SiO_2), silicate (Silicate, SiO_3),

It is classified into silicic acid (HSiO_3) and silicon.

1) silica (Silica, SiO_2)

Silica (Silica, SiO_2) is a completely bonded material, and more than 95% is contained in silica, 90% in sand and 80% in red clay.

It is insoluble in water and has a very hard structure.

Used for raw material of glass kettles and glass pots, glass wool, heat dissipation gloves, and heat dissipation clothing due to its strong heat resistance.

2) Silicate (SiO_3)

Silicate (SiO_3) is a water-soluble silicate that is well soluble in water, and plays a role as a coating in cosmetics.

It is mainly added to makeup, nail polish, lipstick, and sunscreen. In particular, silicate plays a role in creating a reflective surface by receiving light Also do.

3) Silicic acid (HSiO₃)

As a compound of silicon, oxygen, and hydrogen, it exists as an unstable solution in water by itself.

4) Silicon

With strong adsorption and condensation power, it has excellent ability to absorb water.

Since silica gel has excellent absorption and adsorption power, it is used as the main raw material for drying agents (silica gel products) that can preserve the dry state of food. Silica gel has a very good ability to absorb and adsorb harmful chemicals.

Classification and differences according to the degree by dissolving in water

1) Insoluble silicic acid (SiO₂)

Insoluble silicic acid refers to silicic acid that is completely insoluble in water or chemical solvents.

Soils such as sand, red clay, and silica contain a lot of silicon, but most of them are insoluble silicon dioxide (SiO₂), which is not soluble in water, so plants cannot absorb and use them.

2) Soluble silicic acid (SiO₂)

Soluble silicic acid refers to silicic acid that is partially soluble and not mostly insoluble in water.

Commercially available siliceous fertilizers for agricultural crops are manufactured by finely pulverizing slag (SiO₂) with a by-product of wollastonite or steel mills and mixed with an extender.

Silicic acid is generally referred to as soluble silicic acid (SiO₂).

As an insoluble substance, the component that plants can absorb is about 0.002% per year, and the rest is left in the soil.

It is mainly used for industrial purposes such as glass products.

3) Water-soluble silicate (SiO₃)

SiO₃ type silicate is water-soluble and is **100% water-soluble**.

It melts and removes harmful ingredients and is used by humans for drinking. And silicic acid, which is highly effective when spraying the soil or foliar of agricultural crops.

Water-soluble silicate (SiO₃) is manufactured under the following two conditions.

It should be manufactured using high-purity natural minerals (silica) with no foreign matter and with a **silicon content of 99.7% or more as raw materials.**

High-purity natural minerals (silica stone) are melted in a liquid state by heating at 2,200°C for 17 hours or more in a furnace to produce a crystal form, and then re-processed at high temperature and high pressure to produce a water-soluble silicate (SiO₃) that dissolves very well in water.

The water-soluble silicate (SiO₃) manufactured in this way is 100% soluble in water, so even with a very small amount (about 2~3kg per 10a), all of them are quickly absorbed and moved from the roots or leaves, and at the same time, most of them are mixed with pesticides or microbial agents. It doesn't get tangled in the air, and it can also be used for aviation control.

Since water-soluble silicate (SiO₃) does not have any harmful persistence such as heavy metals, and is very effective in various aspects of plants, it is rapidly being used in various crops such as rice crops, fruit trees, vegetables, ginseng, livestock, healthcare, etc.

Variety of advantages:

By forming a **silicic acid layer (cuticle layer)** on leaves and stems, it hardens the tissue, so it is strong against pests and diseases.

Since moisture absorption is increased in the fine roots of the root, it reduces the damage such as dryness, over-humidity, and salt damage of the soil to improve root growth.



water-soluble silicate (SiO_3) works as a coating, reflective and UV-blocking.

water-soluble silicate (SiO_3) also plays a role in creating a surface that reflects light. When water-soluble silicate (SiO_3) is used for cultivation of various plants ginseng, a silicic acid layer is formed on the leaves, and sunlight is reflected from the silicic acid layer to increase the amount of photosynthesis to increase the quantity and content of active ingredients.

It has stability against heat.

By forming a stable silicic acid layer, it can reduce high temperature and cold damage.

Ability for adsorption of harmful gas is very strong.

The effect of reducing harmful gas disturbances

Water-soluble silicate (SiO_3) is a water-soluble silicate that is 100% soluble in water. if foliar spray is applied to the leaves of a plant, it will be **absorbed from the leaves immediately after spraying**.

As it moves quickly to the entire organ of the plant, it makes the tissues healthy. It is effective in various fields such as resistance to pests and enhancement of photosynthesis.

Water-soluble silicate (SiO_3) is a mysterious substance.

The effect with application of Water-soluble silicate (SiO_3)

on crops shows that the tissues of plants are generally makes healthy and upright growth of leaves as well as increased photosynthesis.

Alleviating diseases and pests, alleviating weather disasters, and inhibiting aging of leaves.

It is that **yield and quality are improved**.

When used in rice, it is organized **by forming a silicic acid layer (cuticle layer)** in the leaves and stems. It is hardened so that it is strong against pests and prevents stem falling down, and leaves grow upright.

Because of this, the sunlight is soaked up to the lower leaves, and carbon assimilation is active and ripening.

There are many research papers that Water-soluble silicate (SiO₃) applied rice has better yield and quality: improved taste.

When Water-soluble silicate (SiO₃) is applied to rice, the structure is strengthened by the formation of a silicic acid layer in the leaves and stems to prevent floating seedlings, leaf blast disease (84.4%), and increase the **yield(15-20%)**, improving the quality of taste.

Result of increased yield by research center and university

Onions:

increased by 13% (test by Gyeongbuk Rural Development Institute),
increased by 20% (test by Wakayama Agricultural City, Japan),

Potato:

37.2% increase (by Potato Valley R&D Center)

Beans:

25% increase (by Gyeongbuk Rural Development Institute),
27% increase (by Japan Hado Agricultural Experiment Station)

Red pepper:

10% increase (by Rural Development Horticultural Testing Center)
16% increase (by Kyungpook National University)
(Good root growth, prevention of falling after rainy season,
reduction of pestilence and anthrax)

Cucumber:

45% increase (by Japan Kangsan University),
5% (by Japan Silicate Lime Association)
(Reduction of plague downy mildew, increase in number of fruits)

Apple, melon, watermelon:

increase sugar content, prevent apples from falling

Ginger:

Increased ginger size (20-40%) by foliar fertilization

Effect of water-soluble silicate (SiO₃) treatment during ginseng cultivation

Strengthen stem hardness: increase disease resistance

Enhancement of leaf tissue density: Reinforcement of disease resistance and adaptability to external environmental disturbances

increased photosynthesis, reduced high temperature disturbance by stem cuticle layer development on leaf surface

Petiole upright: improved light-receiving posture, increased photosynthesis

Strengthening of root tissue: Reduces salt damage, dry damage, and over moisture damage by controlling moisture (absorption and moisture) of sio₃.

Suppression of leaf aging: prolongation of photosynthesis period in late growth

Increase yield in quantity: increase in root weight.

1)The role of Water soluble silicate Sio₃ in crops

Rice plant:

absorbs a large amount of silicic acid
increase effect of more than 15%.

It is known that nitrogen fertilizer is the most necessary for rice farming, In fact, it absorbs more than eight times as much silicic acid as nitrogen.

The amount of nitrogen absorption required for the production of 100Kg of rice is 1.8Kg, but absorption of silicic acid is 14.8Kg.

2) Deficiency of silicic acid in crops

- ① All plants droop, leaves dry out, and plants wither.
- ② Round spots appear on the leaves of all crops,
- ③ Manganese(Mn), iron(Fe) and other inorganic nutrients are concentrated and toxic.
- ④ The absorption effect of phosphoric acid is inferior.

3) Characteristics of crops that sufficiently absorbed silicic acid (Si)

- ① The leaves and stems become stiff, so it is difficult stem to fall down.
- ② The lower leaves receive a lot of sunlight, and carbon assimilation is active.
- ③ Silicic acid enters the plant cells and forms a double layer of silicic acid on the cell wall (cuticula layer)
Increases resistance to diseases and pests such as blast disease
- ④ It does not fall well even in heavier wind.
- ⑤ The ripening rate is high, and the taste of rice is improved.
- ⑥ If the ratio of silicic acid and nitrogen increases, there is an effect of increasing yield (prevention of nitrogen damage).
- ⑦ increases resistance to viral diseases as well as cold damage.
In addition to blast disease, root rot disease, bacterial disease,

If seeing the epidermal cells of the leaf under an electron microscope, there is a layer of silica, below that is another layer of silica bonded with cellulose.

This prevents the loss of moisture and prevents the invasion of all pathogens, improving great disease resistance

Na₂SiO₃ supplied by other suppliers in China, USA

Our base material is high costed purity 99.8% silicate gemstone which has large amount of radiation of fir and anion compared with sand based one.

Even sand and sodium carbonate based Na₂SiO₃ has same element symbol, our substance using raw material highly radiating of far infrared and anion has totally different usage with 100 natural, eco friendly and non toxic.

Our material is heated to [2200](#) degree to achieve pure substance and we also have unique technology with confidential.

Usage of sand based sio₃

- 1). Chemicals: Raw material for the manufacture of amorphous silica, silica gel, molecular screens and white fillers.
- 2). Detergents: Additive for alkalinity control and corrosion inhibition.
- 3). Textiles:
 - Stabilizer in bleaching with hydrogen peroxide.
 - Metal sequestering agent.
 - PH regulator.
- 4). Paper:
 - Adhesive for corrugated cardboard.
 - Stabilizer in bleaching with hydrogen peroxide.
- 5). Foundry: Binder of molding sands.
- 6). Mining: Additive for mineral pelletizing.
- 7). Construction: Floor consolidation.
- 8). Welding: Binder in manufacture of rods.
- 9). Metallurgy and Refractory: Materials Setting accelerator for cement and refractories curing

Cheap priced sand based one is produced in china and USA etc. They supply in cheap powder stage; less than US\$300/Ton.

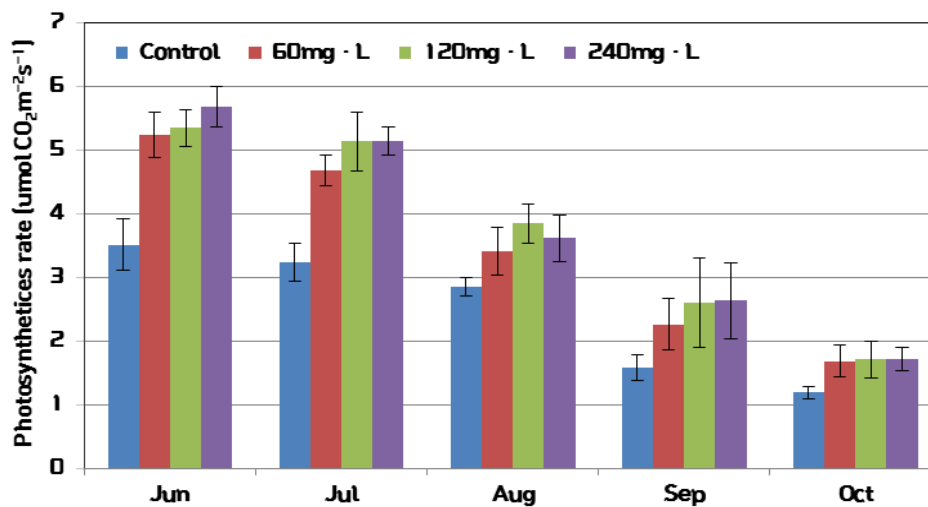
Our valuable product could not supply in powder stage, as powder particle easily stick together. There, we supply concentrated liquid stage.



Types and features of silicic acid

	Insoluble silicic acid Si	Soluble silicic acid SiO ₂	Water soluble silicic acid SiO ₃
Raw Material	Iron Slug	Zeolite, Illite, Elvan Stone, etc.	Natural silica stone
Purity	20%	28%	99%
Absorption rate	0.2%	Less than 35%	Over 99%
Mixed use	Foliar fertilization is not possible	Microorganisms, pesticides, non-mixable	Foliar fertilization possible Mixing of pesticides possible

BioMAXX: Water-soluble silicate(SiO₃) effect on plants



Photosynthetic amount

by silicate treatment concentration (ginseng)

48% increase in photosynthesis average

Compared with silicate treatment and no treatment

Increased resistance to pests with BioMAXX
Bite pattern blight, White leaf blight, Leaf blast, etc



Strengthen stem support with BioMAXX:
Prevents stem breakage with strong rain & wind



Improvement of Quantity and quality with BioMAXX
Increased number of grains by 60 -80 per ear(Productivity)

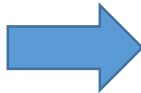
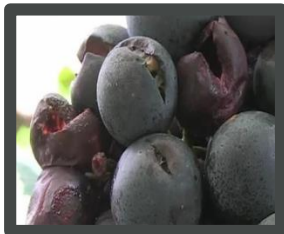


**Development of tree roots and increase in the number of Tillering
Solution with BioMAXX**



used Used with BioMAXX

**Damage to agricultural products in abnormal climate
Solution with BioMAXX**



**Reduce damage to high temperature drying
Solution with BioMAXX**

Reduction of meteorological disasters: high temperature disturbance
Reduction of pests and diseases



Effect of BioMAXX

Reduction of various diseases
Reduction of high temperature disturbance
Reduced temperature disturbance and falling
Hypertrophy. Pigmentation enhancement
Improve quantity and quality



Effects of strawberries with BioMAXX

Increased coloration, pulp hardness, and sugar content
Reduction of pests and diseases
Fine root development
Reduce hot drying damage
Enhancement of storability
Reduction of Salt disturbance & of series disturbances



Coffee cultivation with BioMAXX

Disease reduction
Promote root development
Reduce hot drying damage
Increased quantity and coffee aroma





Usage of bioMAXX in livestock

Reduces disease by increasing immunity and reduces antibiotic use

Promote growth

Improvement of odor in livestock

Reduced breast cancer in cows

Extending the spawning period and improving the spawning rate

Edible water livestock with BioMAXX
1,000 times dilution

When spraying for deodorization
500 times dilution



Leafy vegetables



BioMAXX Water-soluble silicate (SiO_3)

increased absorption in crops

Enhancement fertilizing of soil and promotion of crop absorption by increasing the adsorption power of cation to the soil

Can be mixed with pesticides, microorganisms, and nutrients

Enhance root vitality and increase root density

Reducing various kinds of diseases

Reduction of cold and dry damage

Increased storage and improved texture

How to use

Foliage treatment: 1,000 times dilution with BioMAXX

Twice a month spray

During Seedling, Growing season, Before harvest

Flowers



BioMAXX Water-soluble silicate (SiO_3)

Increased absorption in crops

Enhancement fertilizing of soil and promotion of crop absorption by increasing the adsorption power of cation to the soil

Can be mixed with pesticides, microorganisms, and nutrients

Promote healthy seedlings

Root development

uniform growth

Enhancement of flower stalk and leaf structure

Delayed flower stalks and flower wilt after cut flowers, maintaining long-lasting marketability

Reduction of salt disturbance and continuous crop disturbance

Foliage treatment: 1,000 time dilution with BioMAXX

Twice a month spray

During Seedling, Growing season, After flowering,

Before and after harvest





BioMAXX Water-soluble silicate (SiO_3)
Increased absorption in crops
Enhancement fertilizing of soil and promotion of crop absorption
by increasing the adsorption power of cation to the soil
Can be mixed with pesticides, microorganisms, and nutrients.
Air control, drone control possible

Improvement of quantity and quality
Increased resistance to disease
(blast disease, sesame seed pattern, leaf sheath pattern blight,
white leaf blight, etc.)

Prevents stem breakage with strong rain & wind
Reduced damage from lack of sunlight

1,000 time dilution with BioMAXX

How to use

Seedling 1 time

Planting 1 time

Growing season 2 times a month

Before Harvest 2 times

Tropical crops



Sugar cane

BioMAXX Water-soluble silicate (SiO_3)
Increased absorption in crops
Enhancement fertilizing of soil and promotion of crop absorption
by increasing the adsorption power of cation to the soil

Can be mixed with pesticides, microorganisms, and nutrients.
Air control, drone control possible

Reduction of diseases and pests
reduced by strengthening the tissue of stem leaves

Promoting root development (developed by strengthening root development tissue,
increasing osmotic pressure, and increasing soil wetness tolerance)

Reduction of high temperature drying damage (promoting moisture absorption through
root development, formation of silicic acid in leaves, moisture evaporation)

Prevents stem breakage with strong rain & wind
(reduction by suppression of excessive absorption of nitrogen, reinforcement of
stem tissue)

Reduced corn ear (prevents empty ear with increased moisture)

Increased yield sugar content (increased nutrient absorption by promoting root
development, increased by activation of photosynthesis in leaves)

How to use

Foliar spray

1,000 times dilution with BioMAXX

Before and after ear formation	1 time each
Fruiting period	2 times
Before harvest	1 time

Mango, Pine Apple



BioMAXX Water-soluble silicate (SiO_3)
Increased absorption in crops
Enhancement fertilizing of soil and promotion of crop absorption
by increasing the adsorption power of cation to the soil
Can be mixed with pesticides, microorganisms, and nutrients.
Air control, drone control possible

Reduction of pests: due to the formation of a silicic acid layer
on the outer skin of the leaves. Tissue reinforcement reduces
root rot, and stem blight

Promote root development: on the roots accumulated by application of water-soluble
silicate, on the silicate layer and by strengthening tissue and increasing osmotic
pressure

Reduction of physiological disorders: nutrients and moisture due to root development
and tissue strengthening

Hypertrophy, sugar content, fragrance, and storage properties increase: in the silicic
acid layer formed in the outer layer of leaf cells
With the activation of photosynthesis by the light scattering effect when light is
transmitted

Enhancement of hypertrophy, sugar content, color, fragrance, storage properties, etc.

How to use
Foliar spray
1,000 times dilution with BioMAXX

Before flowering	1 time
Growing season	2 time a month
During Coloring	1 time
Before Harvest	2 times

BioMAXX with increased absorption in crops



Increase fertility of soil, promote crop absorption
Increased sugar content, scent, coloring and storage
Decreased damage due to temperature abnormalities

spraying to soil & foliage 1,000 time

1,000 times dilution in soil
Every 3 month

1,000 times dilution of foliar fertilization
2-3 times/ month

Before flowering 1 time
After flowering 1 time
During Hypertrophy 2 time
During coloring 1 time
Before harvesting 2 - 3 times

KNU ENVIRONMENTAL RESEARCH CENTER
MANUFACTURING SYSTEM & PRODUCT CERTIFICATE

Certificate No. 38023-2021-NANOTEC

This is to certify that
The Environmental Manufacturing system and Their Product
BioMAXX(Water Soluble Silicate SiO₃)
of

NANOTEC INTERNATIONAL, DAEGU, KOREA

has been approved to the Standard of environmental Manufacturing system
& environmental Friendly Product.



April 27, 2021

KNU ENVIRONMENTAL RESEARCH CENTER
1370 Sankyuckdong, Bukgu Daegu, Korea

A handwritten signature in black ink, appearing to read 'Sung-Jong Kwon'.

Sung- Jong Kwon
General Manager



nanoTec International

117-3 Chimsan Daegu, Korea Tel: 82 53 354 5502 www.nanozr.com nanotec7777@naver.com

Quality Certificate


Item: BioMAXX

Name of Article	BioMAXX	Remarks
Atomic Symbol	Na ₂ SiO ₃	
Appearance	Transparent	
PH	11	
Density	1.0g/cm ³	
Water Content(%)	70.9% water	
Characteristic	Odorless, non-Toxic, 100% natural	

Water Soluble silicate siO₃

NANOTEC INTERNATIONAL
Jaxon Park
JAXON PARK
MANAGING DIRECTOR



	MSDS	Original Date	2021.5.22
	BioMAXX	Revised Date	
		Revise No.	0
		Total Pages	1

Material Safety Data Sheet

Product	COMPOSITION & INGREDIENTS	HS Code	UN No.	EN No.
BioMAXX (Water Soluble Silicate)	Sio3	2839.19.0000	-	-

No	Item	Description									
1	CHEMICAL PRODUCT & COMPANY IDENTIFICATION	<p>a. Product name : Water Soluble Silicate Sio3</p> <p>b. Name of Company: NanoTec International Address: 117-3 Chimsan, Daegu, Korea Telephone: (+82) 53 354 5502, Fax: (+82) 53 354 5503 Web Site: www.nanozr.com</p>									
2	COMPOSITION & INGREDIENTS	<table border="1"> <thead> <tr> <th>Ingredient</th> <th>Composite Proportion (%)</th> <th>CAS No.</th> </tr> </thead> <tbody> <tr> <td>Silicic Acid, Sodium Salt (Sodium Silicate)</td> <td>29.2%</td> <td>1343-90-2</td> </tr> <tr> <td>Water (purified water, distilled water)</td> <td>70.8%</td> <td>7732-791-2</td> </tr> </tbody> </table>	Ingredient	Composite Proportion (%)	CAS No.	Silicic Acid, Sodium Salt (Sodium Silicate)	29.2%	1343-90-2	Water (purified water, distilled water)	70.8%	7732-791-2
Ingredient	Composite Proportion (%)	CAS No.									
Silicic Acid, Sodium Salt (Sodium Silicate)	29.2%	1343-90-2									
Water (purified water, distilled water)	70.8%	7732-791-2									
3	HAZARDS IDENTIFICATION	<p>a. Physical state: Nonvolatile Liquid</p> <p>b. Name of Classification : Not on name of classification</p> <p>c. Potential health effects</p> <p>* Inhalation : Acute exposure : no harmful Chronic exposure : no harmful</p> <p>* Skin : Acute exposure : no harmful Chronic exposure : no harmful</p> <p>* Eye : Acute exposure : no harmful but immediately flush eyes Chronic exposure : no harmful, but immediately flush eyes</p> <p>* Ingestion : no harmful</p> <p>* Carcinogenic : No.</p>									
4	FIRST AID TREATMENT	<p>* Inhalation exposure: no harmful</p> <p>* Skin exposure: no harmful</p> <p>* Oral exposure: no harmful</p>									
5	MEASURES AGAINST EXPLOSION OR FIRE	<p>* Fire/Explosion Hazards: Not Available</p> <p>* Fire Fighting Instructions: Not available</p>									
6	MEASURES FOR ACCIDENTAL RELEASE	<p>* Collect the released substance in a safety container. No danger and non toxic</p> <p>* Even though there is no environmental pollution hazard, isolate and keep chemicals from water supply and drainage</p>									
7	HANDLING AND STORAGE	<p>* Handling: To handle with proper container under no heat and sufficient ventilating atmosphere.</p> <p>* Storage: Keep away from direct sun-heat and store in a cool and well ventilating storage.</p>									
8	EXPOSURE CONTROLS & PROTECTION	<p>a. Ventilation: Keep ventilated equipping with ventilation fan and keeps it away from direct sun when storage.</p> <p>b. Personal protective equipment: To wear compatible chemical-resistant/safety clothes, gloves, mask and goggles.</p>									
9	PHYSICAL AND CHEMICAL PROPERTIES	<p>a. Physical state: transparent white, nonvolatile odorless liquid</p> <p>b. PH: No information.</p> <p>c. Pour Point : -4°C</p> <p>d. Boiling Point : Not available</p> <p>e. Freezing Point : -7°C</p> <p>f. Flash Point : and method : Not available</p> <p>d. P- Particle size : thickness:0.40nano meter</p> <p>e. Water content, %(by mass) : 70.8%</p> <p>f. Vapor pressure, vapor density, solubility: No information.</p> <p>g. No other information is available.</p>									
10	STABILITY AND REACTIVITY	<p>a. Stability & Reactivity: Stable at/under Normal Handling Conditions (normal temperature and pressure).</p> <p>b. Conditions to avoid: To keep free from direct sun, Heat, Flame,</p> <p>c. Incompatibility with other materials: Peroxides, acids, oxidizing agent, flammable materials.</p>									
11	TOXICOLOGICAL INFORMATION	<p>skin causticity, non toxic(Skin, Eye), mutagenicity: non toxic on skin and eye</p> <p>no hazard No other specific information found.</p> <p>b. Cancer Exposure, Acute Toxicity, Chronic Toxicity, Genital Toxicity, Teratogenicity: Not classified as a carcinogenic substance and no relevant information found.</p>									
12	ECOLOGICAL INFORMATION	<p>* Environmental Influence information: no harmful, non toxic, 100% natural</p> <p>* Resolvability and accumulation: No information found.</p>									
13	DISPOSAL CONSIDERATION	<p>* Direct Disposal or Assigned Disposal according to Waste Disposal Law and related Regulations is required.</p>									
14	TRANSPORT INFORMATION	<p>a. DOT CLASSIFICATION : Not a Dot controlled material (United States)</p> <p>b. Identification : Not available</p> <p>c. Special Provision for transport : Not DOT Not Restricted IATA</p>									
15	REGULATORY INFORMATION	<p>a. Korean Regulations</p> <p>* Industrial Safety & Public Health Law, Toxic Chemical Handling Regulation, Dangerous Safety Handling Regulations: Not regulated.</p> <p>b. USA Regulations</p> <p>* Generally not a restricted or control item under CERCLA, SARA and OSHA.</p> <p>* SARA hazard classification (29CFR1910.1200): "No" in acute, chronic, fire, reactivity, sudden exhaust.</p>									
16	REFERENCE & PRECAUTION	<p>* Reference Material: Material Suppliers' MSDS and General information from the Data Base of the Chemical Substances are quoted or referenced.</p> <p>* Precaution: Appropriate precaution has to be paid under the responsibility of the user.</p> <p>- All Chemical Products may cause unexpected dangerous accident subject to the storage conditions and other cause.</p> <p>- In application and handling of this product, keen consideration of the above information has to be paid under safety application conditions.</p>									

Responsibility for use, storage, handling and disposal of the products described herein, ether alone or in combination with other substance,

is that of the purchaser and/or end user. **This is the end of MSDS for BioMAXX HS Code:2839.19.0000**

시험 (검사) 성적서

접수번호	71-0512-0001	접수일자	2021. 3. 18
업체명	nanoTec International	전화번호/ 팩스번호	053-354-5502
제품명	BioMAXX	규격명	SiO3
업체주소	대구시 북구 침산동 117-3		
의뢰목적(용도)	BioMAXX 시험		

[BioMAXX 제품 시험성적서]

구분	성능기준	시험결과	비고
BioMAXX 성능평가시험법 I (액상필름밀착법)	달색 ²⁾		해당사항없음.
BioMAXX 성능평가시험법 II a (가스팩 A법)	제거율 70% 이상 ³⁾	99 < %	
BioMAXX 성능평가시험법 II b (가스팩 B법)	제거율 70% 이상	- %	해당사항없음.

- 주) 1) 시험방법 : BioMAXX 제품성능평가시험법을 응용하여 시험
 2) 달색 : Methylene Blue 지시의 달색변화.
 3) 제거율 : 암모니아 제거효율.
 4) 시험조건 : 25℃.

Ammonia Removal

- 비고 : 1. 이 '시험성적서'는 용도 이외의 사용을 금함.
 2. 상기내용은 의뢰자가 제공한 시료에 대한 것이며, 시료명은 의뢰자가 제시한 것임.

- ◆ **별첨** : 1. 시험성립조건 사항.
 2. 암모니아 농도 측정 결과.

2021년 3월 18일

(주)과학기술분석센터



시험 (검사) 성적서

접수번호	71-0511-0002	접수일자	2021. 3. 18
업체명	nanoTec International	전화번호/ 팩스번호	053-354-5502
제품명	BioMAXX	규격명	SiO3
업체주소	대구시 북구 침산동 117-3		
의뢰목적(용도)	BioMAXX 시험		

[BioMAXX 제품 시험성적서]

구분	성능기준	시험결과	비고
BioMAXX 성능평가시험법 I (액상필름밀착법)	달색 ²⁾		해당사항없음.
BioMAXX 성능평가시험법 II a (가스팩 A법)	제거율 70% 이상 ³⁾	90 %	
BioMAXX 성능평가시험법 II b (가스팩 B법)	제거율 70% 이상	- %	해당사항없음.

- 주) 1) 시험방법 : BioMAXX 제품성능평가시험법을 응용하여 시험
 2) 달색 : Methylene Blue 지시의 달색변화.
 3) 제거율 : Formaldehyde 제거효율.
 4) 시험조건 : 25℃.

Formaldehyde Removal

- 비고 : 1. 이 '시험성적서'는 용도 이외의 사용을 금함.
 2. 상기내용은 의뢰자가 제공한 시료에 대한 것이며, 시료명은 의뢰자가 제시한 것임.

- ◆ **별첨** : 1. 시험성립조건 사항.
 2. Acetaldehyde 농도 측정 결과.

2021년 3월 18일

(주)과학기술분석센터



Antibacterial Test

< 항균력 시험 >

시료 번호 : 63-0511-0003
 시료명 : nanoTec International
 시험 일시 : 2021. 2. 20 ~ 2021. 3. 22
 대상 균주 : *Escherichia coli* KCTC 1467
Salmonella choleraesuis KCTC 2929

1. 시험 방법

- 1) BioMAXX시료가 도포된 plate를 건조시켜 준비 하였다.
- 2) 각 균을 증균하여 MF No.1의 농도로 조절하여 준비하였다.
- 3) 표준 광반 비지에 각 균을 100 μ l씩 취하여 광반 도말하여 최초의 균수를 확인 하였다.
- 4) 준비된 plate에 각각의 증균액 20ml를 첨가한 후 35 $^{\circ}$ C, 24hr 배양 하였다.
 - ① coated plate + cell suspension + UV(360nm) 조사
 - ② non-coated plate + cell suspension + UV(360nm) 조사
 - ③ coated plate + cell suspension + 암소
 - ④ non-coated plate + cell suspension + 암소
 - ⑤ coated plate + cell suspension + 형광등
 - ⑥ noncoated plate + cell suspension + 형광등
- 5) 24hr 배양후 희석하여 광반 도말한 후 균수를 측정하였다.

2. 시험 결과

1) 최초 시험 균수

<i>Escherichia coli</i>	<i>Salmonella choleraesuis</i>
1.5 × 10 ⁸ cfu/ml	1.8 × 10 ⁸ cfu/ml

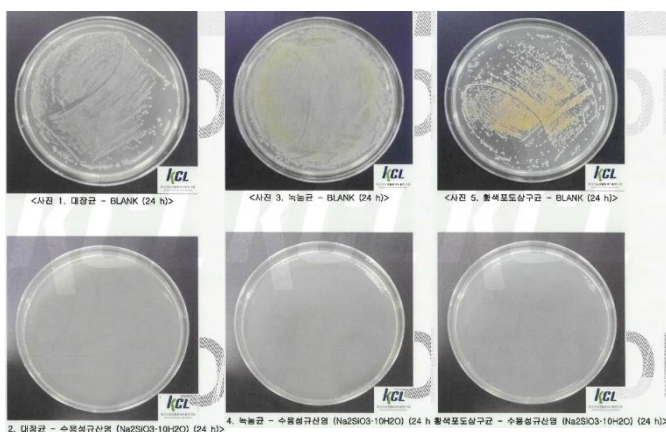
2) 24hr 배양후 시험 균수

		<i>Escherichia coli</i>	<i>Salmonella choleraesuis</i>
UV(360nm)	coated	0 cfu/ml	0 cfu/ml
	non-coated	0 cfu/ml	0 cfu/ml
Dark place	coated	0 cfu/ml	0 cfu/ml
	non-coated	3.0 × 10 ⁸ cfu/ml	3.7 × 10 ⁸ cfu/ml
Fluorescent Light	coated	0 cfu/ml	0 cfu/ml
	non-coated	3.5 × 10 ⁸ cfu/ml	4.3 × 10 ⁸ cfu/ml

3) 참고 자료 (사진)

		<i>Escherichia coli</i>	<i>Salmonella choleraesuis</i>
UV(360nm)	coated		
	non-coated		
Dark place	coated		
	non-coated		
Fluorescent Light	coated		
	non-coated		

Antibacterial effect of BioMAXX: Water-soluble silicate(Sio3)



KCL 시험성적서

시험목적	시험대상	시험방법	시험결과
항균력	BLANK	1.8 × 10 ⁸	1.8 × 10 ⁸
대광균	Na2SiO3·10H2O	1.8 × 10 ⁸	1.8 × 10 ⁸
녹농균	Na2SiO3·10H2O	4.4 × 10 ⁸	4.4 × 10 ⁸
황색포도상구균	Na2SiO3·10H2O	4.4 × 10 ⁸	4.4 × 10 ⁸
대광균	BLANK	5.7 × 10 ⁸	5.7 × 10 ⁸
녹농균	Na2SiO3·10H2O	5.7 × 10 ⁸	< 10
황색포도상구균	Na2SiO3·10H2O	5.7 × 10 ⁸	< 10

* CFU : Colony Forming Unit
 * 시험균주 : 대광균(SOP143) (180 μ l), 1.8 × 10⁸, 녹농균 (A.4 × 10⁸, 황색포도상구균 : 5.7 × 10⁸
 * 시험균주 : *Escherichia coli* ATCC 35822
Pseudomonas aeruginosa ATCC 15442
Staphylococcus aureus ATCC 6538
 * 시료 : CA-N-리액티브
 * 시험일자 : 2021.03.22 (수요일) 09:00 ~ 12:00 (시험실)

Antibacterial test with BioMAXX 0.4% dilution
 Against dazzling bacteria, *Pseudomonas aeruginosa*
 and *Staphylococcus aureus*
99.9% bacterial reduction rate

Far Infrared & nanoBio Tech
BioMAXX
 Anion, 100% Natural, eco-Friendly

Application of BioMAXX
 nanoBio Technology
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LIVESTOCK
 Application to Agriculture
 Effective of BioMAXX
BioMAXX ANTI RUST

nanoBio Technology
 F.I.R.
BioMAXX
 eco-Friendly