

Rainwater Purification System

 **Arukas® Rainbuster**

Water is the source of life and a finite resource

The earth is said to be a water planet, but 97.5% of it is seawater that is not suitable for drinking. the rest is fresh water suitable for drinking, but only less than 0.01% of the water is available to humans and animals

Even today, more than 500,000 people, mainly infants, die every year from waterborne diseases. As of 2020, 2 billion people will not have access to safe water, and by 2030, water resources will be 40% short of water demand.

We will work on sustainable water resource utilization through **rainwater purification systems** that utilize **the sterilizing, antibacterial, and deodorizing properties of minerals.**



Minerals benefits

- We focused on minerals derived from natural ores from an early stage and have been conducting research for more than 40 years.
- Minerals are elements that form human beings and are indispensable substances for living things on earth.
- The human body is 96.6% made of carbon, nitrogen, hydrogen, and oxygen, and the water (H²O) ratio accounts for 75%. The rest is minerals, of which 3~4% are intermediate elements (calcium, sodium, magnesium, potassium, etc.), 0.02% is trace elements (iron, zinc, copper, manganese, selenium, cobalt, chromium, iodine, nickel, etc.). Minerals are not produced in the body and can only be ingested from the outside. Each has an important role. Missing one will not keep you healthy. Minerals are the "ring of the chain of life" that supports our lives.
- In recent years, due to the use of chemical fertilizers and pesticides to improve productivity, unbalanced eating, dietary restrictions due to diets, mineral intake is relatively insufficient, which is one of the causes of lifestyle-related diseases.

We extract ionized minerals from natural ores. It contains all the trace elements necessary for the human body. Utilizing minerals for practical use in agriculture, poultry farming, pig farming, fresh fish, beauty, etc., we have achieved great results.



natural mineral ore

mineral		Symptoms and diseases caused by deficiency
calcium	Ca	Skeletal deformity, caries, osteoporosis, tetanus
iron	Fe	Anemia, alopecia, growth disorders
zinc	Zn	Growth inhibition, gonadal dysfunction, decreased energy
manganese	Mn	Skeletal deformity, growth disorder, diabetes, etc
copper	Cu	anemia, hair pigment deficiency, vegetative diseases,
cobalt	Co	Anemia, decreased appetite

Minerals are not only necessary for life support, but are also recognized for their sterilizing, antibacterial, and deodorizing effects.

- Space spraying of hypochlorous acid and rubbing alcohol used for sterilization and sterilization is **very dangerous**, but our natural ore-derived "The mineral disinfectant water **SAKURA Virus Cut**" is not only effective in sterilizing, antibacterial, and deodorizing, but also sprayable in spaces, and is safe solution even if it gets in the mouth at all. It is used in Japan, the United States (FDA medical device registered) and other countries.

Humidifier :
Harmless ingredient for space
sanitization



Electric Server;
Water purifier for humidifier
and mist sprays



« Concentrated 400ml :
120 l purification »

Disinfectant concentrate
specialized for electric servers



Handy spray type



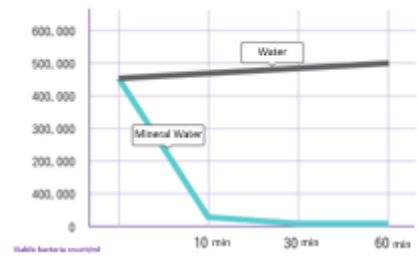
Comparison with alcohol and hypochlorous water products

	Viruscut	Hypochlorous water	Alcohol
Sterilization	○	△ Use after removing dirt	○
Antibacterial	○	X	X
Deodorant	○	X	X
Space spray	○	X	X
Product odor	Odorless	Chlorine odor	Ethanol odor
Metal corrosion	no	yes	no
Expiration date	Three years	Three months	Three years

Effect verification test results

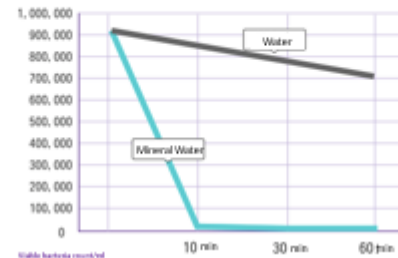
- the anti-bacterial test result by the Japan Food Research Laboratories

Included in drinking water and food contaminated with excrement
Vibrio cholera



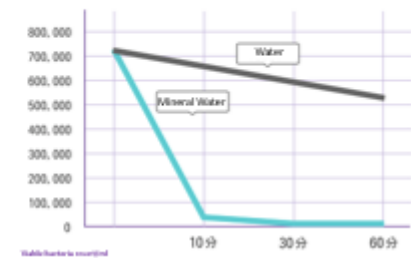
99.9% removal in 10 min

The most familiar causative agent for food poisoning
Staphylococcus aureus



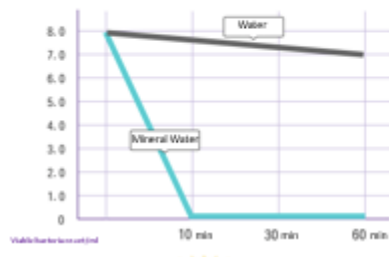
97.3% removal in 10 min

Often found in eggs and utensils
Salmonella



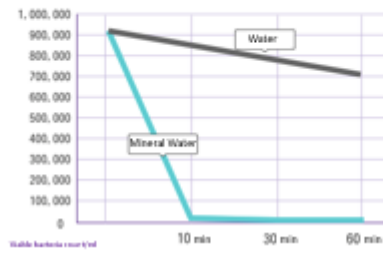
99.8% removal in 10 min

Commonly found in raw food or oysters
Norovirus



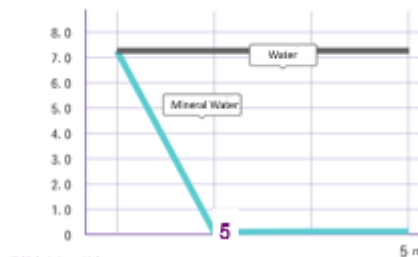
99.9% removal in 10 min

Strongly infectious and often found in toilet
Shigella



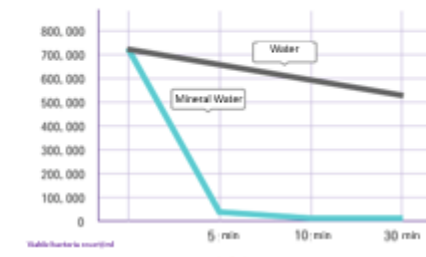
99.9% removal in 10 min

Preparing for annual season
Influenza



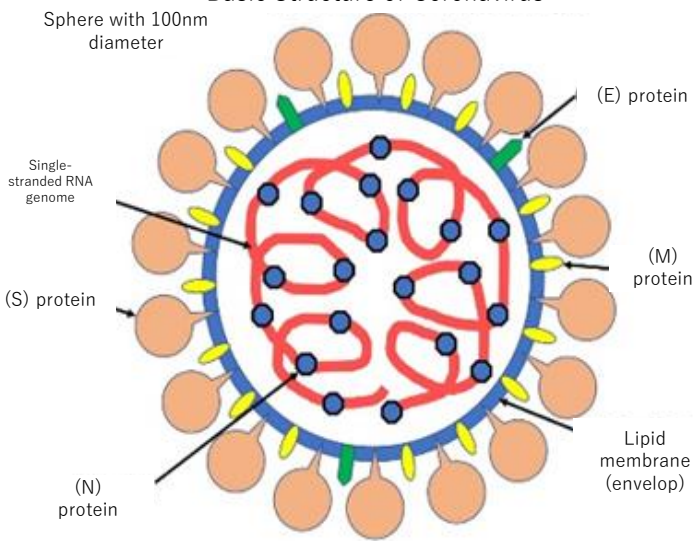
99.9% removal in 10 sec.

Preparing for the new coronavirus
Swine Coronavirus

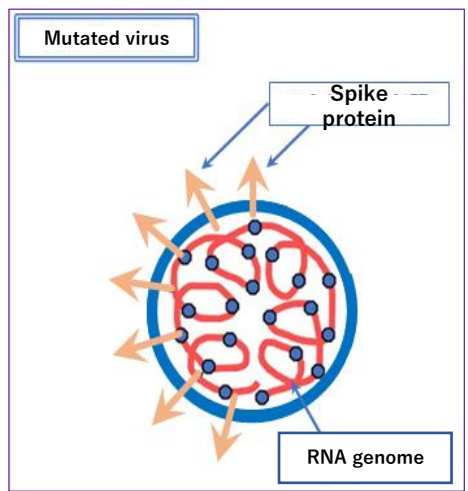
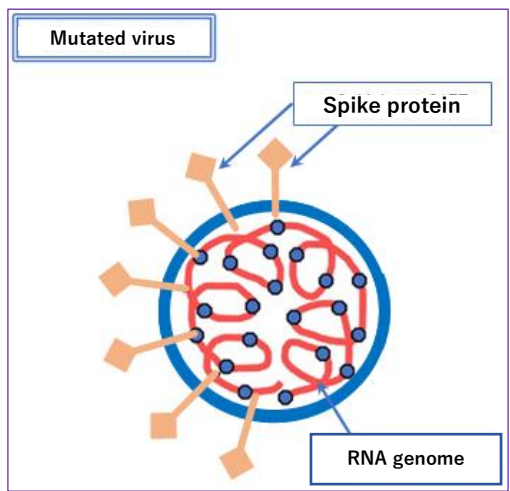
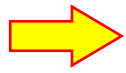


99.7% removal in 10 min

Basic Structure of Coronavirus

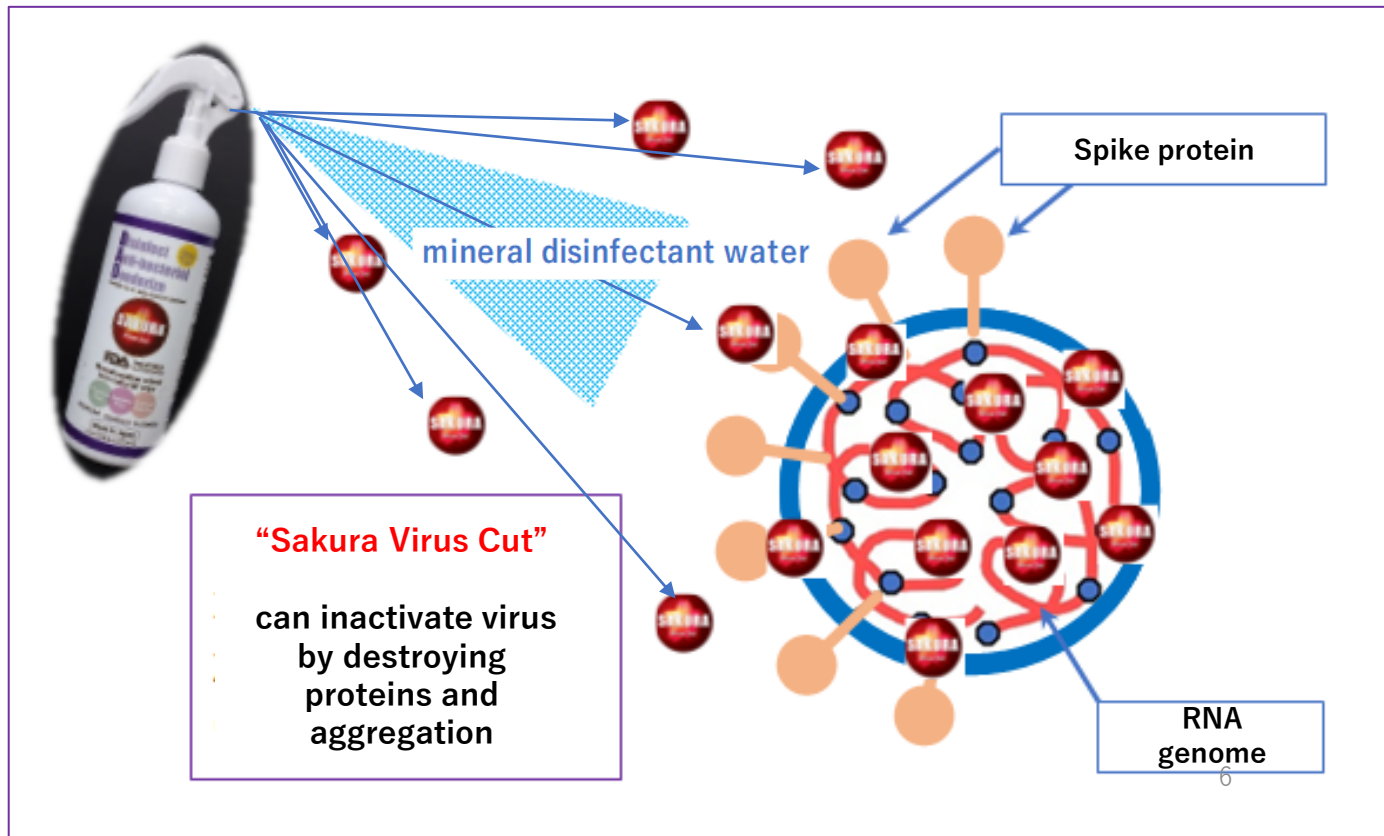


Various Mutations



SARS-CoV-2, which causes COVID-19 is one of coronavirus that has been confirmed to infect humans.

It is derived from Latin word "corona", which means a crown after the shape of a ring of spike proteins under an electron microscope.



Arukas® Rainbuster

The feature of Rainbuster is a safe filtration system using ionized minerals.

Minerals precipitate and aggregate invisible impurities contained in water. It further inactivates bacteria and viruses.

Rainwater dripped with minerals is reacted inside the bag filter and then subjected to primary filtering.

After that, fine impurities are removed with a 0.2μ filter, and then deodorized with an activated carbon filter.

Instilling minerals into rainwater, etc., it reacts with rainwater, etc. in a bag filter for primary filtration, and then $0.2\mu\text{m}$ The filter further removes impurities, and the activated carbon filter removes odors.

The power is covered by solar panels and batteries, so it can operate even in the event of a power outage.

It is an **ecological system** that uses the natural energy of rainwater and the sun.

After filtration, the purified water retains the mineral components necessary for the human body, and is safe to drink.

height:1620mm

Specificity

- (1) .It is an effective BCP solution that can be used immediately in the event of a disaster such as a water outage or power outage because it uses a solar power generation and storage system as a power source and rainwater.
- (2). The cost of adding minerals required to make 1 liter of water is only 1 JP yen.
- (3).Compact design increases the degree of freedom to choose the storage location and installation location. It is easy to move with casters.
- (4). Maintenance is easy with backcleaning of the filtration tank and regular filter replacement.
- (5). The system consists of a purification system, solar panels, and storage batteries.
- (6). Although it is a compact system, it can produce 13 liters of drinking water per minute, and it can produce about 800 liters of water in one hour, which is usually required for a family of four.



depth:500mm

width:786mm

7

Ultra Fine Bubble mellows purified water

- The Ultrafine Bubble Generation Nozzle installed in the system generates more than 50 million ultra-fine bubbles in 1cc of water. This bubble makes the purified water mellower and easier to drink. In addition, this bubble floats in the water for a long time, so if you use it in the bath, biofilm (slimy feeling) does not stick easily, and yellowing of the toilet does not occur.

bathroom



Biofilm is less likely to stick and dirt is easier to remove

toilet



Removes dirt from toilet tanks and pathways and helps purify drains

Car wash



Used for car wash finishing, it is less likely to get dirty

kitchen



Makes it easier to remove dirt from washing, and removes biofilm in pipes and drains

Steam iron



The amount of steam increases

shower



Keeps hair moisturized by allowing moisture to enter easily

Washstand



Remove biofilm from drains and drains

laundry



Cleans the inside of the washing machine and makes it easier to remove dirt from the laundry

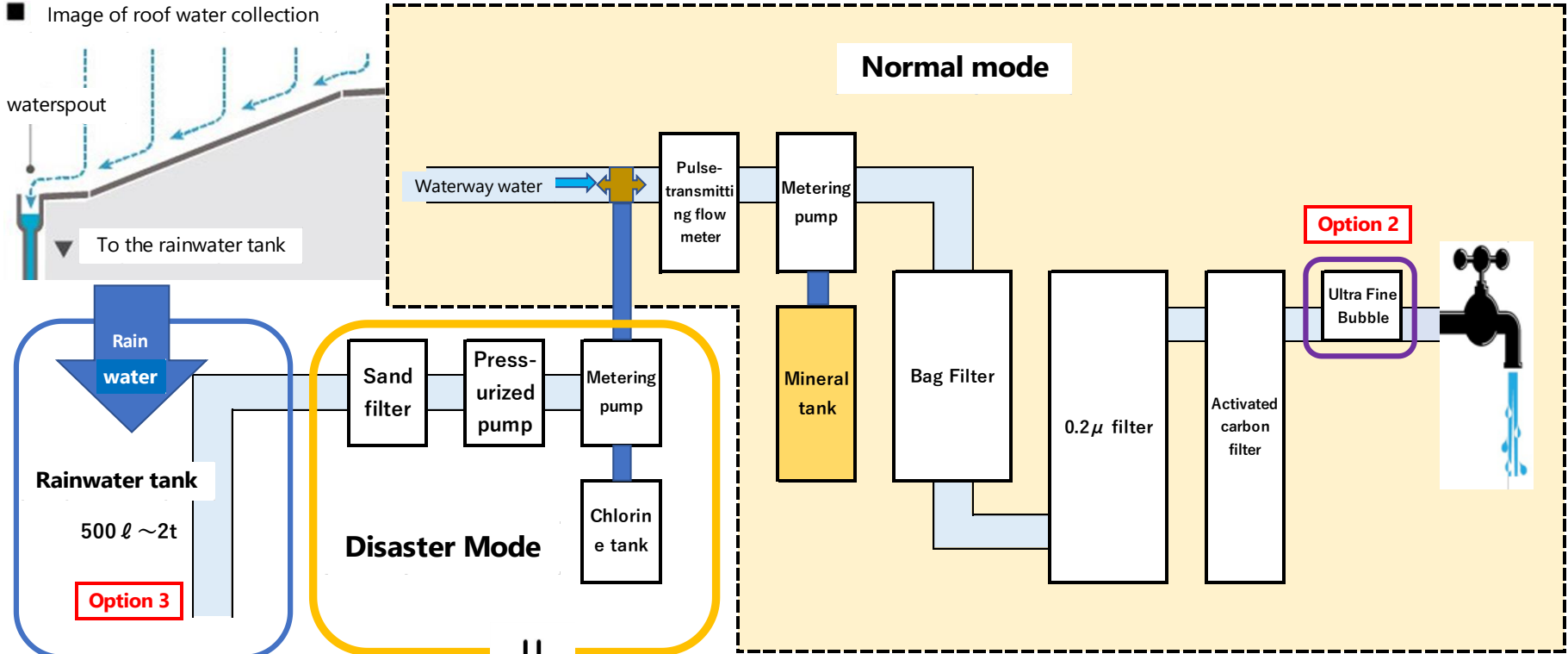
Equipped with a high-output energy storage system

- Equipped with a pass-through function that can be charged simultaneously from sunlight and AC power supply, and can be charged and discharged at the same time.
- Equipped with a uniquely designed heater, it can be charged and discharged at minus 30 degrees Celsius.
- Lithium-ion iron phosphate battery is adopted, the risk of ignition and explosion is lower than that of other batteries, and the battery has a long service life (10 years of charge/discharge, 2500 times or more)
- Battery capacity can be expanded to a maximum of 15kWh in 5 stacks per unit (unit).
- Dustproof and waterproof IP65, compact and easy to move with casters



Temporary energy storage system

Rainbuster System Configuration Diagram



- **Normal mode:** Tap water or well water is used as a water source, and delicious water containing minerals can be produced.
 - **Disaster mode:** Rainwater, rivers, and well water are used as water sources to produce safe and secure drinking water.
- Option 1** If you have a solar power generation + storage system, it can be connected to an existing system
 - Option 2** Ultra Fine Bubble keep clean the water area.
 - Option 3** If you request, we will also collect water from rain gutters and piping.

Japan: Drinking Water Testing Conformity, US: FDA Disinfectant ,Medical Devices Registered

Drinking Water Inspection Report

飲料水検査成績書

No. 2022-3044-2

令和4年7月13日

株式会社 スリーエス

様

鳥取市富安二丁目94番4

公益財団法人鳥取県保健事業団

理事長 平尾 正人



試料名	泥水濾過水	検体区分	
採水場所		採水箇所	
採水年月日時刻	令和4年6月27日 9時00分	委託年月日	令和4年6月27日

上記試料の検査結果は次のとおりです。

検査項目	検査結果	基準
一般細菌	0 個/ml	集落数100個/ml以下
大腸菌群	検出されない	検出されないこと
カドミウム	< 0.001 mg/l	0.01mg/l以下
水銀	< 0.0005 mg/l	0.005mg/l以下
鉛	< 0.01 mg/l	0.1mg/l以下
ヒ素	< 0.005 mg/l	0.05mg/l以下
六価クロム	< 0.005 mg/l	0.05mg/l以下
シアン	< 0.001 mg/l	0.01mg/l以下
硝酸性窒素及び亜硝酸性窒素	0.5 mg/l	10mg/l以下
フッ素	0.08 mg/l	0.5mg/l以下
有機リン	< 0.01 mg/l	0.1mg/l以下
亜鉛	< 0.1 mg/l	1.0mg/l以下
鉄	< 0.03 mg/l	0.3mg/l以下
銅	< 0.1 mg/l	1.0mg/l以下
マンガン	< 0.03 mg/l	0.3mg/l以下
塩素イオン	9.8 mg/l	200mg/l以下
カルシウム、マグネシウム等(硬度)	22 mg/l	300mg/l以下
農薬残留物	63 mg/l	500mg/l以下
陽イオン界面活性剤	< 0.05 mg/l	0.5mg/l以下
フスノール類	< 0.005 mg/l	0.005mg/l以下
有機物等(過マンガン酸カリウム消費量)	1.2 mg/l	10mg/l以下
pH値	6.8 (21℃)	5.8以上8.6以下
味	異常でない	異常でないこと
臭気	異常でない	異常でないこと
色度	< 1 度	5度以下
濁度	< 0.5 度	2度以下

判定	上記検査項目については基準に適合 不適合項目 ()	qualified
検査担当者	理化学的検査 定本 裕明	細菌学的検査 田中 正樹

検査方法は、平成26年12月22日付け食安審1222第4号 田 食品製造用水の化学物質等試験法による。ただし、一般細菌および大腸菌群は昭和34年12月25日厚生省告示第370号「食品、添加物等の規格基準」第1食品 B食品一般の製造、加工及び調理基準の表による。基準は、昭和34年12月28日厚生省告示第370号「食品、添加物等の規格基準」第1食品 B食品一般の製造、加工及び調理基準の表による。

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Establishment Registration & Device Listing

1 result found for Establishment Registration or FEI Number : 3017868356 New Search

Establishment Name	Registration Number	Current Registration Yr
THREE S INC. JAPAN	3017868356	2023
<ul style="list-style-type: none"> Disinfectant, Medical Devices - Arukas Rain Buster, KOUSEI, SAKURA, Sakura Humidifier, SAKURA VIRUS CUT 		
		Remanufacturer, Repackager/Relabeler

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Contact us :

ARUKSA USA Inc

4459 W Flamingo Rd unit4B, Las Vegas, NV 89103

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