

Frequently Asked Questions: Tri-Netra Hand Sanitization Unit

What is Tri-Netra Hand Sanitization Unit?

Tri-Netra Hand Sanitization Unit is a portable wall mounted device that provides ozonated water treated optionally with triyogani solution (that converts water into hand sterilizing medium) in a continuous manner. It is extremely useful device in providing extremely low cost safe hand sanitizing system along with additional fruits and vegetable wash as well as equipment wash options.

Why it is referred as 2-in-1 dual fusion technology based device?

2-in-1 refers to two sided dispensing system - front side for hand sanitization while right side for Fruits and Vegetable Sanitization unit. The dual fusion technology refers to use of ozonated aqua and/ or triyogani ozonated aqua mix for hand sanitization and vegetable/ fruits sanitization.

Is it useful for residential or non-health care purpose only?

No, there are two variants- (1) Domestic Variant with hand sanitization unit coupled with Fruits and Vegetable Sanitization unit while (2) Health Care Clinic variant with hand sanitization unit coupled with Equipment Sanitization Mode.

What do you mean by “Wash till it sanitize” ?

Wash till it sanitize is concept of providing of water based sanitization system in which till the time your hand in under outlet sensor keeps on providing sanitizer for both cleaning and sanitization, unlike alcohol based sanitization unit. This will ensure that you can even clean your hands in present unit too which is not permissible in alcohol based system as that leads to dryness.

You propose it to be Alcohol free sanitization unit? What will happen if one wants to use Alcohol based hand sanitizing solution?

It is not recommended to use alcohol based sanitization system in this unit however if some one adds it, it is like sterilization of your hands with alcohol and ozone together.

What is the difference between “Triyogani Ozonated Hand Sanitization” vs. Triyogani Fruits and Vegetables Sanitization”?

Triyogani Ozonated Hand Sanitization refers to addition of triyogani solution into the tank which converts into hand sanitizer and with combination of ozone at nozzle system, oxidative processes to manage hand hygiene will be achieved. In the base model, Triyogani Fruits and Vegetable Sanitization is use of Triyogani solution (developed for Fruits and Vegetables, also useful for hands too) is added in tank, however no ozone will be present. Oxidative Reduction Potential of this mix is pre-tested and validated for use in Fruits and Vegetables. In the advance models, there is continuous diffusion of ozone in this pre-mix allowing both hand and fruits / vegetable sanitization linked with ozonated water.

How you can compare it with alcohol based sanitization? Should it replace it completely?

No, alcohol based sanitization cannot be replaced completely especially in extremely high risk zones where dryness cannot be achieved via heat driers. Secondly, in future, with growth of new variants of micro-organism resistant to existing disinfecting chemicals is significant possibility. However, alcohol being non-aqueous system is significantly resistant against such plausible growth and same applied to ozone, a naturally occurring disinfecting medium. Thus, the biggest advantage of ozone vs. alcohol that ozone can be

generated at the site of unit itself using air while alcohol requires complete set up and raw material from agriculture sector. Keeping in consideration, large scale pandemic situation requiring population to sustained in air controlled bunkers / society, ozone based system is self sustaining and remained with you as “poor man’s disinfecting medium”.

What is the comparative cost of “Triyogani Ozonated Treatment” per hand wash vs. “alcoholic hand sanitization”?

The average volume required in both cases are similar i.e. 15-20 ml. The cost of hand wash using Triyogani Ozonated Treatment is 10 times lesser than Alcoholic hand sanitization.

Which is better choice “immediate diffusion of ozone in aqueous environment” for hand sanitization or “pre-diffused water with ozone”?

Herein the choice between the two is directly dependent on usage and practical application. Immediate diffusion is an effective mode for hand sanitization to provide standard levels of ozone in each wash with less energy cost. On the other hand pre-diffused water will lose ozone with time hence continuous diffusion will be needed which is impractical with respect to unit as well as energy consumption. Pre-diffused ozonated water is useful for fruits and vegetable sanitation wherein it needs to be collected in bowl however requires ORP linked continuous diffusion mode sets for a timeline. In combination with Triyogani in present unit, this process is optimized.

If aqua ozone is significant for managing hand sanitization practices, what is the need of triyogani solution or should say “Triyogani Ozonated Treatment”?

Hand sanitization is linked with effective contact time and amount of dispensing medium used per hand wash. Ozonated Treatment is significant for low to moderate risk occupation wherein it can be used as additional mode of hand wash -sanitization. However as risk rises, the type of micro-organisms adding into spectra are highly resistant requiring higher ppm of ozone, to match that requirement, Triyoagni solutions are added keeping ozone levels under permissible limits.

What is the capacity of tank of “Tri-Netra Hand Sanitization Unit”?

6 Liter

How many hand sanitization washes (approximately) are possible from one single fill?

The approximate volume used per wash is 15 ml which leads to average of 400 hand washes.

What is referred as “Tri-Netra” , whether it has some symbolic meaning or it’s just a brand only?

Tri-netra refers to Indian mythology as extreme power of Shiv, the god that can destructs by opening third eye (tri-netra). This symbolic reference is used to describe Extreme / Advance oxidative processes that can neutralize micro-organisms posing risk to human’s survival. Hence, Tri-Netra is adopted as brand.

What is referred as “Triyogani” , whether it has some symbolic meaning or it’s just a brand only?

Triyogani refers to organic, use of water, ozone and slight mix of solution is particular system - fits into this criteria. Hence it is nature of unit to use such combination of technologies.

How this product is extremely useful against “Pandemics with WMP potential”? Does this unit will work or some advancement is needed?

This product is extremely useful against Pandemic with WMP potential attributed to following reasons: (a) self-sustaining in lack of supply of any alcohol based sanitization; (b) any specific disinfectant/ steriliant developed against particular pathogen against existing pathogens or unknown in future can be added in same unit. The unit with management of Pandemics with WMP potential is an advance model strictly to be used in extremely high risk areas with an ability to enhance (a) levels of ozone diffusing into water; (b) steel body designed with robustness standards and; (c) catalytic convertors based containment to ensure safety around the equipment too. Such advance models are being developed with respect to military grade reserves at present.

How hand sanitization is different from hand sterilization? Is it same or different? How this unit or its advanced versions can support this process?

Sanitization refers to use of disinfectant against plethora of microbes known to be neutralized by the specific oxidative process. However sterilization concept targets a particular pathogen or a family of pathogens specifically in addition to it's baseline sanitization potential, neutralizing associated risk / threat. Ozonated water is sanitizing medium while addition of Triyogani makes it useful even against bacterial spores (tested & validated). However, these models works on standard levels of ozone and cannot be increased further to fulfill requirement of COVID-19, however advance versions can provide continuous (shielded) diffusion process of ozone too.

The company referred it as “Remote operation sanitization and water purification unit”, what does it mean?

It means it can be easily deployable at remote sites as the need of power is extremely low. In addition the prime raw material for consumption is water and air available even in remote locations. Importantly, ozone also cleans water itself thus using natural resources is also a choice. However, R&D is under progress by testing various water sources and it's utility for the same. Thus, unit can support such process though SOPs are being developed for the same.

Does the unit has some other advantages with respect to standard hand sanitization dispensers for Military and Paramilitary Forces working in multiple terrains?

Remote operation sanitization mode is extremely useful and available in military grade robust designed products especially to those operating in multiple terrains. It can be used that system can operate at low power consumption with air and water as primary inputs only.

The outer body is plastic as other standard units, whether it has some robust unit design for military and paramilitary use?

Yes, the present unit is civilian mode unit while for military grade robust unit are designed however being developed only on customized requirement basis.

How this devices is referred “Organically Clean” ? what does it mean?

Ozone is GRAS III Steriliant and only inorganic compound refers as “organic” globally. The unit primarily used ozone thus referred as “organically clean”.

What are ‘syn Ozone’ treatment? What type of R&D is under progress? How this unit fits into this criterion?

“syn Ozone” treatment refers to mixing of other chemical disinfectants / solution with ozonated water to target specific task. If the outcome of such combination is additive, then the treatment is synergistic referred as “syn Ozone” treatment. Various solutions are being developed to support ozone therapy, ozone disinfection, ozone water and air purification as part of R&D under progress. This unit fits in this category as “Triyogani” works in sync with Ozonated Aqua treatment making it “Tri-Netra”.

Does the unit require RO water or Tap water even can be used?

Tap water can be used directly for the sanitization purpose.

How much time it will take to restart “Fruits and Vegetable” sanitization if it’s only ozone as being developed in advance units?

In the advance units, the expected time to restart unit for Fruits and Vegetable is minimum of 30 minutes as during continuous diffusion process, it needs to be optimized that minimum ozone concentration is reached within water.

What is the approximate number of bowl washes are possible for 1 Kg of fruits & vegetables?

The average volume to be taken in bowl for 1 Kg of fruits and vegetables is 2 Liter to be collected from tap provided in the unit.

Every time you sanitize hands or clean fruits and vegetables, ozone comes out, whether the levels are safe? Is there any negative impact on environment?

No each time when one uses it to sanitize their hand, the level of ozone oozes out is completely safe and has no negative impact on environment.

How much ppm per wash is expected once continuous mode is activated?

Minimum of 2.5 ppm is maintained on an average basis per wash after activation of continuous mode.

What is continuous activation mode?

Once the machine started, use it after 15 minutes of delay time and keep it ON continuously for regular use. This 15 minute delay time for initial start refers to activation of continuous mode.

Whether it releases an ozone outside the unit ? Is it safe?

Being the unit is fitted with catalytic convertor, the ozone generated above aqueous level is absorbed by catalytic convertor keeping outside environment safe for human operations.

We keep on hearing some voice in the unit ? What is this voice and is it relevant to keep it in ON-State only?

It is pressure pump that continuously operates so that water ozone mix flushes out with pressure and it remained in ON-state to provide it with pressure.

What is warranty provision?

The product is provided with One year warranty.

Can this unit be fitted by my regular personnel coming for RO service or require any special skills?

No special skills are required, any person with experience with RO service can easily install this. Even person can install it on their own too.

What do you mean by “Just Add Water” concept?

Just Add Water concept refers to Advance unit wherein continuous ozone levels are maximized to achieve complete sanitization level in absence of any supply of chemical based disinfectants to be added into water during extreme emergencies.

Can you collect hand sanitization medium created in unit for daily use? If answer is yes, what should one kept in mind while doing this?

No Unit is not designed for collection of medium. You can use directly Triyogani concentrate to develop hand sanitizer for your travel bottles as per instruction given on Triyogani label.

What is Equipment Sanitization Mode?

Triyogani Solution-C is useful in sanitizing equipment too thus in advance units O2 tank system is provided for Triyogani Solution-C is collectable from Tap useful in sanitization of equipment. In base model, it comes as ozonated Triyogani system based on buyer's choice.

Are Non-Alcoholic Sanitizers like Triyogani (hand sanitizer) is effective in killing microbes?

Triyogani (hand sanitizer) demonstrated up to 4 logarithmic (more than 99.99%) reduction in microbial cell count within 15-30 seconds of application. These results are better or equivalent to an alcohol based sanitizer with at least 75% alcohol content.

Why choose a non-alcohol based hand sanitizer over an alcohol based sanitizer?

Alcohol based sanitizers are often associated with several hazards and risks as mentioned below:

- a. **Dry out skin:** Alcohol based sanitizers are usually harsher and dry out the skin upon regular usage. This results in itching, flaking or cracks that can further attract infections. It may also increase risk of Dermatitis, skin irritation or Eczema. Our formulation is composed of alcohol free bioactive agents and emollients that are skin friendly while nourishing the skin for hydration.
- b. **Alcohol poisoning-** Several cases of accidental ingestion by young kids resulting in subsequent hospitalization have been reported. Further, they may be misused for inducing intoxication especially in teenagers due to high concentration of alcohol present. Therefore, additional precautions need to be taken to keep them out of reach of children. Our formulation poses no such chemical hazards.
- c. **Fire Hazards:** Alcohol based sanitizers are classified as Class 1 flammable liquid substances due to low flashpoints. Alcohol based sanitizers could result in fire hazards especially when used near flame or high temperature environments such as kitchen or near car ignitions. Alcohol free sanitizers are thus safe for domestic applications or near high temperature settings.

Our alcohol-free formulation is composed of highly effective biocidal agents that are fast acting on a broad spectrum of infectious microbes. It is further composed of

emollients and skin conditioning agents that prevent drying and are safe for use in domestic settings with young kids.

How is Triyogani (hand sanitizer) different from other non-alcoholic sanitizers?

Non-alcoholic sanitizers are usually composed of quaternary ammonium compounds like Benzalkonium chloride or triclosan. *QUATS* are potentially harmful chemicals associated with multiple health risks such as allergies of skin, eye and lungs. They are irritants that induce asthma and contact dermatitis and birth defects. They may also cause irritation in gastrointestinal walls causing nausea and vomiting. Moreover *QUATS* tend to stick to surfaces and substrates including food leaving a residue which is harmful for both health and environment. **Quaternary ammonium compounds:** QUAT based hand sanitizers have been widely publicized as alternatives to alcoholic sanitizers but are extremely toxic for both skin and environment. *QUATS* have been linked with allergic reactions with skin, eyes and lungs. *Triclosan* is an effective antibacterial and anti-fungal compound. However, repeated usage has been linked with antibiotic resistance which could lead to severe consequences for the public. Hence it is not recommended for use in sanitizers. Our formulation is designed as a safe and eco-friendly alternative to conventional disinfectants. The disinfectant leaves no residue and the herbals extracts have demonstrated to have potent antimicrobial activity.

Are there any studies justifying use of herbal extracts?

In traditional medicine, several plant derived extracts have been used for treatment of diverse kinds of medical indications. A wide variety of locally derived herb extracts have been demonstrated to possess antimicrobial activity on par or superior to existing synthetic chemical compounds. One such extract of *Azadiracta indica*, commonly known as Neem is a native to Indian subcontinent and possesses very strong antibacterial, antifungal and antiviral properties. It has also been used popularly for skin associated conditions. Another herbal extract, Thymol derived from the plant *Thymus vulgaris* has been reported to possess antibacterial and antifungal properties. Studies have shown thymol is effective against HIV and HSV virus strains, indicating a promising function as a sanitizer. It has strong antioxidant and anti-proliferative effect while being safe for the environment. We have exploited the antimicrobial properties a blend of herbal extracts which have been widely studied and published for antibacterial, antifungal and antiviral effect at even low concentrations.

How long is Triyogani (hand sanitization) effective?

The herbal hand sanitizer has residual antimicrobial activity and has shown increased effectiveness with repeated usage. This is in contrast to alcohol-based sanitizers which show reduced effectiveness with repeated use. Whereas repeated use of alcohol creates skin crevices that can harbor germs, repeated use of our herbal Hand Sanitizer actually improves skin texture, thus making it progressively harder for germs to breed.

Will there be an aftertaste on food after using Triyogani (hand sanitization) before eating?

No. Under conditions of normal use (hands dry after use), the product will not leave any noticeable aftertaste on food. The sanitizer is both safe for skin as well as when in direct contact with food. The individual components are safe natural herbs and edible compounds deemed safe for consumption as well.

Does the treatment proposed in this unit remove pesticides and chemical contamination?

Yes it removes pesticides and chemical contamination on fruits and vegetables

Should we add separate Triyogani Sachet (Fruits/ Veggie Wash) in bowl once Ozonated Triyogani water is collected?

There is no need to add any sachet, you can use it directly. Sachets are independent fruits/ veggie wash systems not linked with ozonated water.

Whether the treatment given by Tri-Netra using Triyogani ozonated treatment is food safe?

Yes it is food safe treatment.

How much power it consumes if used continuously?

Its power consumption is 25 W and it consumes 1 unit of current in 40 hours of continuous operations.

What are other imported or domestic substitutes present in the market in comparison to this device?

To the best of our knowledge, no such parallel imported or domestic substitute product is known in the market at present.
