



 **sani
amanzi**
CARING FOR LIFE



SANI AMANZI



In a world where the availability of safe drinking water remains a paramount concern, SANI AMANZI™ rises as a beacon of innovation and hope. Against the backdrop of an alarming statistic;

“1 in 3 people globally do not have access to safe drinking water”

UNICEF/ World Health Organization Report

the imperative need for a transformative solution has become more pressing than ever. SANI AMANZI™ takes centre stage as a pioneering point-of-use water purifying solution, reshaping the landscape of clean water accessibility.

Why we do, what we do

2.2
billion

According to the World Health Organization (WHO) and UNICEF, approximately 2.2 billion people worldwide do not have access to safely managed drinking water services. This means that a significant portion of the global population lacks access to clean and safe water sources, putting them at risk of waterborne diseases and related health issues.

40
billion hours

In many developing regions, particularly in sub-Saharan Africa, women and children spend hours each day collecting water from distant sources. On average, women and girls in sub-Saharan Africa collectively spend about 40 billion hours per year collecting water, which equates to approximately 16 million individuals spending an average of 2.5 hours each day fetching water.

1.5
million

Unsafe water, poor sanitation, and inadequate hygiene cause more deaths annually than all forms of violence, including wars. In 2019, the World Health Organization (WHO) estimated that around 1.5 million deaths were attributed to waterborne diseases, making it a significant global health concern.

What sets sani amanzi apart from other water purifiers?



SANI AMANZI™ isn't just another entry in the realm of water purifiers – it's a revolutionary leap forward. While many products claim to offer clean water solutions, SANI AMANZI™ sets itself apart through a combination of cutting-edge technology, affordability, and practicality that speaks directly to the needs of individuals and communities exposed to contaminated water sources.

Behind the creation of SANI AMANZI™ lies a culmination of expertise from a team deeply entrenched in understanding the intricacies of contaminated water challenges. This amalgamation of scientific knowledge and practical experience has resulted in a solution that doesn't merely purify water, but addresses the complex web of issues surrounding waterborne pathogens and contaminants.

What once was considered solely a concern for rural areas has transcended boundaries, becoming an urgent urban crisis as well. SANI-AMANZI™, however, remains steadfast in the face of evolving challenges. Its efficacy extends beyond conventional bacteria to encompass antibiotic-resistant strains – a testament to its remarkable capability in tackling a broad spectrum of pathogens.

Central to SANI AMANZI™'s potency is its innovative reagent, an inorganic composition derived from natural, non-polluting substances. The use of inorganic raw materials underscores a commitment to both efficacy and environmental responsibility. Moreover, SANI-AMANZI™ not only purifies but nourishes. With a formula that supports diverse gut microbiota, it contributes to overall health while acting as a detoxifier, thus enhancing the body's pH balance.

SANI-AMANZI™ also prioritises the well-being of its users. Every facet of its design is meticulously crafted to ensure that once diluted, the product is not only effective but also safe for human consumption. Moreover, SANI-AMANZI™ stands out from liquid alternatives in the market by incorporating a precise dosage mechanism (6g per sachet). This innovative feature eradicates the possibility of overdosing, setting a new benchmark in safety and accuracy that redefines the landscape of water purification solutions.



“In a market flooded with choices, SANI AMANZI™ stands out as an embodiment of innovation, efficacy, and a steadfast commitment to delivering clean, safe water to every corner of the globe.”



What are the key advantages of using



Innovative Packaging: Encased within compact 6g sachet, each sachet effectively purifies up to 20 litres of contaminated water, making it a practical solution even in resource-constrained environments.

Accurate Dosage: In contrast to liquid alternatives, SANI-AMANZI™ eliminates the risk of overdose by delivering precise and consistent dosages within each sachet.

Convenient Powder Formulation: Its powdered formulation not only facilitates easy transport but also ensures effortless utilisation, regardless of the location.

Chemical-Free Approach: Committed to user health and safety, SANI-AMANZI™ avoids the use of chlorine or other harmful chemicals, prioritising the well-being of its consumers.

Robust Pathogen Eradication: SANI-AMANZI™'s efficacy extends to formidable pathogens such as Salmonella, Shigella, and Cholera, ensuring comprehensive and reliable water purification.

Premium Packaging: Triple foil sachets guarantee that SANI-AMANZI™ arrives in optimal condition, preserving its potency and reliability for maximum effectiveness.

Exceptional Effectiveness: Demonstrating an exceptional sanitising efficacy rate of 0 (ZERO) E.coli per 100ml, it sets an unprecedented benchmark in water purification performance.

Sustainability Focus: SANI-AMANZI™ contributes to a reduced carbon footprint through its innovative packaging, making it an eco-friendly water purification solution.

A shield against deadly pathogens

Designed to protect against a spectrum of waterborne threats, SANI-AMANZI™ guarantees the purity and quality of the water you consume. Its remarkable efficacy stems from its ability to destroy 99.99% of bacteria, viruses, and protozoa present in the water, shielding consumers from potential health hazards.

One of SANI-AMANZI™'s distinct advantages lies in its capacity to neutralise key threats, including the notorious Salmonella, Shigella, and E. coli. These pathogens are known culprits of severe gastrointestinal illnesses, and SANI-AMANZI™ ensures they are effectively eradicated. Moreover, it tackles cryptosporidium and oocysts, which are often responsible for waterborne infections and digestive discomfort.

A standout feature of SANI-AMANZI™ is its remarkable sanitising efficacy. It achieves a sanitising efficacy of 0 (ZERO) E.coli per 100ml, a testament to its rigorous purification process and commitment to water safety.



What contaminants can sani amanzi remove from water?



arsenic

Arsenic is a natural element that can contaminate water sources through geological processes and human activities. In its inorganic forms, it poses health risks when consumed.

Long-term exposure, often through drinking water, has been linked to cancer, skin issues, cardiovascular problems, neurological effects, and more.



fluorides

Fluorides are naturally occurring compounds that can be found in soil, rocks, and water sources. In water, fluoride ions are derived from the dissolution of minerals like fluorite.

While fluoride is often associated with dental health due to its role in preventing tooth decay, excessive levels of fluoride in drinking water can pose health risks.



nitrates

Nitrates, composed of nitrogen and oxygen, are natural components found in soil, water, and fertilizers. While they themselves are generally safe, elevated nitrate levels in drinking water, often from agricultural runoff, can lead to health risks.

Within the body, nitrates can undergo conversion to nitrites, which can impact the blood's ability to transport oxygen.



pesticides

Pesticides are chemicals used to control pests in agriculture, but improper use can lead to their presence in water sources. They enter water through runoff, irrigation, and accidents, impacting aquatic life and potentially human health.

Pesticide contamination varies in effects, from neurological issues to increased cancer risk, depending on type and concentration.



iron

Excessive iron in drinking water, while a natural element, can lead to discoloration and taste issues. Soluble iron can transform into insoluble rust, causing water to appear reddish or brownish. This discoloration not only affects aesthetics but can also alter taste.

Additionally, high iron intake can result in stomach discomfort, particularly for those with certain medical conditions.

Addressing anti-biotic resistant bacteria in water

Antibiotic-resistant bacteria are strains of microorganisms that have developed the ability to withstand the effects of commonly used antibiotics. This phenomenon poses a significant challenge, especially in developing regions, where access to advanced medical care is limited. These resilient bacteria can thrive in water sources, magnifying the existing health risks in communities already facing limited healthcare resources.

In areas where clean water is scarce and sanitation infrastructure is inadequate, the presence of antibiotic-resistant bacteria in water sources compounds the health dangers. Consuming or using contaminated water can lead to the spread of infections that are not easily treatable, resulting in prolonged illnesses and heightened healthcare expenses. The rise of antibiotic-resistant bacteria amplifies the urgency for effective water purification solutions tailored to the needs of these regions.

Against this backdrop, SANI AMANZI™ emerges as a beacon of hope. Its innovative water purification approach not only ensures water safety but also addresses the challenges posed by antibiotic-resistant bacteria. By effectively neutralising even the most resilient microorganisms, including antibiotic-resistant strains, SANI AMANZI™ contributes to the health and well-being of communities in developing regions.



No chlorine, no problem!

SANI AMANZI™ stands as a remarkable solution in the realm of water purification, distinguished by its chlorine-free approach. Unlike traditional methods that often rely on chlorine for disinfection, SANI AMANZI™ offers a significant advantage by steering clear of this chemical element. While chlorine can effectively eliminate contaminants, it often leaves an undesirable footprint, introducing taste and odour complexities to the treated water. In contrast, SANI AMANZI™'s innovative chlorine-free process ensures that purified water remains free from these unpleasant aftereffects, preserving its natural and revitalising taste.

Beyond the matter of taste, the absence of chlorine brings an additional layer of safety. Chlorine-based purification methods have the potential to form harmful disinfection byproducts when they react with organic matter present in water. By adopting a chlorine-free approach, SANI AMANZI™ averts the creation of these potentially detrimental compounds. In doing so, it not only guarantees the safety of the purified water but also enhances the overall drinking experience by providing water that is not only pure but also genuinely satisfying to the palate.



The classification of drinking water

Water classification systems play a pivotal role in assessing the quality and suitability of water for various purposes. These systems are designed to categorise water based on specific parameters, ensuring that its characteristics align with the standards set for safe consumption, domestic use, and other applications. Two prominent classification systems, the [SANS 241-1:2015 Drinking Water Standards](#) and the [Quality of Domestic Water Supplies Classification System](#) by the WRC (Water Research Commission), are widely employed to evaluate water quality.

The SANS 241-1:2015 Drinking Water Standards, developed by the South African Bureau for Standards (SABS), establish guidelines for the microbiological, physical, aesthetic, and chemical attributes of drinking water. This comprehensive framework outlines permissible limits for various constituents, such as pH, electrical conductivity, total dissolved solids, chlorides, sulphates, nitrates, nitrites, ammonia, and more. Water samples are assessed against these standards to determine compliance with the prescribed criteria.



Additionally, the Quality of Domestic Water Supplies classification system by the WRC is another essential tool in evaluating water quality. This system categorises water based on its characteristics, offering insights into its potential impact on human health and overall usability. The classification system comprises several classes, each representing a different level of water quality. Ranging from "Ideal" (Class 0) to "Unacceptable" (Class 4), these classifications consider factors such as taste, appearance, health risks, and suitability for lifetime use.

According to the WRC Domestic Use Standard, water quality can be classified as;

0

Ideal
water quality

Water will have no effect and is suitable to be used as drinking water by all users.

1

good
water quality

Water is suitable for all users and may have rare instances of sub-clinical effects.

2

marginal
water quality

Water may cause some effects in sensitive users and may have aesthetic effects.

3

poor
water quality

Water may pose risk of chronic health effects, especially with babies, children and elderly people and may have poor aesthetic effects.

4

unacceptable
water quality

Water may pose risk of chronic health effects, especially with babies, children and elderly people and may have poor aesthetic effects.

When assessing water quality, various variables are considered, including pH levels, electrical conductivity, total dissolved solids, turbidity, presence of pathogens like E.coli and coliform bacteria, as well as the concentrations of specific elements and compounds like fluoride, iron, and more. By comparing these variables to established standards, experts can ascertain whether water meets the required quality benchmarks.

The process of water classification involves rigorous analysis and comparison of the collected data against established limits. The aim is to ensure that water is safe for human consumption, devoid of harmful contaminants, and suitable for its intended uses. The application of these classification systems ensures that communities have access to water that meets health and safety standards, safeguarding public health and well-being.



Does SANI AMANZI meet testing standards?

SANI AMANZI™ has demonstrated its efficacy in meeting the SANS 241-1:2015 Drinking Water Standards and the Quality of Domestic Water Supplies Classification System set by the Water Research Commission (WRC) through rigorous testing and analysis. *Please refer to independent test reports.

SANS 241-1:2015 Drinking Water Standards: SANI AMANZI™ has been tested in accordance with the parameters outlined in the SANS 241-1:2015 standard. This includes testing for various physical, chemical, and microbiological parameters such as pH, total dissolved solids (TDS), turbidity, and the absence of harmful microorganisms like E. coli and Coliforms. The results of these tests have demonstrated that water treated with SANI AMANZI™ meets the specified standards for safe drinking water quality. The absence of contaminants such as E. coli and Coliforms in treated water samples indicates its effectiveness in complying with microbiological standards.

Quality of Domestic Water Supplies Classification System by WRC: The WRC's Quality of Domestic Water Supplies Classification System evaluates the suitability of water for different uses based on its quality. Water treated with SANI AMANZI™ has consistently shown improvements in its quality, moving from potentially contaminated states to classifications indicating better suitability for domestic use. This indicates that the treatment process employed by SANI AMANZI™ is effective in reducing microbial and other contaminant levels, aligning with the WRC's classification system for improved water quality.



How did SANI AMANZI perform?

Lab test 1 Aquatico

Aquatico conducted a comprehensive assessment of a SANI AMANZI™ water sample, focusing on its physical, chemical, and bacteriological properties. Results:

Physical Traits: pH 7.55, safe for drinking; TDS 40.3 mg/l, low minerals; moderately soft.

Microbiological Analysis: No E. coli or Total Coliforms, effective treatment.

Chemical Analysis: Met SANS 241-1:2015 limits, no harmful chemicals.

Water Quality Classification: "Good" (Class 1) via WRC system, safe for long-term use.

These findings affirm high quality and fitness of SANI AMANZI™ water for potable and domestic use. Effective purification aligns with strict standards, ensuring safe consumption over extended periods with minimal health risks.

Lab test 2 Waterlab

Waterlab analysed two water samples to evaluate their microbiological quality, focusing on the impact of SANI AMANZI™ treatment. Results:

Before Treatment: Initial sample had a worrisome E. coli count exceeding 100,000 CFU/100ml, indicating severe contamination and health risks.

After Treatment: Treated sample showed significant improvement, free from E. coli and Total Coliforms. Total Viable Count: 4 CFU/ml, indicating low microorganisms.

Waterlab's findings stress water treatment's importance, especially with high contamination. High E. coli count in initial sample highlights health risks. Absence of E. coli in treated sample validates SANI AMANZI™ efficacy in reducing microbiological contaminants.

Lab test 3 Merieux NutriSciences

Mérieux NutriSciences assessed two water samples' microbiological quality, investigating SANI AMANZI™ treatment impact.

Before Treatment: Initial sample showed concern concerning Coliforms, Faecal Coliforms, and E. coli levels, signaling contamination and health risks.

After Treatment: Treated sample had no Coliforms, Faecal Coliforms, or E. coli growth, highlighting SANI AMANZI™'s effectiveness in eliminating harmful microorganisms.

Mérieux NutriSciences' findings confirm SANI AMANZI™'s value in water treatment. Initial harmful bacteria presence underscores health hazards in untreated water. Their absence in treated sample showcases product's success in removing microbial contaminants.

Lab test 4 BioScience

BioScience analysed two water samples' microbiological quality to evaluate SANI AMANZI™ treatment's impact.

Before Treatment: Initial samples had high Total Aerobic Plate Count, significant Coliforms, Escherichia coli, and Faecal Coliforms – indicating health risks in untreated water.

After Treatment: SANI AMANZI™ treatment improved water quality significantly. Total Aerobic Plate Count decreased, Coliforms eradicated. Escherichia coli and Faecal Coliforms were absent, showcasing effective bacteria removal.

This study highlights SANI AMANZI™'s role in enhancing water quality by reducing microbial contamination. Decreased microbial counts demonstrate its efficacy in eliminating harmful bacteria, making water safer for various uses.

Understanding TDS and the impact it has on water quality

Total Dissolved Solids (TDS) encompass minerals, salts, and organic compounds dissolved within water. While a certain level of TDS is natural and even beneficial for water's taste and mineral content, elevated TDS levels can trigger a range of issues, particularly in regions facing water quality challenges. Some of the challenges of elevated TDS levels include:

Unpleasant Taste: Water laden with high TDS often carries a salty or bitter taste, rendering it unappetising and less likely to be consumed by communities already struggling with water scarcity.

Cloudy Appearance: Elevated TDS can lead to cloudy or murky water, adding another layer of concern for regions where access to clean and clear water is a rarity.

Mineral Deposits: High TDS water leaves behind mineral deposits on items like glasses, faucets, and equipment. For communities without ready access to cleaning supplies, these deposits pose not only a visual issue but also a significant hygiene challenge.

Reduced Cleaning Power: Excessive TDS interferes with the efficacy of soaps and detergents, leaving individuals with compromised cleaning agents. This is especially problematic where maintaining cleanliness is essential for health and well-being.

Infrastructure Strain: In regions where infrastructure is already under strain, the accumulation of mineral deposits in appliances, pipes, and plumbing fixtures exacerbates efficiency concerns. This results in increased energy usage, potential damage, and further strain on limited resources.



Significant TDS reduction with our flocculant

Our product's flocculant has showcased remarkable effectiveness in significantly reducing Total Dissolved Solids (TDS). This achievement stems from meticulous adherence to recommended protocols, encompassing the careful timing for the flocculant's action and the subsequent filtration of water through a dense cloth. The primary aim of this TDS reduction is to address aesthetic considerations, enhancing the overall visual and sensory qualities of the treated water.

In rural African contexts, TDS doesn't take precedence due to its limited immediate harm. Instead, the focus revolves around combating waterborne pathogens, which present substantial health risks. It's noteworthy that TDS standards set by WHO and EPA are geared towards controlled waterworks systems, differing from the dynamic realities of rural point-of-use scenarios. For instance, while WHO suggests a TDS level of 300 ppm, the Bureau of Indian Standards (BIS) permits up to 500 ppm – a significant variance even within controlled systems. This divergence underscores how regions like India and Africa interpret water quality standards distinctively compared to more developed nations. Although TDS levels themselves don't directly indicate health risks, they can offer early signals of potential inorganic influences that might escalate if left unmonitored.

Conductivity and total dissolved solids share a complex relationship. Total dissolved solids encompass inorganic salts, including calcium, magnesium, potassium, sodium, bicarbonates, chlorides, sulfates, and trace amounts of organic matter, all dissolved in water. While TDS tests quantify dissolved ions, they don't provide a nuanced understanding of their specific impact. By diligently adhering to proper protocols, SANI-AMANZI™ effectively accomplishes a substantial reduction in TDS and can aid in mitigating hard water issues. This speaks to the comprehensive capabilities of SANI-AMANZI™ as a versatile water treatment solution.



How to use SANI AMANZI

Using SANI AMANZI™ to purify water is a straightforward and effective process. Follow these steps to prepare clean and safe drinking water:

Preparation: Start by mixing a single 6g sachet of SANI AMANZI™ with 20 litres of contaminated water. Use a clean container for mixing and make sure to stir the water thoroughly once the powder is added. This ensures even distribution of the purifying agent.

Treatment: Allow the SANI AMANZI™ powder to work its magic. The purifying agent targets and eliminates bacteria, viruses, and other contaminants present in the water, improving its quality and safety.

Filtration: After the treatment process, filter the water using a clean and dense cloth. This step helps remove any remaining impurities and sediments, leaving you with clear and purified water ready for consumption.



Remember that the chemistry of each water source can vary, influencing factors such as pH, particle size, particle density, liquid density, surface charge, and water chemistry. These factors can impact the efficiency of the treatment process, so following the recommended instructions and safety guidelines is crucial to achieve optimal results. It's also important to keep in mind the following safety guidelines when using SANI AMANZI™:



No Mixing with Other Disinfectants:

Do not use SANI AMANZI™ alongside other disinfectants, sanitisers, acids, or ammonia. Mixing different chemicals can lead to unpredictable reactions and compromise the effectiveness of water treatment.



Avoid Contact with Eyes:

Prevent any contact between the anhydrous powder of SANI AMANZI™ and your eyes. This will help ensure your safety during the preparation process.



Do Not Ingest Anhydrous Powder:

SANI AMANZI™ is intended for water treatment and not for consumption in its powder form. Keep the anhydrous powder away from children and avoid ingestion.



**No Consumption of Coagulants/
Precipitate:**

The coagulants or precipitate that form during the sanitising process should not be consumed. These byproducts are not suitable for consumption.

Sustainable water purification

SANI AMANZI™ embodies more than just effective water purification; it carries a deep commitment to environmental responsibility. When you choose SANI AMANZI™, you're not only enhancing water quality but also actively contributing to a more sustainable future. The utilisation of innovative powder sachets, over liquid alternatives, significantly reduces transportation requirements, resulting in a decreased carbon footprint and a healthier planet for current and future generations.

Dedicated to reducing plastic waste and environmental impact, SANI AMANZI™ is meticulously designed to minimise, and whenever feasible, eliminate the use of plastic bottles. The groundbreaking powder sachets replace conventional liquid purifiers, offering a straightforward and eco-friendly solution. With just a sachet of SANI AMANZI™ and a container of water, you can harness the power of sustainable water purification.

Beyond being another water purifying product, SANI AMANZI™ symbolises a commitment to fostering healthier communities, free from the threats of waterborne diseases. As the urgency of the climate crisis grows, we acknowledge our responsibility to combat plastic pollution.

SANI AMANZI™ takes pride in championing a "plastic-free" ethos, providing pragmatic solutions that not only enhance well-being but also contribute to a cleaner environment.



Frequently asked questions

What is the main function of SANI AMANZI™? The primary purpose of SANI AMANZI™ is two-fold. Firstly, it effectively eliminates waterborne pathogens that can lead to infectious diseases in humans. Secondly, it facilitates water clarification through a flocculation process.

Why must the water sit for 30 minutes after treatment? Allowing the treated water to sit for 30 minutes is essential to provide sufficient time for the chemicals in SANI AMANZI™ to effectively neutralise the pathogens present in the water.

Will water always become clear through flocculation with SANI AMANZI™? No. While we lead in successful water clarity, claims of any product making water clear every time, regardless of pH, are often misleading. We continue to research and develop new formulas to enhance clarity.

How much water can be treated with 1 6g sachet? One 6g sachet of SANI AMANZI™ is suitable for treating 20 litres of contaminated water, ensuring its safety for consumption.

What influences solids in water not to settle with SANI AMANZI™? The diverse water sources across South Africa result in varying water chemistries. While water chemistry affects water clarity (flocculation), it does not impact the sanitation process.

Does the clarity of water pose a health risk to people? Water clarity itself is not a health threat. The presence of waterborne pathogens in clear water, however, can be dangerous. SANI AMANZI™ is designed to eliminate these pathogens.

Is there a chemical taste in the water when using SANI AMANZI™? In highly contaminated water, SANI AMANZI™ might result in a slight chemical taste. When used in clear tap water without significant contamination, residual chemicals might lead to a mild taste. This taste, while not harmful, indicates the presence of protective agents against waterborne pathogens.

Will SANI AMANZI™ remove sea salt from water? No, SANI AMANZI™ is not designed to remove sea salt from water.

Who is SANI-AMANZI™ intended for? SANI AMANZI™ serves as a Point-of-Use (POU) solution for governments, NGOs, and concerned companies dedicated to providing safe drinking water for all individuals.

Registered Associations:

- United Nations GM: UNGM number 5618342
- UNICEF: Registered Vendor under UNGM5618343
- IWA: Corporate Membership number 16142154
- WISA: Corporate membership number 10242

Get in contact with us at Scientific Sanitation Solutions

We're here to assist you with any enquiries or to provide additional information about SANI AMANZI™ and our innovative water treatment solutions. For more info visit: www.scisan.co.uk/saniamanzi

Our dedicated team at Scientific Sanitation Solutions is committed to helping you find the best solutions tailored to your specific needs.



OFFICE HOURS

Monday – Friday

09:00 – 17:30

GET IN TOUCH

General Enquiries: (+44) 0203 747 0599

Sales: (+44) 0203 747 0501

OUR ADDRESS

Scientific Sanitation Solutions Ltd.
Registered address. 139-143 Union Street,
Oldham, Lancashire, OL1 1TE.
UNITED KINGDOM



www.scisan.co.uk

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