BLUEWATER

A white paper from Bluewater designed to help to stimulate public awareness about creating and sustaining pristine water quality at home and in commercial environments.

TAP WATER MINERALS, TOXICITY AND REVERSE OSMOSIS

BLUEWATER THOUGHT LEADERSHIP

WATER INTELLIGENCE

WATER IS ESSENTIAL TO ALL LIFE. FOR HUMANS, IT ENABLES BODILY FUNCTIONS. WATER IS ALSO THE BEDROCK OF CIVILIZATION.

LIVING IN OUR CITIES WOULD BE IMPOSSIBLE WITHOUT THE HUMAN INGENUITY THAT MEETS THE ENGINEERING AND TREATMENT CHALLENGES OF DELIVERING UNINTERRUPTED CLEAN WATER ON A MASSIVE SCALE.

HOW GOOD IS REVERSE OSMOSIS WATER?

We want to help people to make informed choices on the water they use from their taps at home or at work. Bluewater's White Papers outline the technology options available to householders, business owners and others to ensure their tap water meets wellbeing and health expectations.

How many of us think about the quality of the water when turning on the tap?

Do you ever worry about how well the water systems are coping with the challenge of delivering potable water in the face of ageing delivery infrastructures and growing contamination by chemicals, toxic metals, plastics or organic compounds?

Clean drinking water is becoming scarcer globally as the planet's population grows. Its quality can no longer be taken for granted. Toxins like lead and arsenic, particles from plastic and other sources, and chemicals from agriculture, construction and industry have all been found to be flowing through our taps.

How can we cope with the hidden dangers of drinking water?

The traditional approach for most people unsure about the quality of the drinking water has been to boil it. But this only kills microorganisms like parasites and bacteria. Boiling won't remove any of the other contaminates that can be found in drinking water. There are a number of ways to purify tap water apart from boiling, but the main processes including carbon filters (removes chlorine and pesticides), ceramic filters (removes physical impurities such as dirt as well as parasites like Cryptosporidium), ozone (kills bacteria, viruses, algae and parasites), ultraviolet light (kills bacteria and viruses), distillation (kills living contaminants such as bacteria and removes impurities) and reverse osmosis (which is extremely effective against metals, bacteria, viruses, and organic and inorganic chemicals).

What is the best option for a homeowner or businessperson who wants to get clean water from their tap?

The International Water Association (IWA) notes that reverse osmosis systems efficiently remove between 90-99.99% of all contaminants, as well as trace minerals, from drinking water. And a large number of other water experts believe that the best way to significantly reduce water contamination is to use a reverse osmosis (RO) unit.

Tap and even some bottled water can contain chemicals, heavy metals, and potential allergens. Drinking Bluewater purified water minimizes your exposure to 99% of contaminants and may potentially reduce your allergy symptoms.

The International Water Association states that water filtered or treated by reverse osmosis is pure, clean, and healthy and free of most of the emerging contaminants such as prescription drugs and perchlorate as well as other contaminants like Arsenic, Cyanide, and Fluoride.

The London-based IWA, a leading international publisher of water, wastewater and environmental publications, stresses that consumers should not be concerned about the removal of minerals by reverse osmosis systems. It notes that 'WHO (2009) and WQA (2011) have pointed out that the human body obtains the vast majority of minerals from food or supplements, not from drinking water'.

A reverse osmosis solution like those innovated by Bluewater will filter practically all natural and synthetic toxins, microbes, particles, as well as the trace minerals found in the water, providing practically 100 percent pure, high-quality drinking water. The efficiency of Bluewater's premium reverse osmosis water purifiers in delivering cleaner, healthier drinking water has been proven in one real-life application after another.

But what about the minerals in purified water, don't we need those to maintain healthy bodies?

Some people believe removing the minute traces of minerals that can be found in tap water, like iron, sodium or magnesium, is not good for our health. But the reality is we get practically all the minerals and vitamins our bodies need by eating a varied diet. Also, the amount of minerals found in drinking water vary substantially from one geographic to another.

According to US National Library of Medicines, mineral levels of tap water vary among North American cities and even among different water sources within the same city, which makes it difficult to reach a conclusion on the extent that minerals in water meet human needs. Mineral intake from drinking water depends on the source and quantity of the water that is being consumed. For those concerned about the removal of minerals from their drinking water, Bluewater suggests fitting accessories that can replace minerals in the water generated after the purification process.

But hasn't WHO criticized reverse osmosis water?

While it is almost certainly true mineral nutrients in drinking water can contribute to total dietary exposure, there has been little effort to quantify this contribution. And as matters stand, there is limited available research into the potential direct or indirect adverse effects on human health of drinking water lacking in minerals.

In 2005, WHO issued a 'Nutrients in Drinking Water' report stemming from a meeting of a diverse group of nutrition, medical and scientific experts in Rome two years earlier, at the WHO European Centre for Environment and Health. The aim of the gathering was to address a number of questions relating to the nutrient composition of drinking water and the possibility that drinking water could in some circumstances contribute to total dietary nutrition.

In the WHO report preface, the experts concluded 'that only a few minerals in natural waters had sufficient concentrations and distribution to expect that their consumption in drinking water might sometimes be a significant supplement to dietary intake in some populations...'..

In other words, a layman may conclude that for probably the majority of us on the planet, the intake of minerals from drinking water does not play a significant role in meeting our overall needs.

We have found no hard scientific evidence that ingesting mineral-free purified water is harmful to the human body. Quite the opposite, reverse osmosis purified water is a proven way to remove health-threatening contaminants that may exist in tap water.

To receive enough minerals for our bodies from water, we would need to drink a bathtub of water every day, according to one information website.

A typical bathtub holds 80 gallons of water (just over 300 liters), while many health authorities recommend people should drink around eight 8-ounce glasses of water a day or half a gallon (2 liters on average).

Good nutrition is not about the quantity of food we eat, but the quality of the food. The same applies to the water we drink.

If we remove trace minerals from our drinking water, we need to be mindful of the need to balance that out in our overall diet and liquid consumption.

If we stick to the known facts, food is regarded widely by scientists to be both rich in the minerals needed by the human body and the best way to ingest those minerals. The inescapable truth appears to be that the actual amount of minerals present in a glass of water is inconsistent and varies hugely from one place to another.

Reverse osmosis water is no more 'dead water' than rainwater

- The concentration and type of minerals in water are entirely dependent on where water or snow lands on the earth.
- Rainwater is basically pure water. It contains practically no minerals, although it can have a high concentration of health-harming airborne pollutants that it picks up as it passes through the atmosphere.
- The minerals in water come from its contact with the soil, and the local geology will determine what minerals leach into the water. Geology varies across the planet, which means that the minerals found in water, and their concentration, vary too.
- The minerals in most water are only present in tiny amounts. That's why dieticians and nutritionists tend to recommend getting minerals from a broad spectrum of food sources.

A ham and cheese sandwich will provide many of the minerals you need each day

No single food can deliver all the nutrients in the amounts a human body needs. Yet a humble ham and cheese sandwich has about half a day's protein and at least 20 percent of the recommended daily intake of eight vitamins and minerals, according to the SFGATE healthy eating website. The site says one sandwich 'made from 2 slices of whole-wheat bread, 2 slices of ham weighing 56 grams and 1 ounce of Swiss cheese' will provide 65 percent of the recommended daily intake of manganese and 72 percent of the daily recommended intake of selenium. We will also get 29 percent of our daily need of bone-building calcium.

MEANINGS

Below is the meaning behind some of the key words used in this White Paper. Demineralized water Demineralized water is water that has had basically all minerals removed.

Distilled

Distilled water is the result of water being heated until it turns into steam, then cooled and condensed into water again, removing minerals and many other impurities.

Reverse Osmosis

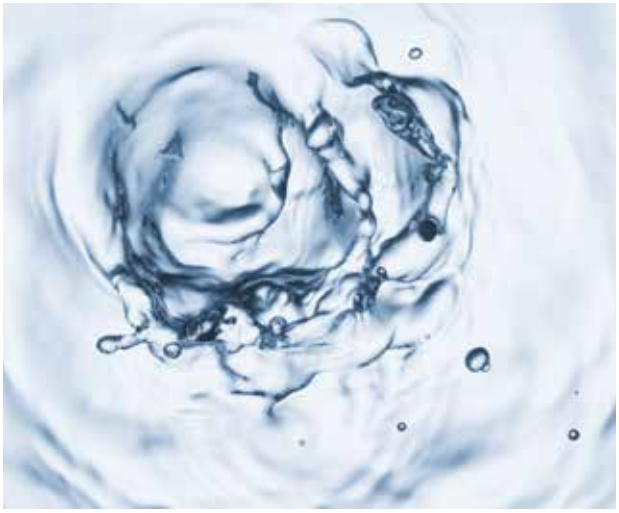
Reverse osmosis systems use membranes with very tiny pores through which pre-filtered water is pushed. Reverse osmosis removes almost all inorganic contaminants and all but the smallest organic molecules.

Minerals

There are two kinds of minerals: macrominerals and trace minerals, according to the U.S. National Library of Medicines' MedlinePlus site. It states you need larger amounts of macrominerals that include calcium, phosphorus, magnesium, sodium, potassium, chloride and sulfur. It adds you only need small amounts of trace minerals, which encompass iron, manganese, copper, iodine, zinc, cobalt, fluoride and selenium.

Microorganisms

A microorganism or microbe is an organism that is so small that it is invisible to the naked eye, according to the Science Daily website. Microorganisms include bacteria and protozoa.



There are two types of minerals – macro minerals and trace minerals.

Our bodies need large amounts of the so-called macro minerals, which include calcium, iron, magnesium, sodium and potassium. Trace minerals encompass the likes of selenium, manganese, zinc and copper, for example.

Among the toxic chemicals reverse osmosis also eliminates chlorine.

A study in the journal Environmental Health Perspectives found chlorination disinfection byproducts in drinking water. These could potentially help cause preterm birth, birth defects, and other adverse problems during pregnancy. A reverse osmosis unit will purify water of practically all toxins, microbes, particles, and minerals.

Premium quality tap water

Bluewater harnesses patented technology to deliver enhanced water quality in a world where tap water taste and safety can no longer be taken for granted. We believe everyone has the right to drink water that is as clean as nature intended. That is why our technology is designed to deliver water for residential and commercial drinking, cooking, washing and other purposes that is free of bacteria, toxic metals, pharmaceutical and chemical residues, and the likes of limescale.

www.bluewatergroup.com

The Gold Seal Trademark from the United States Water Quality Association (WQA) helps connect consumers with water treatment products that have been tested and certified to meet industry standards. WQA's Gold Seal Product Certification Program ensures that the product is constructed or formulated from safe materials, the claims listed on the packaging are backed by test data, and the product will hold up under normal usage conditions.

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