

預防二次污染 提升家中的淨水防線

It's Time to Upgrade Your Water Purification System

Help to Prevent Secondary Contamination of Water in the Home

每個孩子都是父母的掌上明珠，從出生開始已為他們準備最好的，讓他們可健康快樂地成長。孩子的衣、食、住、行都要最佳選擇，但是大家可能忽略了最重要的一點，看似潔淨的家用水也暗藏著「二次污染」問題，兩位來自台灣的學者將分別為我們講解導致二次污染的原因及解決方法，讓你安心喝好水。

It's not unusual for parents to want to ensure their children have only the best. This applies to everything in life, including the quality of water that children drink.

Secondary contamination of water is a common household problem that can have an adverse impact on health. In this issue of Amagram, two Taiwanese experts share their thoughts on the best way to get the freshest, highest-quality drinking water.

二次污染從何來？

提到飲用水的污染問題，難免會把原因歸究於飲用水的濾淨過程；但是在飲用水經過水管，再到達家中水龍頭的過程中，已有可能出現「二次污染」。台灣淡江大學水資源及環境工程學系李奇旺主任指出：「靜止不流動的水是各種有機物與細菌活躍的樂園，水停留在水箱與水喉管的時間過久，容易滋生細菌與微生物，重金屬也有可能溶於水中。」即使只是暫停供水一段短時間，水喉管都可能因身處「負壓」狀態，形成「負壓污染」，在恢復供水時，污染物便可能隨水流進家中的水龍頭。

要避免飲用到受二次污染影響的水，除了定期清洗水箱、更換殘舊的水喉管外，專家也建議可在家中安裝淨水器，確保自來水的潔淨衛生。

Source of Secondary Contamination

People may think that the only cause of water contamination is an old or ineffective water purification system. However, the water delivery process from the pipes to the tap in your home can trigger what is known as "secondary contamination" in household water.

"Bacteria and micro-organisms will breed quickly in pipes if there is no running water passing through for a long time. Heavy metals may dissolve in the water too," said Chi-Wang Li, Professor at the Department of Water Resources & Environmental Engineering at TamKang University in Taiwan. He explained that a temporary suspension of the water supply can also lead to secondary contamination, resulting in waterborne virus or contaminants being introduced into tap water.

In view of this, regular cleaning of water tanks is strongly recommended and changing the old water pipes in your building may become necessary. Professor Li strongly advises the installation of a water purifier in the home to ensure clean and safe drinking water.



台灣淡江大學水資源及環境工程學系李奇旺主任指出飲用水的「二次污染」問題絕對不能忽視。

理想淨水科技 保障健康

台灣交通大學環境工程研究所黃志彬教授認為，理想的淨水科技應兼具水質處理與殺菌兩大功能，要從淨水效能、消費者的成本及保養各方面作考慮，活性碳濾心配搭紫外線殺菌可說是最理想的組合。因為經加壓處理的活性碳濾心，表面積大、濾淨孔洞小，能吸附較多的污染物及水中有機物，也能去除水中餘氯；配搭紫外線裝置可進一步殺滅水中細菌及病毒，真正保障飲用水的安全衛生，是確保家中食水衛生的第一道健康防線。

Purification Technology Protects Health

Chihpin Huang, Chair Professor at the Institute of Environmental Engineering at National Chiao Tung University in Taiwan, pointed out that domestic water purifiers should include a carbon-block filter that helps block waterborne contaminants and organic substances and also removes chlorine in water. A UV light function, meanwhile, is effective in removing waterborne contaminants and bacteria, ensuring the cleanliness and safety of water.

在挑選淨水器時，大家可掌握以下的四大關鍵，讓家人安心喝好水。

The following four smart tips will help you to choose the most suitable water purifier.

關鍵
Tips 1

雙效濾心匣：活性碳 + 紫外光燈二合一

Two-in-One Function

淨水器應集過濾與殺菌雙重功能，確保淨水效能維持在最佳程度，提供最好的飲用水品質。

A water purifier that can both filter and destroy bacteria is recommended, helping to ensure that drinking water is of the highest quality.

關鍵
Tips 2

高密度活性碳：0.2微米小孔徑 去除140種污染物

Grade A Carbon-block Filter

活性碳吸附污染物能力的強弱，取決於其表面積與過濾孔洞的大小，高密度活性碳的孔徑越小，越能製造更有效的阻隔作用。

A powerful carbon-block filter helps block more than 140 different contaminants and removes particulates down to 0.2 microns in size.

關鍵
Tips 3

高能量紫外光燈：殺菌效能達99.99%

Effective UV Light

高能量短波紫外線可破壞細菌與病毒的DNA結構，使其失去活性，確保飲用水品質，理想的殺菌效能須高達99.99%。

UV light is effective in killing the structure of bacteria and waterborne viruses. The effectiveness rating of a UV light function in a water purifier should be up to 99.99%.

關鍵
Tips 4

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應留意淨水器是否通過美國國家衛生基金會(NSF)三項淨水測試，包括第42項標準，針對淨水器改善水質的口感、味道及清澈度；第53項標準，測試淨水器去除危害健康污染物的效能；第55項標準，測試淨水器使用紫外光技術減少食水中病毒和細菌的效能。另外，還需注意淨水器是否獲得NSF全機認證，而不是單一組件認證。

Check if the water purifier you are thinking of buying is certified by NSF International to meet three major water quality standards: Standard 42, which tests the ability of purifying systems to reduce drinking water contaminants that affect taste, odour and clarity; Standard 53, which tests systems' ability to reduce hazardous contaminants; and Standard 55, which tests the ability of systems that use ultraviolet light to reduce bacteria and other microorganisms in drinking water. In addition, we have to ensure if all parts of the water purifier are certified by NSF.



欲了解更多有關二次污染的資料，可掃描QR碼，以觀看李奇旺教授的講解。