

## Water Safety Standards

There are many different filtration systems on the market, with different certificates and target at different problems. Below is summary of common water safety standards.

NSF (National Sanitation Foundation), is the most popular standard among the world.

<b>Tap Water</b>	Due to the uncontrollable water sources maintenance and opened style water supply system, the water may be re-contaminated. Harmful substances can not be fully removed.
<b>Ordinary Activated Carbon Filter</b>	Only suitable for reducing sediments in water, and also odor and colors introduced by rust. Quality is not certified.
<b>*NSF 42 (Class 1)</b> (see Fig.1) <b>Chlorine Reduction Suitable for drinking</b>	Reduce minimum 75% of chlorine. Reduce minimum 85% of 1 micron or above particles. Recommended for ice making and coffee machines.
<b>**NSF 53 Cyst Reduction</b> (see Fig. 2) <b>Direct drinking</b>	1 micron filters, can remove Giardia Lamblia Cysts and River character parasitism. Water treated by systems with this certificate is acceptable for direct drinking.
<b>NSF Lead Reduction</b>	Pipe and water supply system may be polluted by heavy metal~Lead. These qualified filters have special materials which can guarantee removal of 98% Lead with certificate capacity.
<b>NSF 53/58 VOC Reduction</b>	Can remove at least 95% VOC, including chloroform, pesticides, herbicide, trihalomethanes and Methyl Tert-butyl Ether (MTBE).
<b>NSF 58 TDS Reduction</b>	Normally for the Reverse Osmosis System, Total Dissolved Solids Guaranteed below 40 parts per millions (ppm). The certificate also superside NSF Standard 42, 53, and 53/58.
<b>NSF 61 Drinking Water System Components- Health Effects</b>	This Standard is target at accessories and equipments which may come in contact with drinking water. Obtaining this certificate will certify that system components does not release harmful chemicals that will contaminate the drinking water. Normally for the drinking water system and components.

**Fig.1 \*NSF standard 42**

Chorine and Odor Reduction Rate	
Class	NSF Standard
Class I	$\geq 75\%$
Class II	50-74%
Class III	25-49%
Particles reduction rate(minimum 85%)	
Class I	$\leq 1 \mu\text{m}$
Class II	1 – 5 $\mu\text{m}$
Class III	6 – 15 $\mu\text{m}$

**Fig. 2 \*\*NSF Standard 53**

Turbidity reduction rate	
Class	NSF Standard
Class I	$\geq 90\%$
Cysts reduction rate	
Class I	$\geq 99.9\%$