The Water Purification Process

The water purification process is complex and diverse, the result of the many treatment phases means that dirty water can be cleaned until it is drinkable. There are however many different varieties and methods related to water purification, understanding the elements of each will give the reader a greater appreciation of the effort that goes into producing the water that pours from our taps. From the rather basic wire mesh that prevents large debris entering purification plants to the tiny stones that fill the filters on countertops across the country, all of these water purification processes are necessary in producing a glass of liquid that is ultimately refreshing and thirst quenching. While most people probably believe that the water we drink is the same as the water from any tap in the country, purification plants do process water for different medical, industrial and scientific purposes. Each has a system that produces water to suit the requirements of the industry or profession. In some cases this process is extremely elongated and to produce the correct quality of water, many different stages are required. Depending upon the needs of the industry, water is purified along lines of what types of debris need to be removed. If the sample needs to have minerals and salts removed a process of reverse osmosis is used whereas if bacteria are to be removed chemical disinfectants are often utilised although UV lights and distillation can also be used for the task. There are even advanced ionic charge systems that are used to remove specific contaminants; afterwards however, deionisation must occur. For public water the purification process usually follows these steps. Starting at the lake or reservoir the water is passed through ever finer meshes until most of the large debris is removed. These filters must be cleaned regularly in order for the plant to remain efficient, if they are not blockages can slow down the process and even risk the operability of machinery. The next step is to add chemicals and chlorine agents to the water in order to balance out the pH levels and make the sample ready for disinfection. In addition to this step flocculation occurs; this is simply making the water clear from smaller debris through a system of filters and chemicals. After flocculation the next purification stage is sedimentation, this is letting the water sit until any remaining sediment has fallen to the bottom. After this step the final filtration can normally take place. At this stage chlorine will once again be added to ensure that no further bacterial growth occurs while the water is in transit to homes and businesses. It is at this point that complimentary purification devices can be used. As different areas have water with different qualities many people now prefer to use a countertop filtering device to further purify the water from the taps. While this water may taste better than that from the tap, it is also advisable to use such a system if you live in a hard water area to prolong the life of your kettle and other equipment that may be affected by lime scale. Water purification is a scientific process that gives us safe and clean drinking water at all times from our taps. Without it many waterborne diseases would still be in abundance. So from filtering down to chemical additions and distillation, the process supplies the pure essence of life, keeping us hydrated at all times.

About the Author

Science expert Thomas Pretty looks into the processes involved in water purification and how they result in clean and safe drinking water.

Source: http://www.readezarchive.com