



# arsenic removal



## *What is Arsenic?*

Arsenic is an odorless and tasteless half-metal element. Arsenic contamination can be observed in drinking water resources due to agricultural or industrial activities or by natural accumulation.

## *Negative Effects of Arsenic on Human Health*

According to EPA, other than the carcinogenic effects, skin irritation and loss of pigments, stomach aches, nausea, vomiting, diarrhea, partial paralysis, blindness are some of the cases caused by drinking arsenic contaminated water. Also it is well known that arsenic causes bladder, breast, kidney, prostate, respiratory tract, liver types of cancers.

## *Arsenic in the World*

In 1993, World Health Organization (WHO) informed that arsenic concentration in drinking water should be less than 10 ppb. In 2004, arsenic standards for drinking water was reduced to 10 ppb from 50 ppb around the world. Some countries such as USA are preparing to lower the standard to 5 ppb. In Australia, this standard is currently 7 ppb.

## *Solution*

Nowadays, removal of arsenic from drinking water is not a big problem anymore. AquaSTAR has been creating arsenic removing solutions by its projects for both domestic and commercial needs with great experience and expertised engineering staff.

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## AquaSTAR® Solutions

### for Arsenic Removal

#### Coagulation - Filtration

- As<sup>3+</sup> is oxidised to As<sup>5+</sup>, coagulation and precipitation is performed by chemical injection, then removed by filtration.

#### Adsorption

- Arsenic contaminated water is filtrated through special types of media and arsenic is removed from water. In this method, backwashing is not necessary, arsenic that is adsorped from water is never released back to the nature.

#### Membrane Filtration

- Reverse osmosis technique removes arsenic with very high efficiency. Contaminations such as arsenic is removed by membranes.

- Some parameters such as arsenic concentration in water, the capacity, feasibility are taken into consideration by our engineering staff and the optimum solution is created and applied.
- Capacity is no problem. AquaSTAR has applications for a single house or for big city.
- All of our systems are guaranteed to meet the standarts of 0.01 mg/L arsenic concentrations.

Arsenic Removal With Filtration Method

Application



Kirkagaç Municipality – Manisa - Turkey  
 Effluent Arsenic Concentration: < 2 ppb  
 Capacity : 8600 m<sup>3</sup>/day