

Date: 11/26/2016

Topic: Nitrate Common Treatment

IEEE Citation: P. Robillard, W. Sharpe and B. Swistock, "Nitrates in Drinking Water (Water Quality)", *Water Quality (Penn State Extension)*, 2016. [Online]. Available: <http://extension.psu.edu/natural-resources/water/drinking-water/water-testing/pollutants/nitrates-in-drinking-water>. [Accessed: 26- Nov- 2016]

Summary:

This article published by Penn State University details facts on Nitrate, and solving the issue of nitrate within drinking water. There are a few sub categories as well; sources, health effects, bottled water, and treatment for nitrate. It is initially suggested to change the source of where the water is coming from because “that is an effective, low cost means of decreasing health risks”. The treatment method suggested is ion exchange, like treatment for hardness removal. The difference between hardness removal and nitrate removal is the ions exchanging would be chloride ions instead of sodium ions. There are two other methods suggested; reverse osmosis, and distillation.

Quality of Source:

10, this source is published by a university with university professionals having created this site are all professors and Penn State University in correlated fields.

Inform Work:

This site helps to move us forward to determining what the best option for the removal of nitrate within our system will be by providing the most common removal method as well as alternative methods. Since this is supposed to be the common method for removing nitrate within a water stream, this article will be used for the main purpose of learning about ionic exchange.

Date: 11/26/2016

Topic: Arsenic Common Treatment

IEEE Citation: "An Overview of Arsenic Removal technologies in Bangladesh and India", *Bangladesh University of Engineering and Technology*, pp. 251-254, 2016.

Summary:

Arsenic is very commonly treated in water system in India and Bangladesh. Due to this both locations have developed numerous cost effective methods for treating arsenic. The most common one is oxidation. Typically, a pretreatment process to convert arsenic to arsenite, an easier form to remove because it can be oxidized by numerous chemicals; oxygen, ozone, free chlorine, hypochlorite, permanganate, hydrogen peroxide and fulton's reagent. Additionally, arsenite oxidation is a quicker process. There are three methods in which oxidation is suggested to occur; Passive sedimentation, essentially storing the water, In-situ Oxidation, aerated tube into aquifer to provide oxygen, and Solar Oxidation, where ultraviolet light catalyzes the oxidation reaction.

Quality of Source:

10, this source is published by India Bangladesh University which must have some history of working with the removal of arsenic due to its location.

Inform Work:

This article helps to inform the work of the project because it provides a common place treatment method which can be compared against other treatments to find the best option for our removal of arsenic. Additionally, the source does offer other potentially useful treatments of arsenic.