

Contamination of Water in Few Places in Hyderabad and Effects of Cool Drinks on a Human Being

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ABSTRACT: Few water samples are collected from the various places of Hyderabad to know the level of contamination in the water. The various samples from various place has been tested with pH meter and Turbidity meter to know the standard of the water.

In this study case there are major changes in pH values and turbidity value are been determined by using pH meter and turbidity meter.

Along with the water sample there are some international brand of cool drinks are tested in pH meter and turbidity meter to know the pH value of cool drinks.

KEYWORDS: pH meter, turbidity, pH value, water and cool drink samples.

I. INTRODUCTION

An experiment is conducted on the fluids like water and cool drinks about the standards of pH.

The fluid consists of water samples, cool dink samples and bath room cleaning samples. These three samples are taken to compare the standards of pH value with each other.

Water is collected from the various places of Hyderabad lakes, bore wells and also municipal drinking water. In this experiment the damage by the cool drinks has been clearly explained with an experiment with a human teeth and cool drinks by which it determines the damage of the human teeth.

The standards purity of water by pH meter is considered if the values are in between:

0 to 6.5 is considered as acid

6.5 to 7.5 are considered as neutral.

Above 7.5 is considered as alkaline.

As per World Health Organization the standards of water should be in between 6.5 to 7.5 in ph meter

As per World Health Organization the value in turbidity meter should be in between:

0 to 5 NTU is considered as excellent.

5 to 40 NTU is considered as good.

40 to 100 NTU is considered as fair

Greater than 100 are considered as poor and dangerous to health.

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II. METHODOLOGY

The two different methods to find out the standards of water purity are
pH meter and
Turbidity meter.

pH METER

In which if the pH is considered as potential of Hydrogen, the hydrogen quantity should not be more and it should not be less in the fluid.

The fluid which has a potential of Hydrogen (pH) less than standard value then the fluid is called as Acid.

The fluid which has a potential of Hydrogen (pH) correct standard value then the fluid is called as Neutral fluid.

The fluid which has a potential of Hydrogen (pH) more than standard value then the fluid is called as Alkalinity or alkaline.

By the help of pH meter and an electrode gives the value of pH of any fluid. The electrode should be connected to the pH meter and by inserting the electrode in the fluid sample it give the result on the pH meter.

TURBIDITY METER

The turbidity meter helps us to show the clarity or visibility in the water with no dist practicals. As per world health organization the standard value in turbidity meter should be in between 0 to 5 NTU.

The value of turbidity will change from fluid to fluid and it can also be observed by a human eye with respect to colour and odour of the water.

The damage by the industries, vehicles and other chemical pollutant practicals will affect the visibility or clarity of the fluid. Any fluid like water, cool drink etc can be taken as a sample to determine the turbidity.

The sample fluid should be kept in turbidity meter and it automatically shows the value of sample fluid.

III. WATER SAMPLES

HAYATHNAGAR BORE WATER

The water is collected from bore water near hayathnagar area and the turbidity of this water is 0 NTU which is considered as an excellent condition and ph value is 7.74 which is considered as alkaline and not used for any kind of usage where one method is not satisfying like pH value 7.74 and it is not used for drinking.

HAYATHNAGAR LAKE WATER

The water is collected from lake near hayathnagar area and the turbidity of this water is 0 NTU which is considered as an excellent condition and ph value is 7.96 which is considered as alkaline and not used for any kind of usage where one method is not satisfying like ph value 7.96 and it is not used for drinking.

IBRAHIMPATNAM LAKE WATER:

The water is collected from lake near ibrahimpatnam area and the turbidity of this water is 3.5 NTU which is considered as an excellent condition and ph value is 8.03 which is considered as alkaline and not used for any kind of usage where one method is not satisfying like ph value 8.03 and it is not used for drinking.

IBRAHMPATNAM BORE WATER

The water is collected from bore water near ibrahimpatnam area and the turbidity water this water is 0 NTU which is considered as excellent condition and ph value is 7.44 which is considered as neutral and used for any kind of usage where two methods are satisfied like ph and turbidity so it is for drinking purpose

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TANK BUND WATER

The water is collected from tank bund and the turbidity of this water is 3.3 NTU which is considered as excellent condition and ph value is 7.97 which is considered as alkaline and not used for any kind of usage where one method is not satisfied like ph 7.97 and it is not used for drinking.

TANK BUND BORE WATER

The water is collected from bore water near tank bund area and the turbidity of this water is 0 NTU which is considered as an excellent condition and ph value is 7.47 which is considered as neutral and it is for any kind of purpose & usage where both methods are satisfied then it is used for drinking purpose.

KUNTLOOR LAKE WATER

The water is collected from lake near kuntloor area and the turbidity of this water is 1.5 NTU which is considered as an excellent condition and ph value is 8 which is considered as alkaline and it is not used for any kind of purpose and usage where one method is not satisfying like ph 8.0 which is not used for drinking purpose.

KUNTLOOR MOOSI WATER:

The water is collected from moosi river near kuntloor area and the turbidity of this water is 8 NTU where it is considered as good and ph value is 7.75 can be suggested for drinking after few water treatment.

BACHARAM WELL WATER:

The water is collected from well near bacharam area and the turbidity of this water is 0 NTU which is considered as excellent condition and ph value is 8.04 which is not used for any kind of purpose and usage where one method is not satisfied like ph 8.04 then it is not used for drinking.

BACHARAM MOOSI WATER:

The water is collected from Moosi River near bacharam area and the turbidity of this water is 0.7 NTU which is considered as an excellent condition and ph value is 7.59 which can be used for drinking after partial treatment.

YAMJAL LAKE WATER:

The water is collected from lake near yamjal area and the turbidity of this water is 0 NTU which is considered as 0 NTU which is considered as an excellent condition and ph value is 7.82 which can be suggested for drinking purpose after few partial water treatments.

RAIN WATER (COLLECTED IN KUNTLOOR AREA):

The rain water is collated on 14/06/2017 as a sample fluid from kuntloor area and the turbidity of this water 0.7 NTU which is considered as an excellent condition and ph value is 6.26 which is considered as acid not used for drinking where one method is not satisfied like ph 6.25 and it is not used for drinking purpose.

IV. COOL DRINK SAMPLE

BLACK COLOURED COOL DRINKS:

The international brand cool drink which results 2.15 in ph meter is considered as purest form of acid and which is not used for drinking purpose and the standard of ph result is similarly near to the bathroom cleaning acid.

- The international brand from New York, Us, which has an additional flavour of caffeine, gave a result of 2.21 in ph meter where it is considered as an acid and not used for drinking and the standard of ph result is similarly near to the bathroom cleaning acid.
- The international brand from Atlanta, Georgia, US, gave the result of 2.17 in ph meter is considered as an purest form of an acid and which is not used for drinking purpose and the standard of ph result is similarly near to the bathroom cleaning acid.

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- The international cool drink brand of no coloured (like water) from Atlanta, Georgia, US, gave the result of 2.89 in ph meter is considered as an purest form of an acid and which is not used for drinking purpose and the standard of ph result is similarly near to the bathroom cleaning acid.
- The international cool drink brand of yellow coloured from Atlanta, Georgia, US, gave the result of 3.40 in a temperature of 27⁰C and results in ph meter.
- The international cool drink brand of yellow coloured from New York, Us, gave a result of 2.41 in ph meter which is considered as acid which is not used for drinking purpose.
- The international cool drink brand of lime coloured soda from Atlanta, Georgia, US, gave the result of 2.90 in the ph meter, this low range of Ph value may be due to the presence of Citric acid in the product.
- A product in the name of apple juice gave the result of 3.12 values in pH meter which is considered as acid and not suggested for drinking.
- The international cool drink brand of no coloured fluids (like water) from Atlanta, Georgia, US, gave the result of 2.89 in ph meter is considered as purest form of acid and not used for drinking.

V. BATH ROOM SAMPLE

HIGH CONCENTRATED ACID

A product which is used to clean bathroom gives 2.01 in value in ph meter which is considered as purest form of an acid and only used for cleaning bathrooms.

LOW CONCENTRATED ACID

A product which is used to clean bathroom gives 0.10 in value in ph meter which is considered as purest form of an acid and only used for cleaning bathrooms. (Kills bacteria)

PHENYL

A product which is used for cleaning purpose gives 9.64 in ph meter which is considered as alkaline and only used for cleaning purpose.

VI. RESULT

The pH value of all the cool drink samples = The pH value of concentrated acid



FIG 1: Comparison of cool drink with Acid

The major result identified by an experiment with a human teeth and two different international cool drink brands from USA.

Two human teeth are taken from dental hospital and two different international brand cool drink samples (black coloured) are take in a beaker of 50ml.

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One tooth is placed in one brand of cool drink on 15th June 2017 in a room temperature, after four days there is a removal of layer from the teeth which is called as enamel on the tooth.

The tooth in the second brand cool drink also gave the same result on the fourth day of the experiment.

The experiment is continued for a month of time and it is clearly observed that the cool drink started eating the tooth enamel which increases the weight of the tooth and decreases the size of tooth.

This increasing and decreasing is happen due to the replacement of carbon dioxide in the tooth made the tooth increases the weight and because of the carbon dioxide the tooth enamel layers are removed and size of the tooth decreases.

On 15th July 2017 the tooth in the two different beakers of cool drinks (black coloured cool drinks) has disappeared and a thin layer of enamel is found on the surface of the cool drink in the beaker.

The experiment motto is to give awareness about the damage which is causing to the human being by cool drinks, in a interview which is conducted by a international news channel with a international cool drink brand's CEO it is clearly proved that there is a huge quantity of sugar present in the cool drink like 20 small packets of sugar in 250ml and 40 small packets of sugar in 500ml of drink.

This sugar quantity leads to diabetes and the excess inlet of carbon dioxide into the body leads to the reduction of oxygen levels in the body and shows the effects on various parts of the body.

VII. CONCLUSION

The experiment is proved that the water samples from various places in Hyderabad are contaminated by various pollution particles. The water samples which are collected to determine the pH value and turbidity value gave different results by its properties. This different value shows the damage of the water by pollution and the water from various places need some kind treatment for drinking purpose.

The cool drink sample result is almost equal to the pH value of a concentrated acid which is not suggested for drinking and it is observed carbon dioxide, sugar quantity is more in the black coloured drinks

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