

# Management of the Water Component in Aquatics

Dileep Kumar S. U.<sup>1\*</sup> Dr. Shoba A.<sup>2</sup>

<sup>1</sup>Euro School, Dept. of Physical Education, Bangalore

<sup>2</sup>Physical Cultural Instructor, Govt. First. Grade College, Peenya, Bangalore University, Bangalore

**Abstract – Aquatic sports are gaining a lot of popularity and are undisputedly one of the best sporting event. The major form activities indulged in these facilities health, recreation, competition, and therapy. The main component of these structure is water and water as such is a natural compound found through various sources. Water obtained from these source cannot be taken for granted and with heightening level of pollution. Maintenance of water is the major challenge for which one has to pay a lot of attention. This paper is designed with the objective of bringing forth all essential concepts related to water which not only a swimmer, coach, a physical education teacher or management of the facility should understand but also any layman who wants to enter the water in these facilities should have the knowledge of the same.**

**FRAME WORK OF THE PAPER: Various components of water to be maintained. Effect of variations in ph value of water. Factors influencing ph value. Testing and measuring ph value. Measures to regulate the p h value. Diseases associated with aquatics**

**Maintenance of P H value in any aquatic facility is a major challenge for any facilitator, but if not maintained correctly it may lead to many infectious diseases health issues and hampered performance since the people who use these facilities are the one who suffer if water is not maintained. Hence they have to be educated and enlightened in this regard.**

**Keywords: Private Facilities, Commercial Facilities, Alkalinity, Miratic, Algae.**

## INTRODUCTION

Aqua activities in the world of sports requires mega infrastructure basically consisting of four types water infrastructure which are universally classified as

- Private facilities
- Public facilities
- Commercial facilities
- Fantancy facilities

The major form activities indulged in these facilities health, recreation, competition, and therapy. The main elements of these structures are water and water as such is a natural compound found through various sources. Water obtained from these source cannot be taken for granted and with heightening level of pollution. One has to pay a lot of attention towards maintenance of water in any of the facilities.

## OBJECTIVE

This paper is designed with the objective of bringing forth all essential concepts related to water which not only a swimmer, coach, a physical education teacher or management of the facility should understand but also any layman who wants to enter the water in these facilities should have the knowledge of the same.

## VARIOUS CONCEPTS

1. Maintenance of PH value [7.2-7.6]
2. Disinfection of water
3. Filtration
4. Calcium hardness [200-400ppm]
5. Total dissolved solids [1000-2000ppm]

## LIMITATION

Present paper is limited only to the concept of maintenance of P.H value. PH is the most important element in aqua activity's water chemistry –it affects every other chemical balance in the water. The term P.H stand for potential of hydrogen. It is basically a measure of the acidity or alkalinity of a solution. The P.H value below 7.2 is considered as acidic, above 7.6 is alkalic and 7.4 is considered as neutral. The desirable PH value which is considered as normal for both human body and water is 7.4. Hence it is desirable to maintain the PH value of water it any of the water facilities between 7.2 to 7.6.

## EFFECT OF VARIATIONS IN PH VALUE OF WATER

### EFFECT OF LOW P H VALUE [BELOW 7.2]

- ✓ Water corrodes equipment
- ✓ Eye and skin irritating
- ✓ Increases algae growth

### EFFECT OF HIGH PH VALUE [ABOVE 7.6]

- ✓ Chlorine becomes ineffective [kills more slowly]
- ✓ Leads to formation of scaling
- ✓ Filter run of water is too short
- ✓ Eye and skin irritation

## FACTORS INFLUENCING PH VALUE

- Increased alkality
- Temperature
- Algae
- Incorrect dosage of water
- Calcium hardness
- Excessive total dissolves chlorine
- Improper practice by the swimmers.

## TESTING AND MEASURING PH VALUE

The two common methods adopted for testing the ph value of water is by

- ❖ PH strips

- ❖ Digital PH meter.

## MEASURES TO REGULATE THE P H VAUE

- ❖ Reduce increased alkality adding **miratic acid/sodium sulfate**.
- ❖ As temperature increases chlorine starts evaporating is higher rate hence compensate by adding necessary chlorine.
- ❖ Maintain proper balance of chlorine to reduce algae and other bacterial infection.
- ❖ Check the pool water at necessary and proper intervals [on an average 4 to 6 times a day]
- ❖ Inculcate discipline of costume and pre bath among the bathers/ swimmers.
- ❖ Educate bathers/ swimmers not to use costumes before entering water.

## DISEASES ASSOCIATED WITH AQUATICS

- ❖ Skin infections
- ❖ Eye, ear, throat, infections
- ❖ Respiratory infections
- ❖ Intestinal infections
- ❖ Blood borne infections

## CONCLUSION

Maintenance of P H value in any aquatic facility is a major challenge for any facilitator, but if not maintained correctly it may lead to many infectious diseases health issues and hampered performance since the people who use these facilities are the one who suffer if water is not maintained. Hence they have to be educated and enlightened in this regard.

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### Corresponding Author

**Dileep Kumar S. U.\***

Euro School, Dept. of Physical Education, Bangalore

**E-Mail –**