



TECHNICAL PAPER

WATER QUALITY FOR DOMESTIC SWIMMING POOLS.

There has to be an international understanding of certain words when producing any paper such as this.

The word "REGULATION" means that there is a national law and is associated with the word "MUST". The word "RECOMMENDED" means that there is no legal requirement but this is the EUSA suggested best way of working and is associated with the word "SHOULD".

DOMESTIC SWIMMING POOL WATER QUALITY

INTRODUCTION

1. The EUSA considers that the primary goal of all swimming pool systems is to provide safe water for the bather to use whether that bather is in a commercial pool or a domestic pool.
2. The EUSA, in its several papers sets down the guidelines to best practice and by following these guidelines this aim will be achieved. However EUSA recognises that there may be other ways, not laid down, which achieve the same goal.
3. This paper should be read in conjunction with the other papers on water treatment.

SOURCE WATER

4. All water which is to be used for filling or topping up any type of swimming pool should be supplied by the water supplier for that area. That is to say it should be drinking water.
5. In cases where water for local use is obtained from other sources or the use of drinking water for filling or topping up swimming pools is forbidden, a sample of that water should be submitted for laboratory examination and analysis to check that it is suitable.
6. Water is considered most suitable as swimming pool fill water if it conforms to the following parameters:

| | |
|---------------------------|--|
| a. Appearance | clear and generally free from suspended matter |
| b. pH | 7.2 – 8.0 |
| c. Total Hardness | 50 – 400 mg/l |
| d. Total Alkalinity | 75 – 200 mg/l |
| e. Total Dissolved Solids | less than 500 mg/l |
7. In addition the presence of metals and chemicals which could affect materials and bathers should be investigated.

SWIMMING POOL WATER

8. Before the pool is used for swimming, the water shall be treated so as to maintain certain chemical, physical, bacteriological and biological standards, which generally are nationally defined. The maintenance of these standards is essential to ensure the health and comfort of bathers, and to minimise the risk of damage to the pool, fittings and equipment.
9. Maintenance of good water clarity and absence of suspended matter is important for both safety of bathers and the visual appearance of the pool. The water shall be clear and free from suspended matter.
10. Some water may have a natural colour which is of no danger to materials and bathers. However where a colour is not normal for that area it may indicate a problem with the treatment and must be investigated.
11. The minimum standard of clarity acceptable is that the bottom of the pool at the deepest part shall be clearly visible. On safety grounds the pool must not be used if the bottom is not visible at all parts of the pool.

DOMESTIC SWIMMING POOL WATER QUALITY

12. The routine assessment of the biological purity of swimming pool water is generally restricted to those pools used for commercial use. The standards recommended for swimming pool water are as follows:
 - a. To contain less than 100 bacteria per ml capable of growing on agar in two days at 37°C. To be free from pathogenic/organisms including Coliforms, Pseudomonas, Staphylococcus, Legionella and Faecal Streptococcus in 100ml water.