

GUIDE TO BLUE FLAG WATER QUALITY TESTING

Water quality analysis is one of the imperative criteria for the beach operators of the Blue Flag Programme as described in **Criteria 7-11**. The Blue Flag Programme requires that beaches achieve excellent bathing water quality. The bathing water quality standards have been based on the most appropriate international and national standards and legislations.

If demanding national standards for bathing water quality have been established by local authorities of the country, these should be followed instead of the Blue Flag International standards.

How many samples must be taken?

- New beach operators in the UAE region are required to provide total of **20 samples** which should be taken evenly spread out during the season. It is recommended to keep an interval of 15 days between each sample in order to achieve 20 samples (**Appendix B, Table 3**). However, it is also possible to collect 20 samples within shorter time frames. The beach operator may also choose to take fewer samples each year and wait to apply when 20 samples have been collected (for example taking 10 samples in year 1, 10 more in year 2 and applying in year 3).
- Existing beach operators are required to provide a sample each month during the Blue Flag season with **no more than 30 days** between samples.

Who conducts the water sampling?

- An independent laboratory (third party) collects and carries out the analysis of the bathing water samples. The laboratory must be nationally or internationally accredited to carry out microbiological and physical-chemical analyses. A non-extensive list of some laboratories which conduct water samples for the Blue Flag operators are provided in **Appendix C**.

Where samples must be taken?

- The beach must have at least **one sampling site** and this must be located where the concentration of bathers is highest. In addition, where there are potential sources of pollution (e.g. near streams, rivers or other inlets, storm water outlets) additional samples must be taken at these sites to provide evidence that such inflows do not affect the bathing water quality.

Samples of what parameters must be taken?

- Samples for **microbiological** and **physical-chemical** parameters must be taken. **Tables 1 and 2** found in **Appendix A** presents sampling parameters in detail.

How sampling must be taken?

- Samples should be taken **30 cm below** the water surface except for the mineral oil samples that should be taken at surface level.

When sampling must be conducted?

- **A sampling calendar** must be provided prior to the start of the bathing season. Sampling must take place **no later than four days** after the date specified in the sampling calendar unless there

are exceptional circumstances preventing this. An example of water sampling calendar is provided in **Table 4** found in **Appendix B**.

When sampling frequency should be increased?

- When there is a concern of possible increase in levels of pollution, it is recommended to temporarily increase the sampling frequency in order to track any possible pollution incident.
- In the event of short-term pollution, **one additional sample** is to be taken to confirm that the incident has ended. This sample is to be **taken seven days** after the end of the short-term pollution. Please note this sample is not part of the set of bathing water quality data. This sample will only replace a sample which has been discarded due to non-compliance with the parameter limits.
- In the case of inland waters where the water is supplemented by outside sources during dry periods, the water quality of the outside source must meet the Blue Flag bathing water quality standards.
- Discounting of samples because of short-term pollution during the last assessment period is allowed for maximum 15% of the total number of samples provided for in the monitoring calendar established for that period, or one sample per bathing season, whichever is the greater. When calculating 15% of the total number of samples provided for that period, the result must be rounded up or down. For more details review **Criteria 7**.

What happens after sampling is done?

- Samples must be provided to ECAT as soon as they are made available. ECAT is responsible to check whether the samples provided by the operators comply with the Blue Flag limit values. In case of non-compliance on the water quality requirements, the Blue Flag must be taken down unless the operator fulfills the condition for applying as a dispensation case.
- In accordance with **Criterion 3**, the beach operator must post the water quality information of the current season on the Blue Flag information board **no later than one month** after the sampling date (Example of presentation of water quality information is provided in **Table 5, Appendix B**). Failure to do so results in a minor non-compliance.
- The complete and detailed data must be made available by the local authority to anybody upon request.

APPENDIX A

Microbiological Parameter	Coastal and transitional waters limit values	Inland waters limit values	Accepted % test results higher than limit values
Escherichia coli/Faecal Colibacteria	250 cfu/100ml	500 cfu/100ml	95% compliance of limit values
Intestinal Enterococci/streptococci	100 cfu/100ml	200 cfu/100ml	95% compliance of limit values

Table 1: Microbiological Parameters

Table 2: Physical-chemical parameters

Physical-Chemical Parameter	Imperative Values	Accepted % test results higher than limit value
PH	6 to 9	5%
Oils	Water: no film visible on the surface and no odour. Land: the beach must be monitored for such pollution and emergency plans should cover response in case of oil pollution. Municipal land-side sources must also be identified and managed. Accepted % test higher than imperative value 5%.	
Floatables: tarry residues, wood, plastic articles, bottles, containers, glass, plastic, rubber or any other substances	Absence of floatable items.	10%
Transparency/Turbidity	Secchi depth less than 1m or "no abnormal decrease" when more than 1 m cannot be respected for geographical reasons.	10%
Colour	No abnormal change	5%
Surface Active Substances	Less than 0.3mg/L	10%
Phenols	No specific odour	5%

APPENDIX C

Some accredited Laboratories in the UAE for Water Quality Testing (in accordance with Blue Flag parameters).

Note: This list is not exhaustive

Dubai:

Lonestar Technical Services

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Quality Manager

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Inspectorate International Limited

Contact Person: Mr. Jay Kumar

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DM-Dubai Central Laboratory Department Food & Environment Laboratory Section

Contact Person: Ms. Buthaina Ahmed Saleh

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2) Jebel Ali

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3) Sharjah (Kalba)

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