

2023 年 4 月至 2024 年 3 月之沖廁水水質

Flushing Water Quality during the Period of April 2023 – March 2024

- 為善用海水這種可持續的水源，香港自 1950 年代後期起廣泛抽取海水，在隔除海水中較大的雜質及加入次氯酸鈉消毒後，供應給用戶沖廁。此外，為控制食水需求增長，自 2024 年 3 月起，水務署開始供應循環再用水作沖廁用途。為確保經處理後的海水(「沖廁用鹹水」)及沖廁用循環再用水水質在感官及衛生方面達可接受水平，水務署分別制定了沖廁用鹹水水質指標及循環再用水水質標準。市民可參閱水務署網頁 (<https://www.wsd.gov.hk/tc/core-businesses/water-resources/seawater-for-flushing/index.html>) 了解沖廁水的資訊。

Leveraging seawater as a sustainable water source, since the late 1950s, Hong Kong has extensively abstracted seawater, which is treated to remove larger impurities and disinfected with sodium hypochlorite before being supplied to users for toilet flushing. In addition, starting from March 2024, the Water Supplies Department (“WSD”) is supplying recycled water for toilet flushing with a view to containing the fresh water demand. To ensure satisfactory quality of treated seawater (“salt water for flushing”) and recycled water for flushing on grounds of aesthetic acceptance and hygiene, the WSD has established the Water Quality Objectives (“WQO”) of Salt Water for Flushing Supply and Water Quality Standards for Recycled Water respectively. The public may visit the WSD website (<https://www.wsd.gov.hk/en/core-businesses/water-resources/seawater-for-flushing/index.html>) for information on flushing water.

- 沖廁用鹹水樣本是從海水抽水站、海水配水庫、海水缸及客戶處所抽取；而沖廁用循環再用水樣本則是從循環再用水處理廠、循環再用水配水庫及客戶處所抽取。本報告期內，整體沖廁水(包括沖廁用鹹水及循環再用水)水質達標率為 98.8%^(註釋 1)，完全符合沖廁水水質的服務指標，即沖廁水水質達標率在 97%或以上。

Salt water samples for flushing supply were collected at salt water pumping stations, salt water service reservoirs, salt water tanks and customer ends, while recycled water samples for flushing supply were collected at recycled water treatment plant, recycled water service reservoir and customer ends. During this reporting period, the compliance rate for the overall quality of salt water and recycled water supplied for flushing purposes is 98.8%^(Note 1), which fully meets the performance target of achieving a $\geq 97\%$ compliance rate.

表一、沖廁用鹹水的水質監測結果

Table 1. Monitoring Data of Salt Water Quality for Flushing Supply

參數 Parameter	單位 Unit	監測結果 ^(註釋 2) Monitoring Data ^(Note 2) (04/2023 - 03/2024)			沖廁用鹹水水質指標值 WQO Values of Salt Water for Flushing Supply
		最低值 Minimum	最高值 Maximum	平均值 Average	
色度 Colour	Hazen Unit	< 5	7	< 5	< 40
混濁度 Turbidity	NTU	< 0.1	45 (註釋 3) (Note 3)	3.2	< 20
氣味閾值 Threshold Odour Number	--	< 1	1	< 1	< 100
氨氮 Ammoniacal Nitrogen	毫克/公升 mg/L	< 0.02	0.08	< 0.02	< 1
總懸浮固體 Total Suspended Solids	毫克/公升 mg/L	< 5	20 (註釋 3) (Note 3)	< 5	< 20
溶解氧 Dissolved Oxygen	毫克/公升 mg/L	5.1	11	7.7	> 2
五日生化需氧量 5-day Biochemical Oxygen Demand	毫克/公升 mg/L	< 2.0	4.0	< 2.0	< 10
合成清潔劑 Synthetic Detergents	毫克/公升 mg/L	< 0.1	0.2	< 0.1	< 5
埃希氏大腸桿菌 <i>Escherichia coli</i>	菌落數/100 毫升 cfu*/100 mL	0	70	1	< 5 000

* cfu = colony forming unit

表二、沖廁用循環再用水的水質監測結果

Table 2. Monitoring Data of Recycled Water Quality for Flushing Supply

參數 Parameter	單位 Unit	監測結果 ^(註釋 2) Monitoring Data ^(Note 2) (04/2023 - 03/2024)			循環再用水水質標準值 Water Quality Standard Values for Recycled Water
		最低值 Minimum	最高值 Maximum	平均值 Average	
色度 Colour	Hazen Unit	< 5	< 5	< 5	≤ 20
混濁度 Turbidity	NTU	0.9	1.0	1.0	≤ 5
氣味閾值 Threshold Odour Number	--	<1	<1	< 1	≤ 100
氨氮 Ammoniacal Nitrogen	毫克/公升 mg/L	0.03	0.03	0.03	≤ 1
總懸浮固體 Total Suspended Solids	毫克/公升 mg/L	< 5	< 5	< 5	≤ 5
溶解氧 Dissolved Oxygen	毫克/公升 mg/L	8.3	8.4	8.6	≥ 2
五日生化需氧量 5-day Biochemical Oxygen Demand	毫克/公升 mg/L	< 2.0	< 2.0	< 2.0	≤ 10
合成清潔劑 Synthetic Detergents	毫克/公升 mg/L	< 0.1	< 0.1	< 0.1	≤ 5
埃希氏大腸桿菌 <i>Escherichia coli</i>	菌落數/100 毫升 cfu*/100 mL	0	0	0	0
總餘氯 Total Residual Chlorine	毫克/公升 mg/L	0.6	1.0	0.8	≥ 0.2
酸鹼值(水溫 25°C時) pH at 25 °C	--	7.6	7.6	7.6	6 – 9

* cfu = colony forming unit

註釋:

Notes:

(1) 沖廁水水質達標率的計算方法如下:-

$$\frac{\text{合格沖廁用鹹水樣本數目} + \text{合格沖廁用循環再用水樣本數目}}{\text{沖廁用鹹水樣本總數} + \text{沖廁用循環再用水樣本總數}} \times 100\%$$

The compliance rate of flushing water quality is calculated as follow:

$$\frac{\text{Number of compliance flushing salt water samples} + \text{Number of compliance flushing recycled water samples}}{\text{Total number of flushing salt water samples} + \text{Total number of flushing recycled water samples}} \times 100\%$$

(2) 以上的統計數字只包括從客戶處所抽取的樣本之監測結果。

The above statistics only include the monitoring results of samples collected at customer ends.

(3) 在恆常水質監測期間，於 2023 年 7 月的兩個鹹水樣本、10 月的一個鹹水樣本及 2024 年 1 月的一個鹹水樣本分別錄得總懸浮固體為 20 毫克/公升、混濁度為 45 NTU、混濁度為 29 NTU 及混濁度為 25 NTU。水務署已適時採取了跟進行動，於相關的供水系統再抽取樣本以確認沖廁用鹹水水質。化驗結果顯示該樣本水質符合沖廁用鹹水水質指標，適合作沖廁用途，這顯示以上不達標的情況只屬個別事件。

Total suspended solids of 20 mg/L, turbidity of 45 NTU, turbidity of 29 NTU and turbidity of 25 NTU were found in two salt water samples collected in July 2023, one salt water sample collected in October 2023 and one salt water sample collected in January 2024 respectively during the routine monitoring of salt water quality. Appropriate follow-up actions were timely taken and sampling visits to the relevant distribution system were repeated by WSD to verify the situation. Test results of those water samples were in compliance with the WQO of Salt Water for Flushing Supply and was suitable for flushing purpose. This indicated that they are isolated cases.