



Medical

Technical Report

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Chemical Compatibility of the Pall QPoint™ Docking Station – Shower Assembly with Common Surface Disinfectants



QPoint - More than Filtration

1. Background

The Pall QPoint Shower Water Filter Assembly consists of a chromed, reusable Docking Station, designed to fit all standard shower hoses, plus a disposable Filter Capsule. The Pall QPoint Filter Capsule is indicated to remove bacteria, protozoa, fungi and particles from the water supply for up to 2 calendar months (maximum 62 days). The Docking Station is supplied non-sterile. If it is visibly contaminated or is known to have become contaminated the external surfaces should be cleansed using commonly available chrome compatible cleaning products.

Figure 1: Pall QPoint Shower Docking Station



Tests to confirm compatibility of the QPoint Docking Station – Shower Assembly with common surface disinfectants such as quaternary ammonium, alcohol and active chlorine solutions have been conducted and are summarised.

2. Quaternary ammonium solution (0.5 %)

Three Docking Stations were immersed in a 0.5 % quaternary ammonium solution for 5 days at room temperature. The duration of immersion represents a 4 minute daily disinfection over a 5 year period. No changes in Docking Station appearance were observed following immersion and there were no visible particulates in the test solution. Function of the Docking Station was confirmed by successful connection and disconnection of a Filter Capsule 90 times*. The Docking Station was subsequently installed on a shower hose and a Filter Capsule connected according to instructions for use. No leaks were observed at the connection between the shower hose outlet and the Docking Station, or at the connection between Docking Station and Filter Capsule, when flow was initiated (Table 1).

Table 1. Chemical compatibility of the QPoint Docking Station - Shower Assembly following immersion in a 0.5 % quaternary ammonium solution for 5 days

Docking station	Change in appearance of Docking Station following immersion in 0.5 % quaternary ammonium solution	Change in appearance of 0.5 % quaternary ammonium solution	Satisfactory filter capsule connection/ disconnection (x 90)*	Satisfactory function of docking station
1	No	No	Yes	Yes
2	No	No	Yes	Yes
3	No	No	Yes	Yes

* This represents 3 x the number of connections that could be expected to be made in a 5 year period.

The Pall QPoint Docking Station – Shower Assembly is considered to be compatible with 0.5 % quaternary ammonium solutions.

3. Active chlorine solution (25 ppm)

Three Docking Stations were immersed in a 25 ppm active chlorine solution for 3 hours at room temperature. The duration of immersion represents a 30 minute disinfection annually over a 5 year period. No changes in Docking Station appearance were observed following immersion and there were no visible particulates in the test solution. Function of the Docking Station was confirmed by successful connection and disconnection of a Filter Capsule 90 times*. The Docking Station was subsequently installed on a shower hose and a Filter Capsule connected according to instructions for use. No leaks were observed at the connection between the shower hose outlet and the Docking Station, or at the connection between Docking Station and Filter Capsule, when flow was initiated (Table 2).

Table 2. Chemical compatibility of the QPoint Docking Station – Shower Assembly following immersion in a 25 ppm active chlorine solution for 3 hours

Docking station	Change in appearance of Docking Station following immersion in 25 ppm active chlorine solution	Change in appearance of 25 ppm active chlorine solution	Satisfactory Filter Capsule connection/ disconnection (x 90)*	Satisfactory function of Docking Station
1	No	No	Yes	Yes
2	No	No	Yes	Yes
3	No	No	Yes	Yes

* This represents 3 x the number of connections that could be expected to be made in a 5 year period.

The Pall QPoint Docking Station – Shower Assembly is considered to be compatible with 25 ppm active chlorine solution.

4. Alcohol solution (70 %)

Four Docking Stations were subjected to 1825 cycles of a 3 second immersion in 70 % alcohol solution every 2 minutes. The duration of immersion mimics a theoretical daily disinfection by spraying/wiping over a 5 year period.

No changes in Docking Station appearance were observed following exposure and there were no visible particulates in the test solution. Function of the Docking Station was confirmed by successful connection and disconnection of a Filter Capsule 90 times*. The Docking Station was subsequently installed on shower hose and a Filter Capsule connected according to instructions for use. No leaks were observed at the connection between the shower hose outlet and the Docking Station, or at the connection between Docking Station and Filter Capsule, when flow was initiated (Table 3).

Table 3. Chemical compatibility of the QPoint Docking Station – Tap Assembly following 1825 cycles of a 3 second immersion in a 70 % alcohol solution

<u>Docking station</u>	<u>Change in appearance following immersion in 70 % alcohol solution</u>	<u>Change in appearance of 70 % alcohol solution</u>	<u>Satisfactory filter Capsule connection/ disconnection (x 90)</u>	<u>Satisfactory function of docking station</u>
1	No	No	Yes	Yes
2	No	No	Yes	Yes
3	No	No	Yes	Yes
4	No	No	Yes	Yes

* This represents 3 x the number of connections that could be expected to be made in a 5 year period.

The Pall QPoint Docking Station – Shower Assembly is considered to be compatible with 70 % alcohol solutions.

5. Conclusions

Pall QPoint Docking Stations – Shower Assembly are compatible with 0.5 % quaternary ammonium solutions, 70 % alcohol solutions or 25 ppm active chlorine solution for surface disinfection.



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