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Attn: Mr. Kevin Johnson

we have tested Filtersorb SP3 in order to assess the effect on water pH and conductivity. We also were interested to see if the presence of free chlorine in water would have any effect over these parameters.

The test was performed on Mannheim tap water, which is classified as hard water having a total hardness of about 342 mg CaCO₃ per liter (almost 20 °dH). Water analysis from 06.02.2012 as provided by MVV Energie AG:

| | |
|----------------|--------------------|
| pH | 7,37 |
| Conductivity | 760 µS/cm at 25 °C |
| Total Hardness | 3,69 mmol/l |
| Calcium | 111 mg/l |
| Magnesium | 22 mg/l |
| Sodium | 12,7 mg/l |
| Bicarbonat | 325 mg/l |
| Sulfate | 87,4 mg/l |
| Chloride | 48,8 mg/l |
| Free chlorine | 0 mg/L |

The test was performed of a unit containing 0,5L Filtersorb SP3 at a flow of 100 liters per hour. This amount of SP3 media is normally used to treat a much higher flow of water, but in these extreme conditions the contact time is higher and in consequence the variations in pH are greater and therefore easier to measure. For normal units pH variations will be lower than those observed in our test.

The unit was in service for the last 2 months, treating not more than 50 liters of water each day.

In the first day the unit was run for about 9 hours, corresponding to almost 900 liters of water.

In the second and the third day, since drinking water has no free chlorine, we have dosed a diluted solution of sodium hypochlorite NaClO in water.

At the end of the third day we have stopped the chlorine dosage and allow the unit to run for another 64 hours.

The pH and temperature were measured with an Aqualytic SensoDirect pH24 pH-meter with thermocouple, calibrated before starting the measurements. The conductivity was measured with a Eutech COND6+ instrument. The free chlorine was determined spectrometric, using a PhotoLab 6600 UV-Vis Spectrometer.

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IBAN: DE 575 479 0000000 103 4740

HRB: 701 201
Registergericht Mannheim
Geschäftsführer:
Deepak Chopra

The results are summarized in the table below:

| Nr.crt. | Date | Time | Drinking water parameters | | | | Filtersorb SP3 treated water | | | |
|---------|------------|-------|---------------------------|----------------|-------------|----------------|------------------------------|----------------|-------------|----------------|
| | | | pH | Cond. μS/cm | Temp. °C | Free Cl ppm | pH | Cond. μS/cm | Temp. °C | Free Cl ppm |
| 1. | 20.06.2012 | 8:25 | 7,50 | 648 | 25 | - | 7,37 | 702 | 25 | - |
| 2. | 20.06.2012 | 9:05 | 7,53 | 680 | 17 | - | 7,47 | 708 | 18 | - |
| 3. | 20.06.2012 | 10:03 | 7,48 | 764 | 17 | - | 7,29 | 766 | 17 | - |
| 4. | 20.06.2012 | 14:00 | 7,27 | 795 | 16 | - | 7,22 | 797 | 16 | - |
| 5. | 20.06.2012 | 17:10 | 7,27 | 808 | 16 | | 7,25 | 813 | 16 | - |
| 6. | STOP | | | | | | | | | |
| 7. | 21.06.2012 | 8:55 | 7,58 | 661 | 25 | 0,3 | 7,40 | 715 | 25 | 0,2 |
| 8. | 21.06.2012 | 9:35 | 7,49 | 680 | 17 | 0,4 | 7,41 | 708 | 18 | 0,4 |
| 9. | 21.06.2012 | 10:50 | 7,48 | 747 | 17 | 0,5 | 7,33 | 766 | 17 | 0,5 |
| 10. | 21.06.2012 | 15:00 | 7,27 | 803 | 16 | 0,4 | 7,22 | 818 | 16 | 0,5 |
| 11. | 21.06.2012 | 18:10 | 7,27 | 814 | 16 | 0,5 | 7,28 | 822 | 16 | 0,5 |
| 12. | STOP | | | | | | | | | |
| 13. | 22.06.2012 | 8:05 | 7,55 | 670 | 26 | 1,0 | 7,51 | 718 | 26 | 0,8 |
| 14. | 22.06.2012 | 8:45 | 7,35 | 695 | 18 | 1,1 | 7,33 | 711 | 18 | 1,2 |
| 15. | 22.06.2012 | 11:20 | 7,28 | 783 | 16 | 1,0 | 7,20 | 802 | 16 | 0,9 |
| 16. | 22.06.2012 | 12:35 | 7,32 | 812 | 16 | 1,1 | 7,25 | 817 | 16 | 1,0 |
| 17. | 22.06.2012 | 14:20 | 7,29 | 815 | 16 | 1,1 | 7,22 | 826 | 16 | 1,1 |
| 18. | 22.06.2012 | 16:10 | 7,22 | 821 | 16 | 1,2 | 7,21 | 832 | 16 | 1,0 |
| 19. | | | | | | | | | | |
| 20. | 25.06.2012 | 8:30 | 7,20 | 815 | 15 | - | 7,18 | 822 | 15 | - |

The results show very slight changes in water pH and conductivity after the treatment with Filtersorb SP3. These modifications occur after a resting period, and are not any more observable after few hours.

Watch GmbH

i.A. Dr. Valentin Cimpeanu