

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\WX123019\  
 Data File : VX014344.D  
 Acq On : 30 Dec 2019 10:22  
 Operator : JC/SP  
 Sample : VSTDCCC020  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 3 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 VSTDCCC020

Manual Integrations  
 APPROVED

apatel  
 12/31/2019 9:32:29 AM

Quant Time: Dec 31 04:45:56 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA X\METHOD\624X121219W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Dec 13 01:35:34 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.00  | 128  | 96774    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 6.85  | 114  | 552779   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 10.11 | 117  | 495553   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 6.05   | 65    | 208845   | 30.13    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 100.43% |
| 60) 4-Bromofluorobenzene  | 11.13  | 95    | 239694   | 29.95    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 99.83%  |
| 63) Toluene-d8            | 8.71   | 98    | 677100   | 30.57    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 101.90% |

## Target Compounds

|                               |      |     |         |         | Ovalue     |
|-------------------------------|------|-----|---------|---------|------------|
| 2) Dichlorodifluoromethane    | 1.19 | 85  | 91027   | 18.621  | ug/l 99    |
| 3) Chloromethane              | 1.32 | 50  | 130433  | 18.931  | ug/l 96    |
| 4) Vinyl Chloride             | 1.40 | 62  | 135346  | 19.163  | ug/l 99    |
| 5) Bromomethane               | 1.63 | 94  | 83000   | 16.075  | ug/l 99    |
| 6) Chloroethane               | 1.72 | 64  | 90358   | 20.711  | ug/l 97    |
| 7) Trichlorofluoromethane     | 1.92 | 101 | 170838  | 19.438  | ug/l 96    |
| 8) Diethyl Ether              | 2.18 | 74  | 76297   | 18.887  | ug/l 96    |
| 9) 1,1,2-Trichlorotrifluoroet | 2.37 | 101 | 105371  | 20.102  | ug/l 99    |
| 10) 1,1-Dichloroethene        | 2.37 | 96  | 103706  | 19.137  | ug/l 97    |
| 11) Methyl Iodide             | 2.50 | 142 | 110758  | 15.877  | ug/l 98    |
| 12) Methyl Acetate            | 2.76 | 43  | 157750  | 18.804  | ug/l 98    |
| 13) Acrolein                  | 2.28 | 56  | 121752  | 119.656 | ug/l 97    |
| 14) Acrylonitrile             | 3.13 | 53  | 310334  | 94.625  | ug/l 99    |
| 15) Acetone                   | 2.43 | 58  | 119719  | 124.263 | ug/l 90    |
| 16) Carbon Disulfide          | 2.56 | 76  | 291516  | 19.858  | ug/l 97    |
| 17) Allyl chloride            | 2.72 | 41  | 194674  | 19.992  | ug/l 99    |
| 18) Methylene Chloride        | 2.84 | 84  | 119102  | 17.937  | ug/l 97    |
| 19) trans-1,2-Dichloroethene  | 3.16 | 96  | 112688  | 18.990  | ug/l 98    |
| 20) Diisopropyl ether         | 3.84 | 45  | 393820  | 19.710  | ug/l 93    |
| 21) 1,1-Dichloroethane        | 3.69 | 63  | 205569  | 18.956  | ug/l 99    |
| 22) cis-1,2-Dichloroethene    | 4.58 | 96  | 128098  | 18.621  | ug/l 97    |
| 23) tert-Butyl Alcohol        | 3.02 | 59  | 128550  | 99.933  | ug/l # 100 |
| 24) Methyl tert-Butyl Ether   | 3.18 | 73  | 343571  | 18.768  | ug/l 99    |
| 25) Chloroform                | 5.20 | 83  | 197208  | 19.074  | ug/l 99    |
| 26) Cyclohexane               | 5.56 | 56  | 190483  | 19.699  | ug/l # 98  |
| 29) 1,1-Dichloropropene       | 5.79 | 75  | 154444  | 19.343  | ug/l 98    |
| 30) 2-Butanone                | 4.65 | 43  | 494610  | 105.094 | ug/l 99    |
| 31) 2,2-Dichloropropane       | 4.57 | 77  | 163900  | 22.191  | ug/l 100   |
| 32) 1,1,1-Trichloroethane     | 5.48 | 97  | 162314  | 18.379  | ug/l 99    |
| 33) Carbon Tetrachloride      | 5.77 | 117 | 141447  | 18.841  | ug/l 100   |
| 34) Benzene                   | 6.13 | 78  | 471666  | 18.944  | ug/l 96    |
| 35) Methacrylonitrile         | 5.02 | 41  | 96607   | 19.086  | ug/l 98    |
| 36) 1,2-Dichloroethane        | 6.18 | 62  | 158337m | 18.308  | ug/l       |
| 37) Trichloroethene           | 7.20 | 130 | 122460  | 18.076  | ug/l 87    |
| 38) Methylcyclohexane         | 7.45 | 83  | 195129  | 20.487  | ug/l 98    |
| 39) 1,2-Dichloropropane       | 7.50 | 63  | 120101  | 18.573  | ug/l 92    |
| 40) Dibromomethane            | 7.65 | 93  | 77430   | 18.744  | ug/l 97    |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Dec 13 01:35:34 2019  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|-------|------|----------|---------|-------|----------|
| 41) Bromodichloromethane       | 7.89  | 83   | 151568   | 18.949  | ug/l  | 97       |
| 42) Vinyl Acetate              | 3.80  | 43   | 1641442  | 98.786  | ug/l  | 99       |
| 43) Ethyl Acetate              | 4.81  | 43   | 169959   | 18.820  | ug/l  | 99       |
| 44) Isopropyl Acetate          | 6.43  | 43   | 281395   | 18.604  | ug/l  | 98       |
| 45) 1,4-Dioxane                | 7.73  | 88   | 55198    | 389.703 | ug/l  | 98       |
| 46) Methyl methacrylate        | 7.76  | 41   | 137134   | 18.666  | ug/l  | 95       |
| 47) n-amyl Acetate             | 10.89 | 43   | 240113   | 17.854  | ug/l  | 100      |
| 48) t-1,3-Dichloropropene      | 9.03  | 75   | 167601   | 19.198  | ug/l  | 98       |
| 49) cis-1,3-Dichloropropene    | 8.43  | 75   | 188553   | 19.205  | ug/l  | 99       |
| 50) 1,1,2-Trichloroethane      | 9.21  | 97   | 118350   | 18.564  | ug/l  | 97       |
| 51) Ethyl methacrylate         | 9.17  | 69   | 179733   | 17.724  | ug/l  | 99       |
| 52) 1,3-Dichloropropane        | 9.36  | 76   | 201616   | 18.614  | ug/l  | 99       |
| 53) Dibromochloromethane       | 9.57  | 129  | 117800   | 18.479  | ug/l  | 100      |
| 54) 1,2-Dibromoethane          | 9.67  | 107  | 122815   | 18.710  | ug/l  | 98       |
| 55) 2-Chloroethyl vinyl ether  | 8.30  | 63   | 381034   | 85.238  | ug/l  | 99       |
| 56) Bromoform                  | 10.85 | 173  | 88937    | 17.890  | ug/l  | 99       |
| 58) 4-Methyl-2-Pentanone       | 8.63  | 43   | 878511   | 94.749  | ug/l  | 99       |
| 59) 2-Hexanone                 | 9.48  | 43   | 700983   | 99.621  | ug/l  | 99       |
| 61) Tetrachloroethene          | 9.33  | 164  | 131437   | 20.049  | ug/l  | 98       |
| 62) Toluene                    | 8.78  | 91   | 505267   | 19.171  | ug/l  | 99       |
| 64) Chlorobenzene              | 10.14 | 112  | 308482   | 18.682  | ug/l  | 95       |
| 65) 1,1,1,2-Tetrachloroethane  | 10.21 | 131  | 113837   | 18.618  | ug/l  | 100      |
| 66) Ethyl Benzene              | 10.25 | 91   | 552574   | 19.158  | ug/l  | 98       |
| 67) m/p-Xylenes                | 10.36 | 106  | 417965   | 37.908  | ug/l  | 99       |
| 68) o-Xylene                   | 10.69 | 106  | 200662   | 18.371  | ug/l  | 100      |
| 69) Styrene                    | 10.71 | 104  | 341817   | 18.402  | ug/l  | 99       |
| 70) Isopropylbenzene           | 11.01 | 105  | 534725   | 18.944  | ug/l  | 99       |
| 71) 1,1,2,2-Tetrachloroethane  | 11.26 | 83   | 176451   | 17.627  | ug/l  | 99       |
| 72) 1,2,3-Trichloropropane     | 11.29 | 75   | 148867m  | 16.708  | ug/l  |          |
| 73) Bromobenzene               | 11.25 | 156  | 137521   | 18.251  | ug/l  | 99       |
| 74) n-propylbenzene            | 11.35 | 91   | 620902   | 19.394  | ug/l  | 99       |
| 75) 2-Chlorotoluene            | 11.42 | 91   | 367977   | 19.022  | ug/l  | 98       |
| 76) 1,3,5-Trimethylbenzene     | 11.50 | 105  | 446990   | 18.668  | ug/l  | 100      |
| 77) t-1,4-Dichloro-2-butene    | 11.07 | 75   | 57775    | 19.636  | ug/l  | 95       |
| 78) 4-Chlorotoluene            | 11.51 | 91   | 415370   | 18.791  | ug/l  | 99       |
| 79) tert-butylbenzene          | 11.76 | 119  | 419618   | 18.181  | ug/l  | 98       |
| 80) 1,2,4-Trimethylbenzene     | 11.80 | 105  | 442160   | 18.467  | ug/l  | 99       |
| 81) sec-Butylbenzene           | 11.94 | 105  | 528638   | 19.257  | ug/l  | 100      |
| 82) p-Isopropyltoluene         | 12.06 | 119  | 474560   | 19.156  | ug/l  | 99       |
| 83) 1,3-Dichlorobenzene        | 12.02 | 146  | 241588   | 18.395  | ug/l  | 99       |
| 84) 1,4-Dichlorobenzene        | 12.09 | 146  | 243161   | 18.593  | ug/l  | 99       |
| 85) n-Butylbenzene             | 12.39 | 91   | 411196   | 19.741  | ug/l  | 99       |
| 86) Hexachloroethane           | 12.59 | 117  | 81755    | 18.191  | ug/l  | 97       |
| 87) 1,2-Dichlorobenzene        | 12.39 | 146  | 244027   | 18.293  | ug/l  | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 12.99 | 75   | 35064    | 17.575  | ug/l  | 96       |
| 89) 1,2,4-Trichlorobenzene     | 13.64 | 180  | 160821   | 18.863  | ug/l  | 98       |
| 90) Hexachlorobutadiene        | 13.78 | 225  | 81678    | 20.155  | ug/l  | 98       |
| 91) Naphthalene                | 13.83 | 128  | 470841   | 18.374  | ug/l  | 99       |
| 92) 1,2,3-Trichlorobenzene     | 14.02 | 180  | 159045   | 18.392  | ug/l  | 99       |

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(#) = qualifier out of range (m) = manual integration (+) = signals summed

