

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\VX111119\  
 Data File : VX013370.D  
 Acq On : 11 Nov 2019 17:39  
 Operator : JC/SP  
 Sample : VSTDIC100  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 5 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 VSTDIC100

Manual Integrations  
 APPROVED

MMDadoda  
 11/12/2019 11:49:46 AM

Quant Time: Nov 12 01:14:48 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA X\METHOD\624X111119W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Tue Nov 12 01:01:06 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.01  | 128  | 110273   | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 6.85  | 114  | 677049   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 10.11 | 117  | 612467   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 6.05   | 65    | 257515   | 30.19    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 100.63% |
| 60) 4-Bromofluorobenzene  | 11.13  | 95    | 294555   | 28.12    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 93.73%  |
| 63) Toluene-d8            | 8.71   | 98    | 824061   | 30.25    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 100.83% |

## Target Compounds

|                               |      |     |          |         | Ovalue    |
|-------------------------------|------|-----|----------|---------|-----------|
| 2) Dichlorodifluoromethane    | 1.19 | 85  | 880573   | 111.251 | ug/l 99   |
| 3) Chloromethane              | 1.31 | 50  | 941922   | 129.357 | ug/l 98   |
| 4) Vinyl Chloride             | 1.40 | 62  | 1086744  | 141.308 | ug/l 99   |
| 5) Bromomethane               | 1.62 | 94  | 657560   | 163.506 | ug/l 100  |
| 6) Chloroethane               | 1.70 | 64  | 569472   | 121.443 | ug/l 99   |
| 7) Trichlorofluoromethane     | 1.91 | 101 | 1141587  | 101.522 | ug/l 98   |
| 8) Diethyl Ether              | 2.18 | 74  | 528562   | 129.557 | ug/l 100  |
| 9) 1,1,2-Trichlorotrifluoroet | 2.37 | 101 | 682606   | 98.734  | ug/l 99   |
| 10) 1,1-Dichloroethene        | 2.36 | 96  | 724394   | 108.120 | ug/l 100  |
| 11) Methyl Iodide             | 2.50 | 142 | 961205   | 112.202 | ug/l 100  |
| 12) Methyl Acetate            | 2.76 | 43  | 1275390  | 138.536 | ug/l 97   |
| 13) Acrolein                  | 2.28 | 56  | 655484   | 518.513 | ug/l 100  |
| 14) Acrylonitrile             | 3.13 | 53  | 2322667  | 622.493 | ug/l 99   |
| 15) Acetone                   | 2.44 | 58  | 673398   | 547.291 | ug/l 97   |
| 16) Carbon Disulfide          | 2.56 | 76  | 2043077  | 113.075 | ug/l 100  |
| 17) Allyl chloride            | 2.72 | 41  | 1348168  | 122.766 | ug/l 97   |
| 18) Methylene Chloride        | 2.84 | 84  | 798348   | 103.408 | ug/l 99   |
| 19) trans-1,2-Dichloroethene  | 3.15 | 96  | 767101   | 107.967 | ug/l 98   |
| 20) Diisopropyl ether         | 3.84 | 45  | 2529685  | 119.792 | ug/l # 84 |
| 21) 1,1-Dichloroethane        | 3.69 | 63  | 1393272  | 110.744 | ug/l 98   |
| 22) cis-1,2-Dichloroethene    | 4.58 | 96  | 881075   | 108.957 | ug/l 98   |
| 23) tert-Butyl Alcohol        | 3.04 | 59  | 1097872m | 573.935 | ug/l      |
| 24) Methyl tert-Butyl Ether   | 3.18 | 73  | 2375787  | 103.363 | ug/l 100  |
| 25) Chloroform                | 5.20 | 83  | 1337268  | 102.472 | ug/l 99   |
| 26) Cyclohexane               | 5.57 | 56  | 1248652  | 112.355 | ug/l # 99 |
| 29) 1,1-Dichloropropene       | 5.79 | 75  | 1031568  | 100.001 | ug/l 100  |
| 30) 2-Butanone                | 4.66 | 43  | 3406946  | 593.676 | ug/l 99   |
| 31) 2,2-Dichloropropane       | 4.57 | 77  | 1129465  | 94.906  | ug/l 100  |
| 32) 1,1,1-Trichloroethane     | 5.48 | 97  | 1156852  | 93.384  | ug/l 99   |
| 33) Carbon Tetrachloride      | 5.77 | 117 | 1016869  | 95.111  | ug/l 99   |
| 34) Benzene                   | 6.13 | 78  | 3147725  | 104.383 | ug/l 99   |
| 35) Methacrylonitrile         | 5.03 | 41  | 705949   | 120.749 | ug/l 98   |
| 36) 1,2-Dichloroethane        | 6.18 | 62  | 1090270  | 96.997  | ug/l 99   |
| 37) Trichloroethene           | 7.20 | 130 | 854344   | 102.948 | ug/l 97   |
| 38) Methylcyclohexane         | 7.45 | 83  | 1273322  | 100.130 | ug/l 99   |
| 39) 1,2-Dichloropropane       | 7.51 | 63  | 819366   | 109.698 | ug/l 99   |
| 40) Dibromomethane            | 7.65 | 93  | 531121   | 100.883 | ug/l 97   |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Tue Nov 12 01:01:06 2019  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc     | Units | Dev(Min) |
|--------------------------------|-------|------|----------|----------|-------|----------|
| 41) Bromodichloromethane       | 7.89  | 83   | 1078322  | 101.807  | ug/l  | 97       |
| 42) Vinyl Acetate              | 3.80  | 43   | 10774219 | 556.373  | ug/l  | 99       |
| 43) Ethyl Acetate              | 4.82  | 43   | 1264985  | 120.486  | ug/l  | 97       |
| 44) Isopropyl Acetate          | 6.43  | 43   | 2038865  | 118.177  | ug/l  | 99       |
| 45) 1,4-Dioxane                | 7.73  | 88   | 450293   | 2134.302 | ug/l  | 100      |
| 46) Methyl methacrylate        | 7.76  | 41   | 1019788  | 120.073  | ug/l  | 100      |
| 47) n-amyl Acetate             | 10.89 | 43   | 1842979  | 124.907  | ug/l  | 99       |
| 48) t-1,3-Dichloropropene      | 9.04  | 75   | 1245185  | 107.021  | ug/l  | 100      |
| 49) cis-1,3-Dichloropropene    | 8.43  | 75   | 1349208  | 106.349  | ug/l  | 98       |
| 50) 1,1,2-Trichloroethane      | 9.21  | 97   | 794067   | 101.764  | ug/l  | 99       |
| 51) Ethyl methacrylate         | 9.17  | 69   | 1366122  | 111.104  | ug/l  | 98       |
| 52) 1,3-Dichloropropane        | 9.37  | 76   | 1362613  | 103.534  | ug/l  | 99       |
| 53) Dibromochloromethane       | 9.58  | 129  | 885080   | 105.615  | ug/l  | 97       |
| 54) 1,2-Dibromoethane          | 9.67  | 107  | 853922   | 102.540  | ug/l  | 98       |
| 55) 2-Chloroethyl vinyl ether  | 8.31  | 63   | 2782369  | 546.322  | ug/l  | 100      |
| 56) Bromoform                  | 10.85 | 173  | 722418   | 118.881  | ug/l  | 99       |
| 58) 4-Methyl-2-Pentanone       | 8.64  | 43   | 6388697  | 598.236  | ug/l  | 99       |
| 59) 2-Hexanone                 | 9.49  | 43   | 5040269  | 599.145  | ug/l  | 98       |
| 61) Tetrachloroethene          | 9.33  | 164  | 735086   | 93.750   | ug/l  | 96       |
| 62) Toluene                    | 8.78  | 91   | 3369772  | 102.022  | ug/l  | 99       |
| 64) Chlorobenzene              | 10.14 | 112  | 2135076  | 101.555  | ug/l  | 100      |
| 65) 1,1,1,2-Tetrachloroethane  | 10.21 | 131  | 805295   | 102.610  | ug/l  | 99       |
| 66) Ethyl Benzene              | 10.24 | 91   | 3755668  | 99.657   | ug/l  | 99       |
| 67) m/p-Xylenes                | 10.35 | 106  | 2884627  | 201.630  | ug/l  | 99       |
| 68) o-Xylene                   | 10.70 | 106  | 1412686  | 102.686  | ug/l  | 97       |
| 69) Styrene                    | 10.71 | 104  | 2434455  | 103.414  | ug/l  | 99       |
| 70) Isopropylbenzene           | 11.01 | 105  | 3686985  | 98.654   | ug/l  | 100      |
| 71) 1,1,2,2-Tetrachloroethane  | 11.26 | 83   | 1312526  | 110.720  | ug/l  | 100      |
| 72) 1,2,3-Trichloropropane     | 11.29 | 75   | 1218410m | 123.970  | ug/l  |          |
| 73) Bromobenzene               | 11.25 | 156  | 976117   | 106.617  | ug/l  | 97       |
| 74) n-propylbenzene            | 11.35 | 91   | 4212298  | 101.994  | ug/l  | 99       |
| 75) 2-Chlorotoluene            | 11.42 | 91   | 2476763  | 96.884   | ug/l  | 99       |
| 76) 1,3,5-Trimethylbenzene     | 11.50 | 105  | 3118033  | 98.978   | ug/l  | 99       |
| 77) t-1,4-Dichloro-2-butene    | 11.07 | 75   | 495839   | 124.193  | ug/l  | 93       |
| 78) 4-Chlorotoluene            | 11.51 | 91   | 2868835  | 97.972   | ug/l  | 100      |
| 79) tert-butylbenzene          | 11.77 | 119  | 3158784  | 102.676  | ug/l  | 99       |
| 80) 1,2,4-Trimethylbenzene     | 11.81 | 105  | 3118557  | 99.196   | ug/l  | 99       |
| 81) sec-Butylbenzene           | 11.94 | 105  | 3592916  | 99.793   | ug/l  | 99       |
| 82) p-Isopropyltoluene         | 12.06 | 119  | 3343683  | 101.142  | ug/l  | 99       |
| 83) 1,3-Dichlorobenzene        | 12.02 | 146  | 1726023  | 104.271  | ug/l  | 99       |
| 84) 1,4-Dichlorobenzene        | 12.09 | 146  | 1731162  | 105.727  | ug/l  | 99       |
| 85) n-Butylbenzene             | 12.38 | 91   | 2969280  | 105.421  | ug/l  | 99       |
| 86) Hexachloroethane           | 12.59 | 117  | 627841   | 108.296  | ug/l  | 98       |
| 87) 1,2-Dichlorobenzene        | 12.38 | 146  | 1737890  | 107.956  | ug/l  | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 12.99 | 75   | 310647   | 110.188  | ug/l  | 99       |
| 89) 1,2,4-Trichlorobenzene     | 13.64 | 180  | 1242122  | 121.158  | ug/l  | 99       |
| 90) Hexachlorobutadiene        | 13.78 | 225  | 577524   | 111.450  | ug/l  | 97       |
| 91) Naphthalene                | 13.83 | 128  | 3939694  | 118.812  | ug/l  | 99       |
| 92) 1,2,3-Trichlorobenzene     | 14.02 | 180  | 1232310  | 117.491  | ug/l  | 98       |

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| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

