

Data Path : Z:\VOASRV\HPCHEM1\MSVOA\_N\DATA\VN120718\  
 Data File : VN052716.D  
 Acq On : 7 Dec 2018 10:17  
 Operator : MD\SY  
 Sample : VSTDCCC020  
 Misc : 5.00mL/MSVOA\_N/WATER  
 ALS Vial : 2 Sample Multiplier: 28

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 VSTDCCC020

Manual Integrations  
 APPROVED

MMDadoda  
 12/10/2018 12:50:23 PM

Quant Time: Dec 07 12:58:22 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\624N112618W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Tue Nov 27 00:48:33 2018  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.19  | 128  | 157636   | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.59  | 114  | 918035   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.41 | 117  | 811468   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 8.03   | 65    | 323642   | 30.13    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 100.43% |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 372282   | 30.01    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 100.03% |
| 63) Toluene-d8            | 10.09  | 98    | 1116848  | 29.68    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 98.93%  |

## Target Compounds

|                               |      |     |        |         | Qvalue    |
|-------------------------------|------|-----|--------|---------|-----------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 182388 | 20.315  | ug/l 99   |
| 3) Chloromethane              | 2.06 | 50  | 231410 | 19.435  | ug/l 100  |
| 4) Vinyl Chloride             | 2.19 | 62  | 242505 | 20.180  | ug/l 97   |
| 5) Bromomethane               | 2.57 | 94  | 149614 | 21.835  | ug/l 98   |
| 6) Chloroethane               | 2.71 | 64  | 144091 | 20.162  | ug/l 98   |
| 7) Trichlorofluoromethane     | 3.02 | 101 | 315893 | 21.299  | ug/l 99   |
| 8) Diethyl Ether              | 3.41 | 74  | 112533 | 20.549  | ug/l 99   |
| 9) 1,1,2-Trichlorotrifluoroet | 3.76 | 101 | 202236 | 21.510  | ug/l 96   |
| 10) 1,1-Dichloroethene        | 3.74 | 96  | 184108 | 20.827  | ug/l 99   |
| 11) Methyl Iodide             | 3.96 | 142 | 266293 | 21.697  | ug/l 98   |
| 12) Methyl Acetate            | 4.33 | 43  | 160611 | 21.384  | ug/l 100  |
| 13) Acrolein                  | 3.61 | 56  | 84536  | 95.815  | ug/l 98   |
| 14) Acrylonitrile             | 4.99 | 53  | 327191 | 102.238 | ug/l 98   |
| 15) Acetone                   | 3.82 | 58  | 108285 | 130.653 | ug/l 96   |
| 16) Carbon Disulfide          | 4.06 | 76  | 549654 | 19.640  | ug/l 99   |
| 17) Allyl chloride            | 4.33 | 41  | 313988 | 20.367  | ug/l 96   |
| 18) Methylene Chloride        | 4.55 | 84  | 219620 | 21.457  | ug/l 96   |
| 19) trans-1,2-Dichloroethene  | 5.05 | 96  | 199156 | 20.935  | ug/l 94   |
| 20) Diisopropyl ether         | 5.95 | 45  | 677123 | 20.901  | ug/l 98   |
| 21) 1,1-Dichloroethane        | 5.85 | 63  | 389681 | 21.104  | ug/l 100  |
| 22) cis-1,2-Dichloroethene    | 6.83 | 96  | 232307 | 21.307  | ug/l 98   |
| 23) tert-Butyl Alcohol        | 4.78 | 59  | 48759m | 102.419 | ug/l      |
| 24) Methyl tert-Butyl Ether   | 5.05 | 73  | 492524 | 21.238  | ug/l 99   |
| 25) Chloroform                | 7.37 | 83  | 380842 | 21.379  | ug/l 99   |
| 26) Cyclohexane               | 7.65 | 56  | 352203 | 20.224  | ug/l # 99 |
| 29) 1,1-Dichloropropene       | 7.79 | 75  | 295601 | 21.085  | ug/l 100  |
| 30) 2-Butanone                | 6.83 | 43  | 404106 | 107.723 | ug/l 99   |
| 31) 2,2-Dichloropropane       | 6.82 | 77  | 281049 | 21.776  | ug/l 99   |
| 32) 1,1,1-Trichloroethane     | 7.57 | 97  | 309028 | 21.184  | ug/l 98   |
| 33) Carbon Tetrachloride      | 7.77 | 117 | 277117 | 21.711  | ug/l 99   |
| 34) Benzene                   | 8.04 | 78  | 882779 | 20.944  | ug/l 99   |
| 35) Methacrylonitrile         | 7.17 | 41  | 89500  | 19.230  | ug/l 98   |
| 36) 1,2-Dichloroethane        | 8.12 | 62  | 265548 | 20.790  | ug/l 99   |
| 37) Trichloroethene           | 8.83 | 130 | 230115 | 21.530  | ug/l 100  |
| 38) Methylcyclohexane         | 9.08 | 83  | 359060 | 20.690  | ug/l 99   |
| 39) 1,2-Dichloropropane       | 9.12 | 63  | 231254 | 20.468  | ug/l 99   |
| 40) Dibromomethane            | 9.21 | 93  | 131406 | 21.522  | ug/l 97   |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Tue Nov 27 00:48:33 2018  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc    | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|---------|--------|----------|
| -----                          |       |      |          |         |        |          |
| 41) Bromodichloromethane       | 9.40  | 83   | 284941   | 21.123  | ug/l   | 99       |
| 42) Vinyl Acetate              | 5.90  | 43   | 2028531  | 99.942  | ug/l   | 99       |
| 43) Ethyl Acetate              | 6.93  | 43   | 167137   | 20.953  | ug/l # | 72       |
| 44) Isopropyl Acetate          | 8.16  | 43   | 289350   | 20.683  | ug/l   | 97       |
| 45) 1,4-Dioxane                | 9.20  | 88   | 30781    | 402.191 | ug/l   | 96       |
| 46) Methyl methacrylate        | 9.20  | 41   | 148199   | 20.403  | ug/l   | 97       |
| 47) n-amyl Acetate             | 12.07 | 43   | 228513   | 19.700  | ug/l   | 99       |
| 48) t-1,3-Dichloropropene      | 10.38 | 75   | 272207   | 20.811  | ug/l   | 97       |
| 49) cis-1,3-Dichloropropene    | 9.84  | 75   | 327456   | 20.549  | ug/l   | 98       |
| 50) 1,1,2-Trichloroethane      | 10.56 | 97   | 189420   | 21.886  | ug/l   | 100      |
| 51) Ethyl methacrylate         | 10.43 | 69   | 221673   | 20.393  | ug/l   | 97       |
| 52) 1,3-Dichloropropane        | 10.71 | 76   | 325425   | 21.125  | ug/l   | 98       |
| 53) Dibromochloromethane       | 10.90 | 129  | 203159   | 21.321  | ug/l   | 96       |
| 54) 1,2-Dibromoethane          | 11.01 | 107  | 181222   | 21.428  | ug/l   | 98       |
| 55) 2-Chloroethyl vinyl ether  | 9.70  | 63   | 646586   | 101.621 | ug/l   | 99       |
| 56) Bromoform                  | 12.13 | 173  | 133287   | 21.401  | ug/l   | 99       |
| 58) 4-Methyl-2-Pentanone       | 9.98  | 43   | 818592   | 104.054 | ug/l   | 99       |
| 59) 2-Hexanone                 | 10.75 | 43   | 578569   | 107.660 | ug/l   | 99       |
| 61) Tetrachloroethene          | 10.63 | 164  | 227283   | 22.741  | ug/l   | 98       |
| 62) Toluene                    | 10.16 | 91   | 941161   | 21.039  | ug/l   | 100      |
| 64) Chlorobenzene              | 11.43 | 112  | 575087   | 21.062  | ug/l   | 100      |
| 65) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 202903   | 21.409  | ug/l   | 99       |
| 66) Ethyl Benzene              | 11.51 | 91   | 1008392  | 20.915  | ug/l   | 100      |
| 67) m/p-Xylenes                | 11.62 | 106  | 761323   | 42.385  | ug/l   | 99       |
| 68) o-Xylene                   | 11.95 | 106  | 371568   | 21.313  | ug/l   | 98       |
| 69) Styrene                    | 11.96 | 104  | 589715   | 20.957  | ug/l   | 99       |
| 70) Isopropylbenzene           | 12.25 | 105  | 996073   | 21.474  | ug/l   | 100      |
| 71) 1,1,2,2-Tetrachloroethane  | 12.50 | 83   | 213578   | 21.167  | ug/l   | 100      |
| 72) 1,2,3-Trichloropropane     | 12.55 | 75   | 176744m  | 20.405  | ug/l   |          |
| 73) Bromobenzene               | 12.53 | 156  | 240535   | 21.441  | ug/l   | 97       |
| 74) n-propylbenzene            | 12.59 | 91   | 1145678  | 21.198  | ug/l   | 99       |
| 75) 2-Chlorotoluene            | 12.67 | 91   | 669435   | 21.339  | ug/l   | 99       |
| 76) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 807135   | 21.543  | ug/l   | 99       |
| 77) t-1,4-Dichloro-2-butene    | 12.30 | 75   | 55635    | 20.333  | ug/l   | 96       |
| 78) 4-Chlorotoluene            | 12.77 | 91   | 665880   | 21.255  | ug/l   | 98       |
| 79) tert-butylbenzene          | 12.99 | 119  | 714340   | 21.893  | ug/l   | 98       |
| 80) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 812351   | 21.669  | ug/l   | 100      |
| 81) sec-Butylbenzene           | 13.17 | 105  | 971394   | 21.374  | ug/l   | 99       |
| 82) p-Isopropyltoluene         | 13.29 | 119  | 842671   | 21.775  | ug/l   | 99       |
| 83) 1,3-Dichlorobenzene        | 13.28 | 146  | 429390   | 21.762  | ug/l   | 99       |
| 84) 1,4-Dichlorobenzene        | 13.36 | 146  | 414409   | 21.739  | ug/l   | 99       |
| 85) n-Butylbenzene             | 13.62 | 91   | 696248   | 20.945  | ug/l   | 100      |
| 86) Hexachloroethane           | 13.88 | 117  | 141263   | 21.544  | ug/l   | 99       |
| 87) 1,2-Dichlorobenzene        | 13.65 | 146  | 412226   | 21.955  | ug/l   | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 31111    | 22.011  | ug/l   | 99       |
| 89) 1,2,4-Trichlorobenzene     | 14.91 | 180  | 195895   | 21.176  | ug/l   | 99       |
| 90) Hexachlorobutadiene        | 15.01 | 225  | 143395   | 23.630  | ug/l   | 98       |
| 91) Naphthalene                | 15.13 | 128  | 377522   | 20.209  | ug/l   | 99       |
| 92) 1,2,3-Trichlorobenzene     | 15.31 | 180  | 188697   | 22.134  | ug/l   | 98       |
| -----                          |       |      |          |         |        |          |

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

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