

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN081719\  
 Data File : VN057357.D  
 Acq On : 16 Aug 2019 15:53  
 Operator : JC/SP  
 Sample : VSTDCCC020  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 14 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 VSTDCCC020EC

Quant Time: Aug 19 09:13:24 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N081719W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Aug 16 15:42:00 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.19  | 128  | 134405   | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.58  | 114  | 738908   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.40 | 117  | 644988   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 8.02   | 65    | 264409   | 30.60    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 102.00% |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 266048   | 28.01    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 93.37%  |
| 63) Toluene-d8            | 10.08  | 98    | 893616   | 30.72    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 102.40% |

## Target Compounds

|                               |      |     |         |               | Ovalue |
|-------------------------------|------|-----|---------|---------------|--------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 146910  | 21.160 ug/l   | 98     |
| 3) Chloromethane              | 2.06 | 50  | 165539  | 20.676 ug/l   | 98     |
| 4) Vinyl Chloride             | 2.18 | 62  | 162126  | 21.165 ug/l   | 100    |
| 5) Bromomethane               | 2.55 | 94  | 125916m | 21.126 ug/l   |        |
| 6) Chloroethane               | 2.70 | 64  | 109276  | 20.826 ug/l   | 98     |
| 7) Trichlorofluoromethane     | 3.02 | 101 | 251787  | 20.510 ug/l   | 100    |
| 8) Diethyl Ether              | 3.40 | 74  | 93447   | 20.684 ug/l   | 90     |
| 9) 1,1,2-Trichlorotrifluoroet | 3.76 | 101 | 154679  | 21.159 ug/l   | 97     |
| 10) 1,1-Dichloroethene        | 3.74 | 96  | 153037  | 21.109 ug/l   | 89     |
| 11) Methyl Iodide             | 3.95 | 142 | 248377  | 20.316 ug/l   | 99     |
| 12) Methyl Acetate            | 4.31 | 43  | 165650  | 20.323 ug/l   | 99     |
| 13) Acrolein                  | 3.60 | 56  | 84205   | 109.248 ug/l  | 98     |
| 14) Acrylonitrile             | 4.97 | 53  | 337098  | 102.094 ug/l  | 99     |
| 15) Acetone                   | 3.81 | 58  | 89413   | 91.897 ug/l   | 96     |
| 16) Carbon Disulfide          | 4.05 | 76  | 401535  | 20.262 ug/l   | 99     |
| 17) Allyl chloride            | 4.32 | 41  | 226225  | 21.364 ug/l   | 94     |
| 18) Methylene Chloride        | 4.54 | 84  | 170999  | 20.608 ug/l   | 96     |
| 19) trans-1,2-Dichloroethene  | 5.03 | 96  | 162579  | 20.709 ug/l   | 98     |
| 20) Diisopropyl ether         | 5.94 | 45  | 461168  | 20.914 ug/l   | 97     |
| 21) 1,1-Dichloroethane        | 5.84 | 63  | 282340  | 20.723 ug/l   | 98     |
| 22) cis-1,2-Dichloroethene    | 6.82 | 96  | 188128  | 20.679 ug/l   | 96     |
| 23) tert-Butyl Alcohol        | 4.75 | 59  | 118232  | 100.480 ug/l  | 100    |
| 24) Methyl tert-Butyl Ether   | 5.03 | 73  | 465779  | 20.936 ug/l   | 98     |
| 25) Chloroform                | 7.36 | 83  | 296552  | 20.825 ug/l   | 97     |
| 26) Cyclohexane               | 7.65 | 56  | 231566  | 20.447 ug/l # | 93     |
| 29) 1,1-Dichloropropene       | 7.79 | 75  | 218091  | 20.290 ug/l   | 98     |
| 30) 2-Butanone                | 6.82 | 43  | 413894  | 97.600 ug/l   | 95     |
| 31) 2,2-Dichloropropane       | 6.81 | 77  | 225120  | 19.119 ug/l   | 99     |
| 32) 1,1,1-Trichloroethane     | 7.56 | 97  | 260115  | 20.471 ug/l   | 97     |
| 33) Carbon Tetrachloride      | 7.76 | 117 | 227783  | 20.132 ug/l   | 94     |
| 34) Benzene                   | 8.03 | 78  | 669656  | 20.537 ug/l   | 99     |
| 35) Methacrylonitrile         | 7.18 | 41  | 98790m  | 17.341 ug/l   |        |
| 36) 1,2-Dichloroethane        | 8.12 | 62  | 218361  | 20.605 ug/l   | 99     |
| 37) Trichloroethene           | 8.83 | 130 | 194876  | 20.531 ug/l   | 97     |
| 38) Methylcyclohexane         | 9.08 | 83  | 253178  | 19.889 ug/l   | 96     |
| 39) 1,2-Dichloropropane       | 9.11 | 63  | 172959  | 20.753 ug/l   | 100    |
| 40) Dibromomethane            | 9.20 | 93  | 115034  | 20.748 ug/l   | 95     |

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| Internal Standards             | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|-------|------|----------|---------|-------|----------|
| 41) Bromodichloromethane       | 9.40  | 83   | 226920   | 20.199  | ug/l  | 99       |
| 42) Vinyl Acetate              | 5.88  | 43   | 1823264  | 102.179 | ug/l  | 97       |
| 43) Ethyl Acetate              | 6.91  | 43   | 178305   | 20.493  | ug/l  | 99       |
| 44) Isopropyl Acetate          | 8.16  | 43   | 291558   | 19.046  | ug/l  | 92       |
| 45) 1,4-Dioxane                | 9.19  | 88   | 58783    | 407.288 | ug/l  | 96       |
| 46) Methyl methacrylate        | 9.19  | 41   | 136581   | 19.893  | ug/l  | 94       |
| 47) n-amyl Acetate             | 12.07 | 43   | 209148   | 18.487  | ug/l  | 98       |
| 48) t-1,3-Dichloropropene      | 10.38 | 75   | 241299   | 19.853  | ug/l  | 100      |
| 49) cis-1,3-Dichloropropene    | 9.83  | 75   | 271822   | 20.087  | ug/l  | 94       |
| 50) 1,1,2-Trichloroethane      | 10.56 | 97   | 166209   | 20.541  | ug/l  | 99       |
| 51) Ethyl methacrylate         | 10.43 | 69   | 231724   | 19.755  | ug/l  | 93       |
| 52) 1,3-Dichloropropane        | 10.71 | 76   | 274374   | 20.763  | ug/l  | 100      |
| 53) Dibromochloromethane       | 10.90 | 129  | 189838   | 20.393  | ug/l  | 99       |
| 54) 1,2-Dibromoethane          | 11.00 | 107  | 172656   | 20.261  | ug/l  | 96       |
| 55) 2-Chloroethyl vinyl ether  | 9.69  | 63   | 240611   | 88.122  | ug/l  | 97       |
| 56) Bromoform                  | 12.13 | 173  | 136013   | 19.349  | ug/l  | 99       |
| 58) 4-Methyl-2-Pentanone       | 9.98  | 43   | 860987   | 102.472 | ug/l  | 95       |
| 59) 2-Hexanone                 | 10.75 | 43   | 591926   | 98.223  | ug/l  | 96       |
| 61) Tetrachloroethene          | 10.63 | 164  | 192013   | 20.311  | ug/l  | 97       |
| 62) Toluene                    | 10.15 | 91   | 727840   | 20.459  | ug/l  | 100      |
| 64) Chlorobenzene              | 11.43 | 112  | 451907   | 20.221  | ug/l  | 99       |
| 65) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 176554   | 20.324  | ug/l  | 99       |
| 66) Ethyl Benzene              | 11.51 | 91   | 775954   | 19.964  | ug/l  | 98       |
| 67) m/p-Xylenes                | 11.62 | 106  | 580378   | 39.897  | ug/l  | 97       |
| 68) o-Xylene                   | 11.95 | 106  | 283840   | 19.959  | ug/l  | 99       |
| 69) Styrene                    | 11.96 | 104  | 438540   | 19.195  | ug/l  | 99       |
| 70) Isopropylbenzene           | 12.25 | 105  | 765535   | 20.079  | ug/l  | 99       |
| 71) 1,1,2,2-Tetrachloroethane  | 12.50 | 83   | 215381   | 20.623  | ug/l  | 99       |
| 72) 1,2,3-Trichloropropane     | 12.55 | 75   | 189834m  | 21.539  | ug/l  |          |
| 73) Bromobenzene               | 12.53 | 156  | 191829   | 18.987  | ug/l  | 93       |
| 74) n-propylbenzene            | 12.59 | 91   | 742389   | 18.746  | ug/l  | 98       |
| 75) 2-Chlorotoluene            | 12.67 | 91   | 479759   | 19.522  | ug/l  | 99       |
| 76) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 620900   | 19.581  | ug/l  | 99       |
| 77) t-1,4-Dichloro-2-butene    | 12.30 | 75   | 63906    | 18.896  | ug/l  | 87       |
| 78) 4-Chlorotoluene            | 12.77 | 91   | 423242   | 18.407  | ug/l  | 99       |
| 79) tert-butylbenzene          | 12.99 | 119  | 557153   | 19.718  | ug/l  | 99       |
| 80) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 576699   | 19.281  | ug/l  | 99       |
| 81) sec-Butylbenzene           | 13.17 | 105  | 647753   | 18.597  | ug/l  | 99       |
| 82) p-Isopropyltoluene         | 13.29 | 119  | 569950   | 18.265  | ug/l  | 100      |
| 83) 1,3-Dichlorobenzene        | 13.28 | 146  | 261603   | 17.677  | ug/l  | 99       |
| 84) 1,4-Dichlorobenzene        | 13.36 | 146  | 238281   | 17.249  | ug/l  | 98       |
| 85) n-Butylbenzene             | 13.62 | 91   | 421760   | 18.177  | ug/l  | 99       |
| 86) Hexachloroethane           | 13.88 | 117  | 114743   | 19.105  | ug/l  | 90       |
| 87) 1,2-Dichlorobenzene        | 13.65 | 146  | 262087   | 18.746  | ug/l  | 100      |
| 88) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 25746    | 18.392  | ug/l  | 96       |
| 89) 1,2,4-Trichlorobenzene     | 14.91 | 180  | 59044    | 11.936  | ug/l  | 98       |
| 90) Hexachlorobutadiene        | 15.01 | 225  | 116914   | 18.520  | ug/l  | 97       |
| 91) Naphthalene                | 15.13 | 128  | 119543   | 11.181  | ug/l  | 98       |
| 92) 1,2,3-Trichlorobenzene     | 15.30 | 180  | 61145    | 13.037  | ug/l  | 99       |

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

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