

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN080918\  
 Data File : VN050501.D  
 Acq On : 9 Aug 2018 22:27  
 Operator : MD\SY  
 Sample : VN0809WBS02  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 29 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleID :  
 VN0809WBS02

Manual Integrations  
 APPROVED

MMDadoda  
 8/10/2018 10:53:07 AM

Quant Time: Aug 10 07:46:22 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N072518W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Thu Jul 26 15:21:50 2018  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.20  | 128  | 138860   | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.59  | 114  | 723753   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.41 | 117  | 636428   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |        |
|---------------------------|--------|-------|----------|----------|------|--------|
| 27) 1,2-Dichloroethane-d4 | 8.03   | 65    | 272481   | 28.87    | ug/l | 0.00   |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 96.23% |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 284311   | 29.08    | ug/l | 0.00   |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 96.93% |
| 63) Toluene-d8            | 10.09  | 98    | 905237   | 29.78    | ug/l | 0.00   |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 99.27% |

## Target Compounds

|                               |      |     |        |        |        | Ovalue |
|-------------------------------|------|-----|--------|--------|--------|--------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 140745 | 14.71  | ug/l   | 96     |
| 3) Chloromethane              | 2.06 | 50  | 170258 | 17.26  | ug/l   | 100    |
| 4) Vinyl Chloride             | 2.18 | 62  | 186756 | 17.78  | ug/l   | 98     |
| 5) Bromomethane               | 2.57 | 94  | 106790 | 16.68  | ug/l   | 96     |
| 6) Chloroethane               | 2.70 | 64  | 113966 | 18.35  | ug/l   | 99     |
| 7) Trichlorofluoromethane     | 3.01 | 101 | 255942 | 18.65  | ug/l   | 99     |
| 8) Diethyl Ether              | 3.41 | 74  | 87511  | 19.01  | ug/l   | 98     |
| 9) 1,1,2-Trichlorotrifluoroet | 3.76 | 101 | 159637 | 19.12  | ug/l   | 100    |
| 10) 1,1-Dichloroethene        | 3.74 | 96  | 141452 | 19.11  | ug/l   | 92     |
| 11) Methyl Iodide             | 3.95 | 142 | 70304  | 6.45   | ug/l   | 97     |
| 12) Methyl Acetate            | 4.33 | 43  | 133456 | 15.74  | ug/l   | 98     |
| 13) Acrolein                  | 3.61 | 56  | 41708  | 79.58  | ug/l   | 98     |
| 14) Acrylonitrile             | 5.00 | 53  | 248969 | 87.98  | ug/l   | 99     |
| 15) Acetone                   | 3.82 | 58  | 75657  | 100.60 | ug/l   | 97     |
| 16) Carbon Disulfide          | 4.05 | 76  | 408655 | 18.04  | ug/l   | 100    |
| 17) Allyl chloride            | 4.33 | 41  | 206028 | 17.62  | ug/l   | 97     |
| 18) Methylene Chloride        | 4.55 | 84  | 166182 | 19.45  | ug/l   | 99     |
| 19) trans-1,2-Dichloroethene  | 5.05 | 96  | 151657 | 19.13  | ug/l   | 95     |
| 20) Diisopropyl ether         | 5.96 | 45  | 481483 | 20.08  | ug/l   | 98     |
| 21) 1,1-Dichloroethane        | 5.85 | 63  | 290403 | 19.26  | ug/l   | 99     |
| 22) cis-1,2-Dichloroethene    | 6.83 | 96  | 173688 | 19.76  | ug/l   | 97     |
| 23) tert-Butyl Alcohol        | 4.79 | 59  | 51358  | 81.22  | ug/l # | 100    |
| 24) Methyl tert-Butyl Ether   | 5.05 | 73  | 387803 | 19.21  | ug/l   | 99     |
| 25) Chloroform                | 7.37 | 83  | 300734 | 19.71  | ug/l   | 100    |
| 26) Cyclohexane               | 7.66 | 56  | 225358 | 18.81  | ug/l # | 98     |
| 29) 1,1-Dichloropropene       | 7.80 | 75  | 213420 | 19.00  | ug/l   | 99     |
| 30) 2-Butanone                | 6.84 | 43  | 359292 | 101.94 | ug/l   | 98     |
| 31) 2,2-Dichloropropane       | 6.83 | 77  | 199236 | 16.05  | ug/l   | 99     |
| 32) 1,1,1-Trichloroethane     | 7.57 | 97  | 252840 | 19.12  | ug/l   | 99     |
| 33) Carbon Tetrachloride      | 7.78 | 117 | 222678 | 18.89  | ug/l   | 97     |
| 34) Benzene                   | 8.04 | 78  | 665327 | 19.50  | ug/l   | 99     |
| 35) Methacrylonitrile         | 7.18 | 41  | 55082  | 13.73  | ug/l   | 100    |
| 36) 1,2-Dichloroethane        | 8.13 | 62  | 210657 | 18.81  | ug/l   | 100    |
| 37) Trichloroethene           | 8.84 | 130 | 173517 | 19.39  | ug/l   | 99     |
| 38) Methylcyclohexane         | 9.09 | 83  | 211714 | 17.88  | ug/l   | 99     |
| 39) 1,2-Dichloropropane       | 9.12 | 63  | 173986 | 19.36  | ug/l   | 99     |
| 40) Dibromomethane            | 9.21 | 93  | 103510 | 18.64  | ug/l   | 98     |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Thu Jul 26 15:21:50 2018  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc   | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|--------|--------|----------|
| 41) Bromodichloromethane       | 9.41  | 83   | 223298   | 19.06  | ug/l   | 96       |
| 42) Vinyl Acetate              | 5.90  | 43   | 1535924  | 92.60  | ug/l   | 99       |
| 43) Ethyl Acetate              | 6.94  | 43   | 136501   | 18.55  | ug/l # | 92       |
| 44) Isopropyl Acetate          | 8.17  | 43   | 237856   | 17.45  | ug/l # | 81       |
| 45) 1,4-Dioxane                | 9.20  | 88   | 31436    | 350.39 | ug/l   | 95       |
| 46) Methyl methacrylate        | 9.20  | 41   | 114900   | 17.38  | ug/l   | 97       |
| 47) n-amyl Acetate             | 12.07 | 43   | 181741   | 17.13  | ug/l   | 98       |
| 48) t-1,3-Dichloropropene      | 10.38 | 75   | 200855   | 17.99  | ug/l   | 96       |
| 49) cis-1,3-Dichloropropene    | 9.84  | 75   | 241967   | 18.44  | ug/l   | 98       |
| 50) 1,1,2-Trichloroethane      | 10.56 | 97   | 150730   | 18.91  | ug/l   | 97       |
| 51) Ethyl methacrylate         | 10.43 | 69   | 173813   | 17.96  | ug/l   | 97       |
| 52) 1,3-Dichloropropane        | 10.71 | 76   | 249516   | 19.06  | ug/l   | 99       |
| 53) Dibromochloromethane       | 10.90 | 129  | 165451   | 18.29  | ug/l   | 99       |
| 54) 1,2-Dibromoethane          | 11.01 | 107  | 143506   | 18.38  | ug/l   | 100      |
| 55) 2-Chloroethyl vinyl ether  | 9.70  | 63   | 426624   | 97.42  | ug/l   | 100      |
| 56) Bromoform                  | 12.13 | 173  | 108779   | 17.03  | ug/l   | 99       |
| 58) 4-Methyl-2-Pentanone       | 9.99  | 43   | 823253   | 111.17 | ug/l   | 99       |
| 59) 2-Hexanone                 | 10.75 | 43   | 520414   | 103.01 | ug/l   | 99       |
| 61) Tetrachloroethene          | 10.63 | 164  | 167028   | 19.38  | ug/l   | 97       |
| 62) Toluene                    | 10.16 | 91   | 704142   | 19.39  | ug/l   | 100      |
| 64) Chlorobenzene              | 11.44 | 112  | 427681   | 19.42  | ug/l   | 100      |
| 65) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 167430   | 19.50  | ug/l   | 99       |
| 66) Ethyl Benzene              | 11.51 | 91   | 702233   | 18.92  | ug/l   | 100      |
| 67) m/p-Xylenes                | 11.62 | 106  | 554128   | 38.80  | ug/l   | 99       |
| 68) o-Xylene                   | 11.95 | 106  | 262663   | 19.33  | ug/l   | 98       |
| 69) Styrene                    | 11.97 | 104  | 424300   | 19.48  | ug/l   | 100      |
| 70) Isopropylbenzene           | 12.25 | 105  | 689983   | 19.07  | ug/l   | 99       |
| 71) 1,1,2,2-Tetrachloroethane  | 12.51 | 83   | 181366   | 18.26  | ug/l   | 99       |
| 72) 1,2,3-Trichloropropane     | 12.55 | 75   | 143481m  | 16.91  | ug/l   |          |
| 73) Bromobenzene               | 12.53 | 156  | 181741   | 18.85  | ug/l   | 99       |
| 74) n-propylbenzene            | 12.59 | 91   | 775136   | 18.39  | ug/l   | 100      |
| 75) 2-Chlorotoluene            | 12.68 | 91   | 483309   | 19.09  | ug/l   | 99       |
| 76) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 570855   | 19.21  | ug/l   | 100      |
| 77) t-1,4-Dichloro-2-butene    | 12.30 | 75   | 38003    | 13.70  | ug/l   | 90       |
| 78) 4-Chlorotoluene            | 12.77 | 91   | 480890   | 19.17  | ug/l   | 100      |
| 79) tert-butylbenzene          | 12.99 | 119  | 481687   | 18.96  | ug/l   | 100      |
| 80) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 582435   | 19.34  | ug/l   | 100      |
| 81) sec-Butylbenzene           | 13.17 | 105  | 632865   | 18.33  | ug/l   | 100      |
| 82) p-Isopropyltoluene         | 13.29 | 119  | 539995   | 18.33  | ug/l   | 99       |
| 83) 1,3-Dichlorobenzene        | 13.28 | 146  | 315431   | 18.79  | ug/l   | 100      |
| 84) 1,4-Dichlorobenzene        | 13.36 | 146  | 296012   | 18.66  | ug/l   | 99       |
| 85) n-Butylbenzene             | 13.62 | 91   | 402419   | 16.84  | ug/l   | 99       |
| 86) Hexachloroethane           | 13.88 | 117  | 93339    | 15.86  | ug/l   | 99       |
| 87) 1,2-Dichlorobenzene        | 13.65 | 146  | 307681   | 18.75  | ug/l   | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 25710    | 16.61  | ug/l   | 98       |
| 89) 1,2,4-Trichlorobenzene     | 14.91 | 180  | 136646   | 17.44  | ug/l   | 100      |
| 90) Hexachlorobutadiene        | 15.01 | 225  | 91829    | 17.77  | ug/l   | 97       |
| 91) Naphthalene                | 15.14 | 128  | 278721   | 18.99  | ug/l   | 99       |
| 92) 1,2,3-Trichlorobenzene     | 15.32 | 180  | 139399   | 17.49  | ug/l   | 99       |

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

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