

Data Path : Z:\VOASRV\HPCHEM1\MSVOA\_N\DATA\VN101818\  
 Data File : VN051914.D  
 Acq On : 18 Oct 2018 14:14  
 Operator : MD\SY  
 Sample : VN1018WBSD01  
 Misc : 5.00mL/MSVOA\_N/WATER  
 ALS Vial : 8 Sample Multiplier: 28

Instrument :  
 MSVOA\_N  
 ClientSampleID :  
 VN1018WBSD01

Manual Integrations  
 APPROVED

MMDadoda  
 10/19/2018 4:37:55 PM

Quant Time: Oct 19 07:02:39 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\624N101218W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Oct 12 10:23:44 2018  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.20  | 128  | 156735   | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.59  | 114  | 893972   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.41 | 117  | 776548   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 8.03   | 65    | 281070   | 29.47    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 98.23%  |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 311644   | 27.83    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 92.77%  |
| 63) Toluene-d8            | 10.09  | 98    | 1025080  | 30.40    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 101.33% |

## Target Compounds

|                               |      |     |        |       |        | Qvalue |
|-------------------------------|------|-----|--------|-------|--------|--------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 126516 | 20.78 | ug/l   | 99     |
| 3) Chloromethane              | 2.06 | 50  | 124525 | 19.35 | ug/l   | 98     |
| 4) Vinyl Chloride             | 2.19 | 62  | 190711 | 19.84 | ug/l   | 97     |
| 5) Bromomethane               | 2.57 | 94  | 166783 | 19.64 | ug/l   | 91     |
| 6) Chloroethane               | 2.70 | 64  | 138511 | 20.00 | ug/l   | 97     |
| 7) Trichlorofluoromethane     | 3.01 | 101 | 296603 | 21.65 | ug/l   | 96     |
| 8) Diethyl Ether              | 3.41 | 74  | 83567  | 20.95 | ug/l   | 70     |
| 9) 1,1,2-Trichlorotrifluoroet | 3.76 | 101 | 165578 | 21.22 | ug/l # | 39     |
| 10) 1,1-Dichloroethene        | 3.74 | 96  | 150501 | 20.86 | ug/l   | 86     |
| 11) Methyl Iodide             | 3.95 | 142 | 195088 | 18.60 | ug/l   | 90     |
| 12) Methyl Acetate            | 4.33 | 43  | 90966  | 20.30 | ug/l # | 87     |
| 13) Acrolein                  | 3.61 | 56  | 21179  | 71.74 | ug/l   | 87     |
| 14) Acrylonitrile             | 4.99 | 53  | 197586 | 98.66 | ug/l # | 61     |
| 15) Acetone                   | 3.82 | 58  | 49434  | 99.85 | ug/l   | 87     |
| 16) Carbon Disulfide          | 4.06 | 76  | 339922 | 17.94 | ug/l   | 97     |
| 17) Allyl chloride            | 4.33 | 41  | 155715 | 18.18 | ug/l   | 78     |
| 18) Methylene Chloride        | 4.55 | 84  | 166549 | 20.64 | ug/l   | 89     |
| 19) trans-1,2-Dichloroethene  | 5.04 | 96  | 165654 | 20.10 | ug/l # | 80     |
| 20) Diisopropyl ether         | 5.96 | 45  | 370925 | 19.44 | ug/l # | 82     |
| 21) 1,1-Dichloroethane        | 5.85 | 63  | 273429 | 20.51 | ug/l # | 98     |
| 22) cis-1,2-Dichloroethene    | 6.83 | 96  | 194807 | 20.13 | ug/l # | 81     |
| 23) tert-Butyl Alcohol        | 4.79 | 59  | 48890  | 92.69 | ug/l # | 100    |
| 24) Methyl tert-Butyl Ether   | 5.05 | 73  | 418216 | 20.12 | ug/l # | 67     |
| 25) Chloroform                | 7.37 | 83  | 323471 | 20.45 | ug/l   | 97     |
| 26) Cyclohexane               | 7.65 | 56  | 212225 | 18.78 | ug/l # | 69     |
| 29) 1,1-Dichloropropene       | 7.79 | 75  | 224210 | 19.46 | ug/l   | 94     |
| 30) 2-Butanone                | 6.84 | 43  | 221541 | 91.98 | ug/l # | 84     |
| 31) 2,2-Dichloropropane       | 6.83 | 77  | 248243 | 18.31 | ug/l # | 76     |
| 32) 1,1,1-Trichloroethane     | 7.57 | 97  | 298242 | 19.52 | ug/l   | 94     |
| 33) Carbon Tetrachloride      | 7.78 | 117 | 264647 | 19.15 | ug/l   | 90     |
| 34) Benzene                   | 8.04 | 78  | 680175 | 19.95 | ug/l # | 66     |
| 35) Methacrylonitrile         | 7.18 | 41  | 45992m | 14.53 | ug/l   |        |
| 36) 1,2-Dichloroethane        | 8.13 | 62  | 216386 | 19.81 | ug/l   | 96     |
| 37) Trichloroethene           | 8.84 | 130 | 211106 | 19.95 | ug/l   | 95     |
| 38) Methylcyclohexane         | 9.08 | 83  | 276786 | 18.73 | ug/l   | 79     |
| 39) 1,2-Dichloropropane       | 9.12 | 63  | 158075 | 19.69 | ug/l   | 95     |
| 40) Dibromomethane            | 9.21 | 93  | 117895 | 19.79 | ug/l   | 93     |

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 QLast Update : Fri Oct 12 10:23:44 2018  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc   | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|--------|--------|----------|
| 41) Bromodichloromethane       | 9.40  | 83   | 238255   | 19.36  | ug/l   | 94       |
| 42) Vinyl Acetate              | 5.90  | 43   | 1244279  | 91.77  | ug/l # | 89       |
| 43) Ethyl Acetate              | 6.93  | 43   | 102873   | 19.67  | ug/l   | 99       |
| 44) Isopropyl Acetate          | 8.17  | 43   | 195634   | 18.73  | ug/l   | 95       |
| 45) 1,4-Dioxane                | 9.20  | 88   | 32209    | 384.01 | ug/l # | 75       |
| 46) Methyl methacrylate        | 9.20  | 41   | 89231    | 18.52  | ug/l   | 70       |
| 47) n-amyl Acetate             | 12.07 | 43   | 140971   | 16.12  | ug/l # | 74       |
| 48) t-1,3-Dichloropropene      | 10.38 | 75   | 207223   | 17.27  | ug/l   | 99       |
| 49) cis-1,3-Dichloropropene    | 9.84  | 75   | 247505   | 18.71  | ug/l   | 96       |
| 50) 1,1,2-Trichloroethane      | 10.56 | 97   | 164093   | 19.93  | ug/l   | 94       |
| 51) Ethyl methacrylate         | 10.43 | 69   | 172504   | 18.30  | ug/l   | 83       |
| 52) 1,3-Dichloropropane        | 10.71 | 76   | 253486   | 19.95  | ug/l   | 98       |
| 53) Dibromochloromethane       | 10.90 | 129  | 182936   | 17.96  | ug/l   | 98       |
| 54) 1,2-Dibromoethane          | 11.01 | 107  | 167955   | 19.44  | ug/l   | 99       |
| 55) 2-Chloroethyl vinyl ether  | 9.70  | 63   | 358473   | 88.98  | ug/l # | 91       |
| 56) Bromoform                  | 12.13 | 173  | 112707   | 16.78  | ug/l # | 91       |
| 58) 4-Methyl-2-Pentanone       | 9.99  | 43   | 513959   | 98.90  | ug/l # | 86       |
| 59) 2-Hexanone                 | 10.75 | 43   | 317819   | 90.65  | ug/l # | 89       |
| 61) Tetrachloroethene          | 10.63 | 164  | 212701   | 21.42  | ug/l   | 96       |
| 62) Toluene                    | 10.16 | 91   | 786945   | 20.40  | ug/l   | 97       |
| 64) Chlorobenzene              | 11.43 | 112  | 513037   | 20.31  | ug/l   | 96       |
| 65) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 194620   | 20.07  | ug/l   | 99       |
| 66) Ethyl Benzene              | 11.51 | 91   | 852347   | 19.99  | ug/l   | 99       |
| 67) m/p-Xylenes                | 11.62 | 106  | 676474   | 39.14  | ug/l   | 98       |
| 68) o-Xylene                   | 11.95 | 106  | 332366   | 19.50  | ug/l   | 92       |
| 69) Styrene                    | 11.96 | 104  | 498540   | 19.07  | ug/l   | 96       |
| 70) Isopropylbenzene           | 12.25 | 105  | 898804   | 19.78  | ug/l   | 99       |
| 71) 1,1,2,2-Tetrachloroethane  | 12.50 | 83   | 179548   | 20.01  | ug/l   | 95       |
| 72) 1,2,3-Trichloropropane     | 12.55 | 75   | 146068m  | 20.69  | ug/l   |          |
| 73) Bromobenzene               | 12.53 | 156  | 219805   | 19.53  | ug/l   | 80       |
| 74) n-propylbenzene            | 12.59 | 91   | 940841   | 19.25  | ug/l   | 95       |
| 75) 2-Chlorotoluene            | 12.67 | 91   | 559110   | 19.51  | ug/l   | 94       |
| 76) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 740157   | 19.70  | ug/l   | 100      |
| 77) t-1,4-Dichloro-2-butene    | 12.30 | 75   | 35283    | 15.11  | ug/l   | 99       |
| 78) 4-Chlorotoluene            | 12.77 | 91   | 527421   | 18.73  | ug/l   | 92       |
| 79) tert-butylbenzene          | 12.99 | 119  | 681972   | 19.73  | ug/l   | 95       |
| 80) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 728520   | 19.40  | ug/l   | 98       |
| 81) sec-Butylbenzene           | 13.17 | 105  | 882259   | 19.52  | ug/l   | 98       |
| 82) p-Isopropyltoluene         | 13.29 | 119  | 746884   | 18.46  | ug/l   | 96       |
| 83) 1,3-Dichlorobenzene        | 13.28 | 146  | 361889   | 18.22  | ug/l   | 99       |
| 84) 1,4-Dichlorobenzene        | 13.36 | 146  | 339694   | 18.17  | ug/l   | 97       |
| 85) n-Butylbenzene             | 13.61 | 91   | 529929   | 17.37  | ug/l   | 95       |
| 86) Hexachloroethane           | 13.87 | 117  | 121551   | 17.43  | ug/l   | 90       |
| 87) 1,2-Dichlorobenzene        | 13.65 | 146  | 363493   | 18.90  | ug/l   | 96       |
| 88) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 23568    | 17.59  | ug/l # | 70       |
| 89) 1,2,4-Trichlorobenzene     | 14.91 | 180  | 127696   | 17.79  | ug/l   | 97       |
| 90) Hexachlorobutadiene        | 15.01 | 225  | 114832   | 18.53  | ug/l   | 96       |
| 91) Naphthalene                | 15.13 | 128  | 246666   | 17.91  | ug/l   | 99       |
| 92) 1,2,3-Trichlorobenzene     | 15.31 | 180  | 138358   | 15.82  | ug/l   | 94       |

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

