

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN041119\  
 Data File : VN054988.D  
 Acq On : 11 Apr 2019 20:15  
 Operator : JC/SP  
 Sample : VN0411WBSD01  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 15 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleID :  
 VN0411WBSD01

Manual Integrations  
 APPROVED

MMDadoda  
 4/12/2019 1:42:04 PM

Quant Time: Apr 12 08:44:31 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N041119W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Apr 12 07:55:25 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.20  | 128  | 73828    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.59  | 114  | 398364   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.41 | 117  | 349775   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 8.03   | 65    | 172431   | 30.64    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 102.13% |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 155112   | 28.49    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 94.97%  |
| 63) Toluene-d8            | 10.09  | 98    | 512888   | 30.84    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 102.80% |

## Target Compounds

|                               |      |     |        |         | Ovalue     |
|-------------------------------|------|-----|--------|---------|------------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 82861  | 19.083  | ug/l 98    |
| 3) Chloromethane              | 2.06 | 50  | 119008 | 20.289  | ug/l 99    |
| 4) Vinyl Chloride             | 2.19 | 62  | 102284 | 20.165  | ug/l 98    |
| 5) Bromomethane               | 2.57 | 94  | 61533  | 20.973  | ug/l 88    |
| 6) Chloroethane               | 2.71 | 64  | 58007  | 20.419  | ug/l 99    |
| 7) Trichlorofluoromethane     | 3.02 | 101 | 129801 | 20.026  | ug/l 99    |
| 8) Diethyl Ether              | 3.41 | 74  | 43430  | 20.868  | ug/l 100   |
| 9) 1,1,2-Trichlorotrifluoroet | 3.75 | 101 | 68250  | 19.263  | ug/l 98    |
| 10) 1,1-Dichloroethene        | 3.73 | 96  | 65780  | 20.080  | ug/l 96    |
| 11) Methyl Iodide             | 3.94 | 142 | 98775  | 19.925  | ug/l 97    |
| 12) Methyl Acetate            | 4.33 | 43  | 86405  | 21.444  | ug/l 98    |
| 13) Acrolein                  | 3.61 | 56  | 33889  | 95.966  | ug/l 98    |
| 14) Acrylonitrile             | 5.00 | 53  | 173448 | 105.070 | ug/l 99    |
| 15) Acetone                   | 3.82 | 58  | 31843  | 77.953  | ug/l 90    |
| 16) Carbon Disulfide          | 4.04 | 76  | 211951 | 19.289  | ug/l 96    |
| 17) Allyl chloride            | 4.32 | 41  | 163354 | 20.249  | ug/l 98    |
| 18) Methylene Chloride        | 4.55 | 84  | 97979  | 20.234  | ug/l 97    |
| 19) trans-1,2-Dichloroethene  | 5.04 | 96  | 85122  | 19.961  | ug/l 99    |
| 20) Diisopropyl ether         | 5.96 | 45  | 334612 | 20.475  | ug/l 99    |
| 21) 1,1-Dichloroethane        | 5.85 | 63  | 181534 | 20.797  | ug/l 100   |
| 22) cis-1,2-Dichloroethene    | 6.83 | 96  | 101022 | 20.381  | ug/l 98    |
| 23) tert-Butyl Alcohol        | 4.82 | 59  | 28166  | 107.005 | ug/l # 100 |
| 24) Methyl tert-Butyl Ether   | 5.05 | 73  | 231033 | 21.004  | ug/l # 64  |
| 25) Chloroform                | 7.37 | 83  | 170705 | 20.416  | ug/l 99    |
| 26) Cyclohexane               | 7.65 | 56  | 158833 | 19.611  | ug/l # 98  |
| 29) 1,1-Dichloropropene       | 7.79 | 75  | 126998 | 20.470  | ug/l 99    |
| 30) 2-Butanone                | 6.85 | 43  | 199765 | 97.002  | ug/l 100   |
| 31) 2,2-Dichloropropane       | 6.83 | 77  | 109295 | 19.141  | ug/l # 100 |
| 32) 1,1,1-Trichloroethane     | 7.57 | 97  | 137188 | 20.921  | ug/l 98    |
| 33) Carbon Tetrachloride      | 7.77 | 117 | 113023 | 19.907  | ug/l 96    |
| 34) Benzene                   | 8.04 | 78  | 383360 | 20.851  | ug/l 100   |
| 35) Methacrylonitrile         | 7.18 | 41  | 51615  | 21.265  | ug/l 94    |
| 36) 1,2-Dichloroethane        | 8.12 | 62  | 131610 | 20.945  | ug/l 100   |
| 37) Trichloroethene           | 8.83 | 130 | 96782  | 20.649  | ug/l 96    |
| 38) Methylcyclohexane         | 9.08 | 83  | 135691 | 18.860  | ug/l 99    |
| 39) 1,2-Dichloropropane       | 9.12 | 63  | 106382 | 20.955  | ug/l 98    |
| 40) Dibromomethane            | 9.21 | 93  | 59693  | 20.803  | ug/l 97    |

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| Internal Standards             | R.T.  | QIon | Response | Conc    | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|---------|--------|----------|
| 41) Bromodichloromethane       | 9.40  | 83   | 118877   | 20.074  | ug/l   | 98       |
| 42) Vinyl Acetate              | 5.90  | 43   | 1072797  | 103.042 | ug/l   | 99       |
| 43) Ethyl Acetate              | 6.94  | 43   | 88649    | 21.130  | ug/l   | 97       |
| 44) Isopropyl Acetate          | 8.17  | 43   | 149150   | 20.978  | ug/l   | 99       |
| 45) 1,4-Dioxane                | 9.20  | 88   | 16793    | 426.329 | ug/l # | 84       |
| 46) Methyl methacrylate        | 9.20  | 41   | 77655    | 21.113  | ug/l   | 97       |
| 47) n-amyl Acetate             | 12.07 | 43   | 102596   | 19.591  | ug/l   | 98       |
| 48) t-1,3-Dichloropropene      | 10.38 | 75   | 104026   | 19.129  | ug/l   | 95       |
| 49) cis-1,3-Dichloropropene    | 9.84  | 75   | 133020   | 19.814  | ug/l   | 99       |
| 50) 1,1,2-Trichloroethane      | 10.56 | 97   | 82693    | 21.218  | ug/l   | 98       |
| 51) Ethyl methacrylate         | 10.43 | 69   | 93557    | 20.138  | ug/l   | 99       |
| 52) 1,3-Dichloropropane        | 10.71 | 76   | 140902   | 20.632  | ug/l   | 100      |
| 53) Dibromochloromethane       | 10.90 | 129  | 79200    | 19.728  | ug/l   | 97       |
| 54) 1,2-Dibromoethane          | 11.00 | 107  | 74585    | 20.385  | ug/l   | 99       |
| 55) 2-Chloroethyl vinyl ether  | 9.70  | 63   | 187761   | 96.672  | ug/l   | 100      |
| 56) Bromoform                  | 12.13 | 173  | 46202    | 18.316  | ug/l # | 98       |
| 58) 4-Methyl-2-Pentanone       | 9.99  | 43   | 431855   | 107.063 | ug/l   | 99       |
| 59) 2-Hexanone                 | 10.75 | 43   | 259178   | 101.144 | ug/l   | 99       |
| 61) Tetrachloroethene          | 10.63 | 164  | 93953    | 20.640  | ug/l   | 100      |
| 62) Toluene                    | 10.15 | 91   | 392110   | 20.346  | ug/l   | 99       |
| 64) Chlorobenzene              | 11.43 | 112  | 237419   | 20.406  | ug/l   | 98       |
| 65) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 83473    | 20.172  | ug/l   | 96       |
| 66) Ethyl Benzene              | 11.51 | 91   | 408830   | 19.789  | ug/l   | 100      |
| 67) m/p-Xylenes                | 11.62 | 106  | 312625   | 40.711  | ug/l   | 97       |
| 68) o-Xylene                   | 11.95 | 106  | 153179   | 20.185  | ug/l   | 99       |
| 69) Styrene                    | 11.96 | 104  | 229989   | 19.517  | ug/l   | 99       |
| 70) Isopropylbenzene           | 12.25 | 105  | 403321   | 19.878  | ug/l   | 98       |
| 71) 1,1,2,2-Tetrachloroethane  | 12.50 | 83   | 99082    | 21.350  | ug/l   | 97       |
| 72) 1,2,3-Trichloropropane     | 12.55 | 75   | 90109m   | 23.512  | ug/l   |          |
| 73) Bromobenzene               | 12.53 | 156  | 95619    | 19.938  | ug/l   | 98       |
| 74) n-propylbenzene            | 12.59 | 91   | 437582   | 19.264  | ug/l   | 99       |
| 75) 2-Chlorotoluene            | 12.67 | 91   | 274492   | 20.036  | ug/l   | 100      |
| 76) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 320213   | 19.521  | ug/l   | 99       |
| 77) t-1,4-Dichloro-2-butene    | 12.30 | 75   | 17156    | 17.759  | ug/l   | 95       |
| 78) 4-Chlorotoluene            | 12.77 | 91   | 249799   | 19.137  | ug/l   | 100      |
| 79) tert-butylbenzene          | 12.99 | 119  | 281936   | 19.863  | ug/l   | 99       |
| 80) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 315055   | 19.551  | ug/l   | 99       |
| 81) sec-Butylbenzene           | 13.17 | 105  | 366442   | 19.322  | ug/l   | 99       |
| 82) p-Isopropyltoluene         | 13.29 | 119  | 300327   | 18.763  | ug/l   | 100      |
| 83) 1,3-Dichlorobenzene        | 13.28 | 146  | 151257   | 18.852  | ug/l   | 99       |
| 84) 1,4-Dichlorobenzene        | 13.36 | 146  | 139327   | 18.274  | ug/l   | 98       |
| 85) n-Butylbenzene             | 13.61 | 91   | 216650   | 16.992  | ug/l   | 99       |
| 86) Hexachloroethane           | 13.87 | 117  | 47629    | 18.589  | ug/l   | 99       |
| 87) 1,2-Dichlorobenzene        | 13.65 | 146  | 152395   | 19.395  | ug/l   | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 11347    | 18.397  | ug/l   | 93       |
| 89) 1,2,4-Trichlorobenzene     | 14.91 | 180  | 56404    | 16.057  | ug/l   | 97       |
| 90) Hexachlorobutadiene        | 15.01 | 225  | 44099    | 17.218  | ug/l   | 99       |
| 91) Naphthalene                | 15.13 | 128  | 118893   | 16.164  | ug/l   | 99       |
| 92) 1,2,3-Trichlorobenzene     | 15.31 | 180  | 58285    | 16.590  | ug/l   | 96       |

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ALS Vial : 15 Sample Multiplier: 1

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

