

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN122818\  
 Data File : VN053219.D  
 Acq On : 28 Dec 2018 12:16  
 Operator : MD\SY  
 Sample : VN1228WBS01  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 10 Sample Multiplier: 28

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 VN1228WBS01

Manual Integrations  
 APPROVED

MMDadoda  
 1/2/2019 9:48:49 AM

Quant Time: Dec 28 13:17:37 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N122818W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Dec 28 10:33:50 2018  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.19  | 128  | 160321   | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.59  | 114  | 929090   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.41 | 117  | 815424   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 8.03   | 65    | 303852   | 29.83    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 99.43%  |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 370133   | 29.66    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 98.87%  |
| 63) Toluene-d8            | 10.09  | 98    | 1117453  | 30.42    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 101.40% |

## Target Compounds

|                               |      |     |        |        | Ovalue     |
|-------------------------------|------|-----|--------|--------|------------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 216187 | 20.238 | ug/l 100   |
| 3) Chloromethane              | 2.06 | 50  | 246117 | 19.631 | ug/l 99    |
| 4) Vinyl Chloride             | 2.19 | 62  | 243800 | 19.761 | ug/l 98    |
| 5) Bromomethane               | 2.58 | 94  | 157635 | 19.818 | ug/l 99    |
| 6) Chloroethane               | 2.71 | 64  | 140598 | 19.784 | ug/l 99    |
| 7) Trichlorofluoromethane     | 3.03 | 101 | 298573 | 19.597 | ug/l 97    |
| 8) Diethyl Ether              | 3.41 | 74  | 110389 | 19.502 | ug/l 95    |
| 9) 1,1,2-Trichlorotrifluoroet | 3.77 | 101 | 190257 | 19.876 | ug/l 97    |
| 10) 1,1-Dichloroethene        | 3.74 | 96  | 181895 | 19.472 | ug/l 96    |
| 11) Methyl Iodide             | 3.96 | 142 | 260103 | 19.013 | ug/l 99    |
| 12) Methyl Acetate            | 4.33 | 43  | 133266 | 18.303 | ug/l 99    |
| 13) Acrolein                  | 3.61 | 56  | 78086  | 89.827 | ug/l 99    |
| 14) Acrylonitrile             | 4.99 | 53  | 314957 | 96.694 | ug/l 99    |
| 15) Acetone                   | 3.82 | 58  | 65301  | 94.330 | ug/l 91    |
| 16) Carbon Disulfide          | 4.06 | 76  | 547154 | 19.040 | ug/l 100   |
| 17) Allyl chloride            | 4.33 | 41  | 299315 | 20.368 | ug/l 99    |
| 18) Methylene Chloride        | 4.55 | 84  | 209378 | 19.584 | ug/l 96    |
| 19) trans-1,2-Dichloroethene  | 5.05 | 96  | 195478 | 19.801 | ug/l 91    |
| 20) Diisopropyl ether         | 5.95 | 45  | 625481 | 19.874 | ug/l 99    |
| 21) 1,1-Dichloroethane        | 5.85 | 63  | 363400 | 19.832 | ug/l 98    |
| 22) cis-1,2-Dichloroethene    | 6.83 | 96  | 219333 | 19.723 | ug/l 98    |
| 23) tert-Butyl Alcohol        | 4.88 | 59  | 484    | 0.881  | ug/l # 100 |
| 24) Methyl tert-Butyl Ether   | 5.05 | 73  | 474053 | 19.461 | ug/l 97    |
| 25) Chloroform                | 7.37 | 83  | 349360 | 19.835 | ug/l 99    |
| 26) Cyclohexane               | 7.66 | 56  | 334965 | 19.599 | ug/l # 98  |
| 29) 1,1-Dichloropropene       | 7.80 | 75  | 276927 | 19.677 | ug/l 99    |
| 30) 2-Butanone                | 6.84 | 43  | 339842 | 96.791 | ug/l 97    |
| 31) 2,2-Dichloropropane       | 6.83 | 77  | 264744 | 19.432 | ug/l 96    |
| 32) 1,1,1-Trichloroethane     | 7.57 | 97  | 293180 | 19.883 | ug/l 97    |
| 33) Carbon Tetrachloride      | 7.78 | 117 | 252830 | 19.588 | ug/l 98    |
| 34) Benzene                   | 8.04 | 78  | 839579 | 19.851 | ug/l 97    |
| 35) Methacrylonitrile         | 7.17 | 41  | 80623  | 17.795 | ug/l 94    |
| 36) 1,2-Dichloroethane        | 8.13 | 62  | 242413 | 19.743 | ug/l 98    |
| 37) Trichloroethene           | 8.84 | 130 | 224125 | 19.561 | ug/l 95    |
| 38) Methylcyclohexane         | 9.08 | 83  | 319528 | 19.412 | ug/l 97    |
| 39) 1,2-Dichloropropane       | 9.12 | 63  | 218981 | 19.827 | ug/l 97    |
| 40) Dibromomethane            | 9.21 | 93  | 123469 | 19.768 | ug/l 96    |

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| Internal Standards             | R.T.  | QIon | Response | Conc    | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|---------|--------|----------|
| 41) Bromodichloromethane       | 9.40  | 83   | 257105   | 19.168  | ug/l   | 100      |
| 42) Vinyl Acetate              | 5.90  | 43   | 1927376  | 100.618 | ug/l   | 98       |
| 43) Ethyl Acetate              | 6.93  | 43   | 152844   | 19.493  | ug/l # | 85       |
| 44) Isopropyl Acetate          | 8.16  | 43   | 287307   | 19.670  | ug/l # | 77       |
| 45) 1,4-Dioxane                | 9.20  | 88   | 33117    | 370.776 | ug/l   | 96       |
| 46) Methyl methacrylate        | 9.20  | 41   | 144367   | 19.565  | ug/l   | 96       |
| 47) n-amyl Acetate             | 12.07 | 43   | 236131   | 18.409  | ug/l   | 99       |
| 48) t-1,3-Dichloropropene      | 10.38 | 75   | 259255   | 18.937  | ug/l   | 98       |
| 49) cis-1,3-Dichloropropene    | 9.84  | 75   | 311180   | 19.303  | ug/l   | 97       |
| 50) 1,1,2-Trichloroethane      | 10.56 | 97   | 174630   | 19.500  | ug/l   | 100      |
| 51) Ethyl methacrylate         | 10.43 | 69   | 225447   | 19.316  | ug/l   | 91       |
| 52) 1,3-Dichloropropane        | 10.71 | 76   | 304074   | 19.710  | ug/l   | 100      |
| 53) Dibromochloromethane       | 10.90 | 129  | 194400   | 19.327  | ug/l   | 99       |
| 54) 1,2-Dibromoethane          | 11.01 | 107  | 173414   | 19.195  | ug/l   | 98       |
| 55) 2-Chloroethyl vinyl ether  | 9.70  | 63   | 508399   | 75.900  | ug/l   | 97       |
| 56) Bromoform                  | 12.13 | 173  | 125239   | 18.202  | ug/l   | 100      |
| 58) 4-Methyl-2-Pentanone       | 9.99  | 43   | 773470   | 99.544  | ug/l   | 97       |
| 59) 2-Hexanone                 | 10.75 | 43   | 521205   | 97.163  | ug/l   | 96       |
| 61) Tetrachloroethene          | 10.63 | 164  | 238899   | 19.825  | ug/l   | 95       |
| 62) Toluene                    | 10.16 | 91   | 901602   | 20.161  | ug/l   | 99       |
| 64) Chlorobenzene              | 11.43 | 112  | 555296   | 19.787  | ug/l   | 98       |
| 65) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 194073   | 19.715  | ug/l   | 99       |
| 66) Ethyl Benzene              | 11.51 | 91   | 958983   | 19.774  | ug/l   | 100      |
| 67) m/p-Xylenes                | 11.62 | 106  | 722836   | 39.410  | ug/l   | 98       |
| 68) o-Xylene                   | 11.95 | 106  | 353705   | 19.901  | ug/l   | 98       |
| 69) Styrene                    | 11.96 | 104  | 564455   | 19.456  | ug/l   | 99       |
| 70) Isopropylbenzene           | 12.25 | 105  | 919545   | 19.664  | ug/l   | 99       |
| 71) 1,1,2,2-Tetrachloroethane  | 12.50 | 83   | 195156   | 19.825  | ug/l   | 100      |
| 72) 1,2,3-Trichloropropane     | 12.55 | 75   | 157695m  | 18.293  | ug/l   |          |
| 73) Bromobenzene               | 12.53 | 156  | 232104   | 19.309  | ug/l   | 93       |
| 74) n-propylbenzene            | 12.59 | 91   | 1022359  | 19.313  | ug/l   | 98       |
| 75) 2-Chlorotoluene            | 12.67 | 91   | 608989   | 19.425  | ug/l   | 99       |
| 76) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 722203   | 19.469  | ug/l   | 99       |
| 77) t-1,4-Dichloro-2-butene    | 12.30 | 75   | 53701    | 17.729  | ug/l   | 98       |
| 78) 4-Chlorotoluene            | 12.77 | 91   | 604122   | 18.930  | ug/l   | 99       |
| 79) tert-butylbenzene          | 12.99 | 119  | 634890   | 19.625  | ug/l   | 99       |
| 80) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 720785   | 19.387  | ug/l   | 100      |
| 81) sec-Butylbenzene           | 13.17 | 105  | 823277   | 19.218  | ug/l   | 100      |
| 82) p-Isopropyltoluene         | 13.29 | 119  | 700362   | 18.919  | ug/l   | 98       |
| 83) 1,3-Dichlorobenzene        | 13.28 | 146  | 377565   | 18.447  | ug/l   | 98       |
| 84) 1,4-Dichlorobenzene        | 13.36 | 146  | 369103   | 18.501  | ug/l   | 99       |
| 85) n-Butylbenzene             | 13.62 | 91   | 549183   | 18.243  | ug/l   | 99       |
| 86) Hexachloroethane           | 13.88 | 117  | 109498   | 18.526  | ug/l   | 95       |
| 87) 1,2-Dichlorobenzene        | 13.65 | 146  | 351591   | 18.487  | ug/l   | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 24930    | 17.709  | ug/l   | 96       |
| 89) 1,2,4-Trichlorobenzene     | 14.91 | 180  | 161071   | 17.450  | ug/l   | 99       |
| 90) Hexachlorobutadiene        | 15.01 | 225  | 106117   | 18.993  | ug/l   | 99       |
| 91) Naphthalene                | 15.13 | 128  | 328449   | 16.771  | ug/l   | 99       |
| 92) 1,2,3-Trichlorobenzene     | 15.32 | 180  | 146664   | 17.809  | ug/l   | 97       |

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

