

Data Path : Z:\VOASRV\HPCHEM1\MSVOA\_N\DATA\VN092318\  
 Data File : VN051403.D  
 Acq On : 23 Sep 2018 11:07  
 Operator : MD\SY  
 Sample : VN0923WBS01  
 Misc : 5.00mL/MSVOA\_N/WATER  
 ALS Vial : 4 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 VN0923WBS01

Manual Integrations  
 APPROVED

apatel  
 9/25/2018 12:10:20 PM

Quant Time: Sep 24 07:02:33 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\82N092318W.M  
 Quant Title : SW846 8260  
 QLast Update : Mon Sep 24 06:41:32 2018  
 Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|----------------------------|-------|------|----------|-------|-------|----------|
| 1) Pentafluorobenzene      | 7.67  | 168  | 517217   | 50.00 | ug/l  | 0.00     |
| 34) 1,4-Difluorobenzene    | 8.59  | 114  | 773709   | 50.00 | ug/l  | 0.00     |
| 63) Chlorobenzene-d5       | 11.41 | 117  | 671552   | 50.00 | ug/l  | 0.00     |
| 72) 1,4-Dichlorobenzene-d4 | 13.34 | 152  | 325950   | 50.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |     |          |       |         |      |
|---------------------------|--------|-----|----------|-------|---------|------|
| 33) 1,2-Dichloroethane-d4 | 8.03   | 65  | 334309   | 51.60 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 103.20% |      |
| 35) Dibromofluoromethane  | 7.59   | 113 | 302272   | 48.86 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 97.72%  |      |
| 50) Toluene-d8            | 10.09  | 98  | 1121554  | 48.14 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 96.28%  |      |
| 62) 4-Bromofluorobenzene  | 12.40  | 95  | 349020   | 46.31 | ug/l    | 0.00 |
| Spiked Amount             | 50.000 |     | Recovery | =     | 92.62%  |      |

## Target Compounds

|                               |      |     |         |        |        | Qvalue |
|-------------------------------|------|-----|---------|--------|--------|--------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 91613   | 18.986 | ug/l   | 97     |
| 3) Chloromethane              | 2.06 | 50  | 156727  | 20.403 | ug/l   | 100    |
| 4) Vinyl Chloride             | 2.18 | 62  | 171926  | 20.279 | ug/l   | 97     |
| 5) Bromomethane               | 2.57 | 94  | 104325  | 20.568 | ug/l   | 100    |
| 6) Chloroethane               | 2.70 | 64  | 107083  | 20.270 | ug/l   | 98     |
| 7) Trichlorofluoromethane     | 3.02 | 101 | 211998  | 19.090 | ug/l   | 99     |
| 8) Diethyl Ether              | 3.41 | 74  | 66509   | 17.289 | ug/l   | 97     |
| 9) 1,1,2-Trichlorotrifluoroet | 3.76 | 101 | 109718  | 17.506 | ug/l   | 97     |
| 10) Methyl Iodide             | 3.95 | 142 | 141122  | 17.133 | ug/l   | 97     |
| 11) Tert butyl alcohol        | 4.79 | 59  | 34311   | 93.832 | ug/l # | 78     |
| 12) 1,1-Dichloroethene        | 3.74 | 96  | 101959  | 17.718 | ug/l   | 97     |
| 13) Acrolein                  | 3.61 | 56  | 28696   | 79.030 | ug/l   | 96     |
| 14) Allyl chloride            | 4.32 | 41  | 169880  | 17.595 | ug/l   | 99     |
| 15) Acrylonitrile             | 4.99 | 53  | 182334  | 91.664 | ug/l # | 89     |
| 16) Acetone                   | 3.82 | 43  | 130092  | 73.354 | ug/l   | 97     |
| 17) Carbon Disulfide          | 4.05 | 76  | 305580  | 18.074 | ug/l   | 100    |
| 18) Methyl Acetate            | 4.33 | 43  | 94226   | 19.096 | ug/l   | 99     |
| 19) Methyl tert-butyl Ether   | 5.05 | 73  | 279395  | 18.828 | ug/l   | 98     |
| 20) Methylene Chloride        | 4.55 | 84  | 124836  | 19.471 | ug/l   | 99     |
| 21) trans-1,2-Dichloroethene  | 5.05 | 96  | 111518  | 18.943 | ug/l   | 99     |
| 22) Diisopropyl ether         | 5.95 | 45  | 389386  | 20.864 | ug/l   | 98     |
| 23) Vinyl Acetate             | 5.90 | 43  | 1168187 | 95.342 | ug/l   | 99     |
| 24) 1,1-Dichloroethane        | 5.85 | 63  | 226047  | 20.300 | ug/l   | 99     |
| 25) 2-Butanone                | 6.84 | 43  | 196232  | 88.487 | ug/l   | 97     |
| 26) 2,2-Dichloropropane       | 6.83 | 77  | 115502  | 13.288 | ug/l   | 96     |
| 27) cis-1,2-Dichloroethene    | 6.83 | 96  | 127467  | 19.734 | ug/l   | 97     |
| 28) Bromochloromethane        | 7.20 | 49  | 103020  | 20.034 | ug/l   | 98     |
| 29) Tetrahydrofuran           | 7.21 | 42  | 140073  | 99.672 | ug/l   | 96     |
| 30) Chloroform                | 7.37 | 83  | 226162  | 20.497 | ug/l   | 98     |
| 31) Cyclohexane               | 7.65 | 56  | 194138  | 19.029 | ug/l   | 94     |
| 32) 1,1,1-Trichloroethane     | 7.57 | 97  | 194840  | 20.656 | ug/l   | 99     |
| 36) 1,1-Dichloropropene       | 7.79 | 75  | 165499  | 18.472 | ug/l   | 98     |
| 37) Ethyl Acetate             | 6.93 | 43  | 93711   | 18.191 | ug/l   | 97     |
| 38) Carbon Tetrachloride      | 7.77 | 117 | 171595  | 18.310 | ug/l   | 99     |

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 Operator : MD\SY  
 Sample : VN0923WBS01  
 Misc : 5.00mL/MSVOA\_N/WATER  
 ALS Vial : 4 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 VN0923WBS01

Manual Integrations  
 APPROVED

apatel  
 9/25/2018 12:10:20 PM

Quant Time: Sep 24 07:02:33 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\82N092318W.M  
 Quant Title : SW846 8260  
 QLast Update : Mon Sep 24 06:41:32 2018  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc    | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|---------|--------|----------|
| 39) Methylcyclohexane          | 9.08  | 83   | 176931   | 16.893  | ug/l   | 96       |
| 40) Benzene                    | 8.04  | 78   | 508428   | 19.326  | ug/l   | 98       |
| 41) Methacrylonitrile          | 7.18  | 41   | 48976    | 17.184  | ug/l # | 92       |
| 42) 1,2-Dichloroethane         | 8.13  | 62   | 162084   | 19.241  | ug/l   | 99       |
| 43) Isopropyl Acetate          | 8.17  | 43   | 170693   | 18.324  | ug/l   | 98       |
| 44) Trichloroethene            | 8.83  | 130  | 129607   | 18.548  | ug/l   | 99       |
| 45) 1,2-Dichloropropane        | 9.12  | 63   | 138856   | 19.417  | ug/l   | 100      |
| 46) Dibromomethane             | 9.21  | 93   | 77301    | 19.131  | ug/l   | 98       |
| 47) Bromodichloromethane       | 9.40  | 83   | 169862   | 18.996  | ug/l   | 99       |
| 48) Methyl methacrylate        | 9.20  | 41   | 81857    | 17.625  | ug/l   | 98       |
| 49) 1,4-Dioxane                | 9.20  | 88   | 21433    | 376.557 | ug/l   | 98       |
| 51) 4-Methyl-2-Pentanone       | 9.99  | 43   | 464613   | 90.690  | ug/l   | 100      |
| 52) Toluene                    | 10.16 | 92   | 305183   | 18.667  | ug/l   | 100      |
| 53) t-1,3-Dichloropropene      | 10.38 | 75   | 150742   | 16.698  | ug/l   | 98       |
| 54) cis-1,3-Dichloropropene    | 9.84  | 75   | 182883   | 17.469  | ug/l   | 99       |
| 55) 1,1,2-Trichloroethane      | 10.56 | 97   | 109359   | 18.927  | ug/l   | 99       |
| 56) Ethyl methacrylate         | 10.43 | 69   | 125535   | 17.770  | ug/l   | 99       |
| 57) 1,3-Dichloropropane        | 10.71 | 76   | 186218   | 18.803  | ug/l   | 99       |
| 58) 2-Chloroethyl Vinyl ether  | 9.70  | 63   | 316029   | 96.297  | ug/l   | 97       |
| 59) 2-Hexanone                 | 10.75 | 43   | 286687   | 86.323  | ug/l   | 99       |
| 60) Dibromochloromethane       | 10.90 | 129  | 125932   | 18.472  | ug/l   | 100      |
| 61) 1,2-Dibromoethane          | 11.01 | 107  | 101410   | 18.080  | ug/l   | 98       |
| 64) Tetrachloroethene          | 10.63 | 164  | 124296   | 20.394  | ug/l   | 96       |
| 65) Chlorobenzene              | 11.43 | 112  | 332953   | 19.324  | ug/l   | 100      |
| 66) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 127482   | 19.420  | ug/l   | 99       |
| 67) Ethyl Benzene              | 11.51 | 91   | 548148   | 18.878  | ug/l   | 99       |
| 68) m/p-Xylenes                | 11.62 | 106  | 424738   | 37.816  | ug/l   | 99       |
| 69) o-Xylene                   | 11.95 | 106  | 202444   | 18.749  | ug/l   | 96       |
| 70) Styrene                    | 11.96 | 104  | 314201   | 18.364  | ug/l   | 97       |
| 71) Bromoform                  | 12.13 | 173  | 82674    | 18.561  | ug/l # | 100      |
| 73) Isopropylbenzene           | 12.25 | 105  | 540023   | 19.636  | ug/l   | 100      |
| 74) N-amyl acetate             | 12.07 | 43   | 125272   | 18.155  | ug/l   | 99       |
| 75) 1,1,2,2-Tetrachloroethane  | 12.50 | 83   | 127877   | 19.940  | ug/l   | 100      |
| 76) 1,2,3-Trichloropropane     | 12.55 | 75   | 108786m  | 20.105  | ug/l   |          |
| 77) Bromobenzene               | 12.53 | 156  | 133854   | 19.226  | ug/l   | 99       |
| 78) n-propylbenzene            | 12.59 | 91   | 603209   | 19.461  | ug/l   | 99       |
| 79) 2-Chlorotoluene            | 12.67 | 91   | 364123   | 19.626  | ug/l   | 100      |
| 80) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 446267   | 19.900  | ug/l   | 100      |
| 81) trans-1,4-Dichloro-2-buten | 12.30 | 75   | 27393    | 15.567  | ug/l   | 95       |
| 82) 4-Chlorotoluene            | 12.77 | 91   | 358028   | 19.334  | ug/l   | 99       |
| 83) tert-Butylbenzene          | 12.99 | 119  | 393352   | 19.707  | ug/l   | 98       |
| 84) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 447469   | 19.802  | ug/l   | 100      |
| 85) sec-Butylbenzene           | 13.17 | 105  | 526670   | 19.504  | ug/l   | 99       |
| 86) p-Isopropyltoluene         | 13.29 | 119  | 438502   | 18.767  | ug/l   | 99       |
| 87) 1,3-Dichlorobenzene        | 13.28 | 146  | 225438   | 18.712  | ug/l   | 99       |
| 88) 1,4-Dichlorobenzene        | 13.36 | 146  | 210767   | 18.182  | ug/l   | 97       |
| 89) n-Butylbenzene             | 13.62 | 91   | 327348   | 17.037  | ug/l   | 99       |
| 90) Hexachloroethane           | 13.87 | 117  | 90324    | 19.402  | ug/l   | 99       |
| 91) 1,2-Dichlorobenzene        | 13.65 | 146  | 222216   | 19.010  | ug/l   | 99       |
| 92) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 17875    | 19.531  | ug/l   | 96       |

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Sample : VN0923WBS01  
Misc : 5.00mL/MSVOA\_N/WATER  
ALS Vial : 4 Sample Multiplier: 1

Instrument :  
MSVOA\_N  
ClientSampleId :  
VN0923WBS01

Manual Integrations  
APPROVED

apatel  
9/25/2018 12:10:20 PM

Quant Time: Sep 24 07:02:33 2018  
Quant Method : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\82N092318W.M  
Quant Title : SW846 8260  
QLast Update : Mon Sep 24 06:41:32 2018  
Response via : Initial Calibration

| Internal Standards         | R.T.  | QIon | Response | Conc   | Units | Dev(Min) |
|----------------------------|-------|------|----------|--------|-------|----------|
| 93) 1,2,4-Trichlorobenzene | 14.91 | 180  | 85100    | 17.870 | ug/l  | 99       |
| 94) Hexachlorobutadiene    | 15.01 | 225  | 78944    | 17.849 | ug/l  | 97       |
| 95) Naphthalene            | 15.13 | 128  | 147641   | 18.267 | ug/l  | 100      |
| 96) 1,2,3-Trichlorobenzene | 15.31 | 180  | 91461    | 16.304 | ug/l  | 99       |

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

