

Data Path : W:\HPCHEM1\MSVOA X\DATA\VX022018\  
 Data File : VX000114.D  
 Acq On : 20 Feb 2018 18:21  
 Operator : JC/MD  
 Sample : MDL01 2PPB  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 13 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 MDL01 2PPB

Manual Integrations  
 APPROVED

apatel  
 2/22/2018 4:04:49 PM

Quant Time: Feb 21 06:26:39 2018  
 Quant Method : W:\HPCHEM1\MSVOA X\METHOD\624X022018W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Wed Feb 21 06:17:26 2018  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.03  | 128  | 15792    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 6.87  | 114  | 94131    | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 10.12 | 117  | 87546    | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 6.08   | 65    | 37427    | 30.62    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 102.07% |
| 60) 4-Bromofluorobenzene  | 11.15  | 95    | 42621    | 29.76    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 99.20%  |
| 63) Toluene-d8            | 8.73   | 98    | 116113   | 30.96    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 103.20% |

## Target Compounds

|                               |      |     |       |       |        | Ovalue |
|-------------------------------|------|-----|-------|-------|--------|--------|
| 2) Dichlorodifluoromethane    | 1.20 | 85  | 2150  | 2.19  | ug/l   | 97     |
| 3) Chloromethane              | 1.32 | 50  | 2284  | 2.33  | ug/l   | 94     |
| 4) Vinyl Chloride             | 1.40 | 62  | 2787  | 2.38  | ug/l   | 90     |
| 5) Bromomethane               | 1.64 | 94  | 2643  | 2.45  | ug/l   | 94     |
| 6) Chloroethane               | 1.73 | 64  | 1912  | 2.56  | ug/l   | 99     |
| 7) Trichlorofluoromethane     | 1.93 | 101 | 4577  | 2.26  | ug/l   | 96     |
| 8) Diethyl Ether              | 2.20 | 74  | 1670  | 2.36  | ug/l   | 95     |
| 9) 1,1,2-Trichlorotrifluoroet | 2.39 | 101 | 2543  | 2.30  | ug/l   | 98     |
| 10) 1,1-Dichloroethene        | 2.38 | 96  | 2438  | 2.31  | ug/l   | 85     |
| 11) Methyl Iodide             | 2.51 | 142 | 1809  | 1.76  | ug/l   | 94     |
| 12) Methyl Acetate            | 2.79 | 43  | 4253  | 2.26  | ug/l   | 93     |
| 13) Acrolein                  | 2.30 | 56  | 2636  | 11.62 | ug/l   | 97     |
| 14) Acrylonitrile             | 3.16 | 53  | 8656  | 10.59 | ug/l   | 98     |
| 15) Acetone                   | 2.45 | 58  | 2717  | 10.20 | ug/l   | 84     |
| 16) Carbon Disulfide          | 2.57 | 76  | 6959  | 2.31  | ug/l   | 100    |
| 17) Allyl chloride            | 2.73 | 41  | 4127  | 2.29  | ug/l   | 98     |
| 18) Methylene Chloride        | 2.87 | 84  | 2962  | 2.58  | ug/l # | 82     |
| 19) trans-1,2-Dichloroethene  | 3.17 | 96  | 2821  | 2.46  | ug/l   | 95     |
| 20) Diisopropyl ether         | 3.89 | 45  | 5894  | 2.07  | ug/l # | 95     |
| 21) 1,1-Dichloroethane        | 3.70 | 63  | 3576  | 1.91  | ug/l # | 87     |
| 22) cis-1,2-Dichloroethene    | 4.60 | 96  | 2330  | 2.18  | ug/l   | 95     |
| 23) tert-Butyl Alcohol        | 3.09 | 59  | 4465  | 9.56  | ug/l # | 100    |
| 24) Methyl tert-Butyl Ether   | 3.21 | 73  | 8151  | 2.24  | ug/l   | 99     |
| 25) Chloroform                | 5.23 | 83  | 3933  | 2.12  | ug/l   | 100    |
| 26) Cyclohexane               | 5.59 | 56  | 3252m | 2.22  | ug/l   |        |
| 29) 1,1-Dichloropropene       | 5.80 | 75  | 3065m | 2.24  | ug/l   |        |
| 30) 2-Butanone                | 4.73 | 43  | 10592 | 10.04 | ug/l # | 95     |
| 31) 2,2-Dichloropropane       | 4.59 | 77  | 3163m | 2.15  | ug/l   |        |
| 32) 1,1,1-Trichloroethane     | 5.51 | 97  | 3638  | 2.19  | ug/l # | 89     |
| 33) Carbon Tetrachloride      | 5.79 | 117 | 3113m | 2.11  | ug/l   |        |
| 34) Benzene                   | 6.15 | 78  | 8346  | 2.12  | ug/l # | 91     |
| 35) Methacrylonitrile         | 5.08 | 41  | 2257m | 2.32  | ug/l   |        |
| 36) 1,2-Dichloroethane        | 6.21 | 62  | 3365  | 2.25  | ug/l # | 95     |
| 37) Trichloroethene           | 7.22 | 130 | 2416  | 2.07  | ug/l   | 94     |
| 38) Methylcyclohexane         | 7.47 | 83  | 3301  | 2.01  | ug/l   | 95     |
| 39) 1,2-Dichloropropane       | 7.52 | 63  | 2143  | 2.18  | ug/l   | 97     |
| 40) Dibromomethane            | 7.68 | 93  | 1638  | 2.16  | ug/l   | 98     |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Wed Feb 21 06:17:26 2018  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc  | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|-------|--------|----------|
| 41) Bromodichloromethane       | 7.91  | 83   | 2806     | 1.95  | ug/l   | 95       |
| 42) Vinyl Acetate              | 3.84  | 43   | 23371    | 8.69  | ug/l   | 99       |
| 43) Ethyl Acetate              | 4.88  | 43   | 3925     | 2.12  | ug/l # | 89       |
| 44) Isopropyl Acetate          | 6.48  | 43   | 5651     | 2.08  | ug/l   | 96       |
| 45) 1,4-Dioxane                | 7.78  | 88   | 1281     | 37.46 | ug/l   | 97       |
| 46) Methyl methacrylate        | 7.79  | 41   | 2741     | 2.07  | ug/l   | 93       |
| 47) n-amyl Acetate             | 10.91 | 43   | 4495     | 1.89  | ug/l   | 97       |
| 48) t-1,3-Dichloropropene      | 8.45  | 75   | 3260     | 1.94  | ug/l # | 87       |
| 49) cis-1,3-Dichloropropene    | 9.06  | 75   | 3139     | 1.92  | ug/l   | 92       |
| 50) 1,1,2-Trichloroethane      | 9.23  | 97   | 2248     | 2.02  | ug/l # | 85       |
| 51) Ethyl methacrylate         | 9.19  | 69   | 3097     | 1.81  | ug/l   | 92       |
| 52) 1,3-Dichloropropane        | 9.38  | 76   | 3713     | 2.08  | ug/l   | 93       |
| 53) Dibromochloromethane       | 9.59  | 129  | 2204     | 1.78  | ug/l   | 90       |
| 54) 1,2-Dibromoethane          | 9.68  | 107  | 2374     | 1.91  | ug/l   | 92       |
| 55) 2-Chloroethyl vinyl ether  | 8.32  | 63   | 8404     | 11.28 | ug/l   | 96       |
| 56) Bromoform                  | 10.87 | 173  | 1511     | 1.51  | ug/l # | 95       |
| 58) 4-Methyl-2-Pentanone       | 8.66  | 43   | 18991    | 9.90  | ug/l   | 99       |
| 59) 2-Hexanone                 | 9.51  | 43   | 15365    | 9.46  | ug/l   | 98       |
| 61) Tetrachloroethene          | 9.34  | 164  | 2264     | 2.13  | ug/l   | 91       |
| 62) Toluene                    | 8.79  | 91   | 9749     | 2.14  | ug/l   | 97       |
| 64) Chlorobenzene              | 10.15 | 112  | 6870     | 2.23  | ug/l   | 96       |
| 65) 1,1,1,2-Tetrachloroethane  | 10.23 | 131  | 2179     | 2.00  | ug/l   | 96       |
| 66) Ethyl Benzene              | 10.26 | 91   | 11137    | 2.14  | ug/l   | 96       |
| 67) m/p-Xylenes                | 10.37 | 106  | 8125     | 3.99  | ug/l   | 100      |
| 68) o-Xylene                   | 10.71 | 106  | 4224     | 2.13  | ug/l   | 98       |
| 69) Styrene                    | 10.72 | 104  | 6476     | 1.97  | ug/l   | 99       |
| 70) Isopropylbenzene           | 11.02 | 105  | 10688    | 2.00  | ug/l   | 98       |
| 71) 1,1,2,2-Tetrachloroethane  | 11.28 | 83   | 3668     | 1.99  | ug/l   | 97       |
| 72) 1,2,3-Trichloropropane     | 11.30 | 75   | 3286m    | 1.99  | ug/l   |          |
| 73) Bromobenzene               | 11.27 | 156  | 3014     | 2.15  | ug/l   | 96       |
| 74) n-propylbenzene            | 11.37 | 91   | 13003    | 2.07  | ug/l   | 96       |
| 75) 2-Chlorotoluene            | 11.43 | 91   | 7409     | 2.05  | ug/l   | 98       |
| 76) 1,3,5-Trimethylbenzene     | 11.51 | 105  | 9031     | 1.99  | ug/l   | 67       |
| 77) t-1,4-Dichloro-2-butene    | 11.09 | 75   | 1011     | 1.73  | ug/l   | 90       |
| 78) 4-Chlorotoluene            | 11.52 | 91   | 8781     | 2.03  | ug/l   | 99       |
| 79) tert-butylbenzene          | 11.78 | 119  | 8786m    | 1.95  | ug/l   |          |
| 80) 1,2,4-Trimethylbenzene     | 11.82 | 105  | 9032     | 1.95  | ug/l   | 93       |
| 81) sec-Butylbenzene           | 11.96 | 105  | 11378    | 2.04  | ug/l   | 96       |
| 82) p-Isopropyltoluene         | 12.07 | 119  | 9705     | 1.95  | ug/l   | 98       |
| 83) 1,3-Dichlorobenzene        | 12.04 | 146  | 5243     | 1.96  | ug/l   | 98       |
| 84) 1,4-Dichlorobenzene        | 12.10 | 146  | 5622     | 2.02  | ug/l   | 99       |
| 85) n-Butylbenzene             | 12.40 | 91   | 9067     | 1.94  | ug/l   | 98       |
| 86) Hexachloroethane           | 12.60 | 117  | 1417     | 1.70  | ug/l   | 91       |
| 87) 1,2-Dichlorobenzene        | 12.40 | 146  | 5228     | 1.97  | ug/l   | 97       |
| 88) 1,2-Dibromo-3-Chloropropan | 13.01 | 75   | 1067     | 2.07  | ug/l # | 74       |
| 89) 1,2,4-Trichlorobenzene     | 13.66 | 180  | 3950     | 2.03  | ug/l   | 98       |
| 90) Hexachlorobutadiene        | 13.79 | 225  | 1578     | 1.88  | ug/l   | 98       |
| 91) Naphthalene                | 13.84 | 128  | 12799    | 1.88  | ug/l   | 100      |
| 92) 1,2,3-Trichlorobenzene     | 14.03 | 180  | 3490     | 1.79  | ug/l   | 94       |

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

