

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\VX100218\  
 Data File : VX004911.D  
 Acq On : 02 Oct 2018 10:31  
 Operator : JC/MD  
 Sample : VSTDICCC020  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 3 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 VSTDICCC020

Manual Integrations  
 APPROVED

MMDadoda  
 10/3/2018 4:23:05 PM

Quant Time: Oct 03 04:35:40 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA X\METHOD\624X100218W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Wed Oct 03 04:23:23 2018  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.02  | 128  | 50515    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 6.86  | 114  | 272916   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 10.12 | 117  | 251783   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 6.07   | 65    | 111775   | 29.12    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 97.07%  |
| 60) 4-Bromofluorobenzene  | 11.14  | 95    | 122477   | 29.26    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 97.53%  |
| 63) Toluene-d8            | 8.71   | 98    | 347019   | 30.88    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 102.93% |

## Target Compounds

|                               |      |     |        |         | Ovalue     |
|-------------------------------|------|-----|--------|---------|------------|
| 2) Dichlorodifluoromethane    | 1.20 | 85  | 80674  | 20.512  | ug/l 100   |
| 3) Chloromethane              | 1.32 | 50  | 82713  | 20.270  | ug/l 100   |
| 4) Vinyl Chloride             | 1.40 | 62  | 83672  | 20.058  | ug/l 100   |
| 5) Bromomethane               | 1.64 | 94  | 36590  | 18.279  | ug/l 100   |
| 6) Chloroethane               | 1.72 | 64  | 48229  | 20.138  | ug/l 100   |
| 7) Trichlorofluoromethane     | 1.93 | 101 | 106060 | 19.959  | ug/l 100   |
| 8) Diethyl Ether              | 2.19 | 74  | 42449  | 19.596  | ug/l 100   |
| 9) 1,1,2-Trichlorotrifluoroet | 2.39 | 101 | 59977  | 19.653  | ug/l 100   |
| 10) 1,1-Dichloroethene        | 2.37 | 96  | 56361  | 19.498  | ug/l 100   |
| 11) Methyl Iodide             | 2.51 | 142 | 33950  | 14.426  | ug/l 100   |
| 12) Methyl Acetate            | 2.78 | 43  | 118243 | 20.286  | ug/l 100   |
| 13) Acrolein                  | 2.29 | 56  | 50927  | 94.567  | ug/l 100   |
| 14) Acrylonitrile             | 3.15 | 53  | 236440 | 99.265  | ug/l 100   |
| 15) Acetone                   | 2.45 | 58  | 86235  | 108.306 | ug/l 100   |
| 16) Carbon Disulfide          | 2.57 | 76  | 166040 | 19.585  | ug/l 100   |
| 17) Allyl chloride            | 2.73 | 41  | 128648 | 20.015  | ug/l 100   |
| 18) Methylene Chloride        | 2.85 | 84  | 65944  | 19.617  | ug/l 100   |
| 19) trans-1,2-Dichloroethene  | 3.17 | 96  | 59997  | 19.428  | ug/l 100   |
| 20) Diisopropyl ether         | 3.87 | 45  | 209718 | 19.136  | ug/l 100   |
| 21) 1,1-Dichloroethane        | 3.70 | 63  | 120987 | 20.037  | ug/l 100   |
| 22) cis-1,2-Dichloroethene    | 4.60 | 96  | 65995  | 19.316  | ug/l 100   |
| 23) tert-Butyl Alcohol        | 3.07 | 59  | 113615 | 103.316 | ug/l 100   |
| 24) Methyl tert-Butyl Ether   | 3.20 | 73  | 208870 | 19.663  | ug/l 100   |
| 25) Chloroform                | 5.21 | 83  | 110175 | 19.387  | ug/l 100   |
| 26) Cyclohexane               | 5.57 | 56  | 101040 | 19.498  | ug/l # 100 |
| 29) 1,1-Dichloropropene       | 5.80 | 75  | 81023  | 20.062  | ug/l 100   |
| 30) 2-Butanone                | 4.70 | 43  | 349698 | 106.503 | ug/l 100   |
| 31) 2,2-Dichloropropane       | 4.59 | 77  | 89753  | 20.256  | ug/l 100   |
| 32) 1,1,1-Trichloroethane     | 5.49 | 97  | 94295  | 20.312  | ug/l 100   |
| 33) Carbon Tetrachloride      | 5.78 | 117 | 82120  | 20.141  | ug/l 100   |
| 34) Benzene                   | 6.14 | 78  | 250403 | 20.432  | ug/l 100   |
| 35) Methacrylonitrile         | 5.06 | 41  | 62932  | 20.624  | ug/l 100   |
| 36) 1,2-Dichloroethane        | 6.20 | 62  | 91007  | 20.613  | ug/l 100   |
| 37) Trichloroethene           | 7.21 | 130 | 64803  | 20.074  | ug/l 100   |
| 38) Methylcyclohexane         | 7.46 | 83  | 92680  | 19.329  | ug/l 100   |
| 39) 1,2-Dichloropropane       | 7.52 | 63  | 65971  | 20.203  | ug/l 100   |
| 40) Dibromomethane            | 7.66 | 93  | 42656  | 20.155  | ug/l 100   |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Wed Oct 03 04:23:23 2018  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|-------|------|----------|---------|-------|----------|
| 41) Bromodichloromethane       | 7.90  | 83   | 81492    | 19.973  | ug/l  | 100      |
| 42) Vinyl Acetate              | 3.82  | 43   | 962491   | 101.321 | ug/l  | 100      |
| 43) Ethyl Acetate              | 4.86  | 43   | 109673   | 20.249  | ug/l  | 100      |
| 44) Isopropyl Acetate          | 6.46  | 43   | 162703   | 20.129  | ug/l  | 100      |
| 45) 1,4-Dioxane                | 7.76  | 88   | 39680    | 416.687 | ug/l  | 100      |
| 46) Methyl methacrylate        | 7.78  | 41   | 84378    | 20.121  | ug/l  | 100      |
| 47) n-amyl Acetate             | 10.90 | 43   | 141422   | 18.964  | ug/l  | 100      |
| 48) t-1,3-Dichloropropene      | 9.04  | 75   | 90939    | 18.393  | ug/l  | 100      |
| 49) cis-1,3-Dichloropropene    | 8.44  | 75   | 102491   | 21.432  | ug/l  | 100      |
| 50) 1,1,2-Trichloroethane      | 9.22  | 97   | 65165    | 20.337  | ug/l  | 100      |
| 51) Ethyl methacrylate         | 9.18  | 69   | 98524    | 19.375  | ug/l  | 100      |
| 52) 1,3-Dichloropropane        | 9.37  | 76   | 110659   | 20.471  | ug/l  | 100      |
| 53) Dibromochloromethane       | 9.59  | 129  | 64896    | 19.521  | ug/l  | 100      |
| 54) 1,2-Dibromoethane          | 9.67  | 107  | 67776    | 20.297  | ug/l  | 100      |
| 55) 2-Chloroethyl vinyl ether  | 8.32  | 63   | 263862   | 98.335  | ug/l  | 100      |
| 56) Bromoform                  | 10.86 | 173  | 51867    | 18.682  | ug/l  | 100      |
| 58) 4-Methyl-2-Pentanone       | 8.65  | 43   | 585938   | 103.646 | ug/l  | 100      |
| 59) 2-Hexanone                 | 9.50  | 43   | 477683   | 102.559 | ug/l  | 100      |
| 61) Tetrachloroethene          | 9.34  | 164  | 64059    | 20.906  | ug/l  | 100      |
| 62) Toluene                    | 8.79  | 91   | 271382   | 20.509  | ug/l  | 100      |
| 64) Chlorobenzene              | 10.14 | 112  | 173106   | 20.257  | ug/l  | 100      |
| 65) 1,1,1,2-Tetrachloroethane  | 10.22 | 131  | 63169    | 20.335  | ug/l  | 100      |
| 66) Ethyl Benzene              | 10.26 | 91   | 288276   | 19.955  | ug/l  | 100      |
| 67) m/p-Xylenes                | 10.36 | 106  | 226183   | 40.212  | ug/l  | 100      |
| 68) o-Xylene                   | 10.70 | 106  | 107379   | 19.804  | ug/l  | 100      |
| 69) Styrene                    | 10.71 | 104  | 180698   | 19.819  | ug/l  | 100      |
| 70) Isopropylbenzene           | 11.02 | 105  | 293732   | 20.231  | ug/l  | 100      |
| 71) 1,1,2,2-Tetrachloroethane  | 11.27 | 83   | 105999   | 19.656  | ug/l  | 100      |
| 72) 1,2,3-Trichloropropane     | 11.30 | 75   | 99787m   | 20.311  | ug/l  | 100      |
| 73) Bromobenzene               | 11.26 | 156  | 79502    | 19.920  | ug/l  | 100      |
| 74) n-propylbenzene            | 11.36 | 91   | 341250   | 19.976  | ug/l  | 100      |
| 75) 2-Chlorotoluene            | 11.42 | 91   | 207730   | 19.938  | ug/l  | 100      |
| 76) 1,3,5-Trimethylbenzene     | 11.51 | 105  | 250036   | 19.960  | ug/l  | 100      |
| 77) t-1,4-Dichloro-2-butene    | 11.07 | 75   | 28612    | 17.713  | ug/l  | 100      |
| 78) 4-Chlorotoluene            | 11.51 | 91   | 239068   | 19.741  | ug/l  | 100      |
| 79) tert-butylbenzene          | 12.07 | 119  | 262601   | 19.752  | ug/l  | 100      |
| 80) 1,2,4-Trimethylbenzene     | 11.81 | 105  | 257654   | 20.168  | ug/l  | 100      |
| 81) sec-Butylbenzene           | 11.94 | 105  | 292583   | 19.786  | ug/l  | 100      |
| 82) p-Isopropyltoluene         | 12.07 | 119  | 262601   | 19.752  | ug/l  | 100      |
| 83) 1,3-Dichlorobenzene        | 12.02 | 146  | 144288   | 19.551  | ug/l  | 100      |
| 84) 1,4-Dichlorobenzene        | 12.10 | 146  | 145946   | 19.487  | ug/l  | 100      |
| 85) n-Butylbenzene             | 12.39 | 91   | 230474   | 19.086  | ug/l  | 100      |
| 86) Hexachloroethane           | 12.60 | 117  | 40882    | 18.668  | ug/l  | 100      |
| 87) 1,2-Dichlorobenzene        | 12.39 | 146  | 145873   | 19.444  | ug/l  | 100      |
| 88) 1,2-Dibromo-3-Chloropropan | 13.00 | 75   | 24547    | 19.698  | ug/l  | 100      |
| 89) 1,2,4-Trichlorobenzene     | 13.65 | 180  | 105114   | 18.783  | ug/l  | 100      |
| 90) Hexachlorobutadiene        | 13.79 | 225  | 52330    | 18.941  | ug/l  | 100      |
| 91) Naphthalene                | 13.83 | 128  | 336139   | 19.317  | ug/l  | 100      |
| 92) 1,2,3-Trichlorobenzene     | 14.02 | 180  | 109468   | 19.076  | ug/l  | 100      |

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| Internal Standards | R.T. | QIon | Response | Conc | Units | Dev(Min) |
|--------------------|------|------|----------|------|-------|----------|
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

