

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\VX031819\  
 Data File : VX008159.D  
 Acq On : 18 Mar 2019 10:52  
 Operator : JC/SP  
 Sample : VSTDICCC020  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 3 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 VSTDICCC020

Manual Integrations  
 APPROVED

MMDadoda  
 3/19/2019 9:36:50 AM

Quant Time: Mar 18 11:57:02 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA X\METHOD\624X031819W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Mon Mar 18 11:50:52 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.02  | 128  | 51365    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 6.86  | 114  | 288814   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 10.11 | 117  | 257028   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 6.06   | 65    | 131808   | 30.00    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 100.00% |
| 60) 4-Bromofluorobenzene  | 11.13  | 95    | 129663   | 30.00    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 100.00% |
| 63) Toluene-d8            | 8.71   | 98    | 378318   | 30.00    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 100.00% |

## Target Compounds

|                               |      |     |        |               | Ovalue |
|-------------------------------|------|-----|--------|---------------|--------|
| 2) Dichlorodifluoromethane    | 1.20 | 85  | 44853  | 20.000 ug/l   | 96     |
| 3) Chloromethane              | 1.33 | 50  | 55475  | 20.000 ug/l   | 96     |
| 4) Vinyl Chloride             | 1.41 | 62  | 57471  | 20.000 ug/l   | 98     |
| 5) Bromomethane               | 1.64 | 94  | 37995  | 20.000 ug/l   | 96     |
| 6) Chloroethane               | 1.73 | 64  | 34622  | 20.000 ug/l   | 96     |
| 7) Trichlorofluoromethane     | 1.93 | 101 | 69971  | 20.000 ug/l   | 98     |
| 8) Diethyl Ether              | 2.19 | 74  | 40366  | 20.000 ug/l   | 84     |
| 9) 1,1,2-Trichlorotrifluoroet | 2.39 | 101 | 49894  | 20.000 ug/l   | 92     |
| 10) 1,1-Dichloroethene        | 2.38 | 96  | 47265  | 20.000 ug/l   | 85     |
| 11) Methyl Iodide             | 2.51 | 142 | 55826  | 20.000 ug/l   | 98     |
| 12) Methyl Acetate            | 2.78 | 43  | 78663  | 20.000 ug/l   | 92     |
| 13) Acrolein                  | 2.29 | 56  | 55587  | 100.000 ug/l  | 100    |
| 14) Acrylonitrile             | 3.14 | 53  | 172545 | 100.000 ug/l  | 99     |
| 15) Acetone                   | 2.45 | 58  | 60864  | 100.000 ug/l  | 91     |
| 16) Carbon Disulfide          | 2.57 | 76  | 148908 | 20.000 ug/l   | 99     |
| 17) Allyl chloride            | 2.73 | 41  | 100093 | 20.000 ug/l   | 97     |
| 18) Methylene Chloride        | 2.86 | 84  | 55587  | 20.000 ug/l   | 88     |
| 19) trans-1,2-Dichloroethene  | 3.17 | 96  | 50787  | 20.000 ug/l   | 91     |
| 20) Diisopropyl ether         | 3.86 | 45  | 201340 | 20.000 ug/l # | 94     |
| 21) 1,1-Dichloroethane        | 3.70 | 63  | 103462 | 20.000 ug/l   | 97     |
| 22) cis-1,2-Dichloroethene    | 4.60 | 96  | 57966  | 20.000 ug/l # | 82     |
| 23) tert-Butyl Alcohol        | 3.04 | 59  | 63690  | 100.000 ug/l  | 100    |
| 24) Methyl tert-Butyl Ether   | 3.20 | 73  | 170747 | 20.000 ug/l   | 98     |
| 25) Chloroform                | 5.21 | 83  | 98912  | 20.000 ug/l   | 94     |
| 26) Cyclohexane               | 5.59 | 56  | 96136  | 20.000 ug/l # | 86     |
| 29) 1,1-Dichloropropene       | 5.80 | 75  | 73713  | 20.000 ug/l   | 93     |
| 30) 2-Butanone                | 4.67 | 43  | 278741 | 100.000 ug/l  | 94     |
| 31) 2,2-Dichloropropane       | 4.59 | 77  | 73633  | 20.000 ug/l   | 94     |
| 32) 1,1,1-Trichloroethane     | 5.49 | 97  | 78986  | 20.000 ug/l # | 94     |
| 33) Carbon Tetrachloride      | 5.79 | 117 | 64501  | 20.000 ug/l   | 98     |
| 34) Benzene                   | 6.14 | 78  | 224492 | 20.000 ug/l # | 96     |
| 35) Methacrylonitrile         | 5.04 | 41  | 50836  | 20.000 ug/l   | 94     |
| 36) 1,2-Dichloroethane        | 6.20 | 62  | 82583  | 20.000 ug/l   | 98     |
| 37) Trichloroethene           | 7.21 | 130 | 52860  | 20.000 ug/l   | 83     |
| 38) Methylcyclohexane         | 7.46 | 83  | 88956  | 20.000 ug/l   | 89     |
| 39) 1,2-Dichloropropane       | 7.51 | 63  | 61043  | 20.000 ug/l   | 98     |
| 40) Dibromomethane            | 7.66 | 93  | 37312  | 20.000 ug/l   | 89     |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Mon Mar 18 11:50:52 2019  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc    | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|---------|--------|----------|
| 41) Bromodichloromethane       | 7.90  | 83   | 71700    | 20.000  | ug/l   | 99       |
| 42) Vinyl Acetate              | 3.82  | 43   | 876306   | 100.000 | ug/l   | 95       |
| 43) Ethyl Acetate              | 4.83  | 43   | 93623m   | 19.620  | ug/l   |          |
| 44) Isopropyl Acetate          | 6.45  | 43   | 141791   | 20.000  | ug/l   | 98       |
| 45) 1,4-Dioxane                | 7.74  | 88   | 26999    | 400.000 | ug/l # | 83       |
| 46) Methyl methacrylate        | 7.77  | 41   | 75273    | 20.000  | ug/l   | 90       |
| 47) n-amyl Acetate             | 10.90 | 43   | 122865   | 20.000  | ug/l   | 97       |
| 48) t-1,3-Dichloropropene      | 9.04  | 75   | 76104    | 20.000  | ug/l   | 99       |
| 49) cis-1,3-Dichloropropene    | 8.43  | 75   | 85543    | 20.000  | ug/l   | 94       |
| 50) 1,1,2-Trichloroethane      | 9.21  | 97   | 53698    | 20.000  | ug/l   | 97       |
| 51) Ethyl methacrylate         | 9.18  | 69   | 85767    | 20.000  | ug/l   | 92       |
| 52) 1,3-Dichloropropane        | 9.37  | 76   | 97702    | 20.000  | ug/l   | 98       |
| 53) Dibromochloromethane       | 9.58  | 129  | 51269    | 20.000  | ug/l   | 98       |
| 54) 1,2-Dibromoethane          | 9.67  | 107  | 57511    | 20.000  | ug/l   | 95       |
| 55) 2-Chloroethyl vinyl ether  | 8.31  | 63   | 319991   | 100.000 | ug/l   | 95       |
| 56) Bromoform                  | 10.85 | 173  | 36355    | 20.000  | ug/l # | 97       |
| 58) 4-Methyl-2-Pentanone       | 8.64  | 43   | 489269   | 100.000 | ug/l   | 95       |
| 59) 2-Hexanone                 | 9.49  | 43   | 398680   | 100.000 | ug/l   | 96       |
| 61) Tetrachloroethene          | 9.34  | 164  | 50631    | 20.000  | ug/l   | 97       |
| 62) Toluene                    | 8.78  | 91   | 236150   | 20.000  | ug/l   | 99       |
| 64) Chlorobenzene              | 10.13 | 112  | 141278   | 20.000  | ug/l   | 100      |
| 65) 1,1,1,2-Tetrachloroethane  | 10.22 | 131  | 48514    | 20.000  | ug/l   | 97       |
| 66) Ethyl Benzene              | 10.25 | 91   | 248515   | 20.000  | ug/l   | 94       |
| 67) m/p-Xylenes                | 10.36 | 106  | 183736   | 40.000  | ug/l   | 91       |
| 68) o-Xylene                   | 10.69 | 106  | 88656    | 20.000  | ug/l   | 92       |
| 69) Styrene                    | 10.71 | 104  | 143948   | 20.000  | ug/l   | 96       |
| 70) Isopropylbenzene           | 11.02 | 105  | 239172   | 20.000  | ug/l   | 95       |
| 71) 1,1,2,2-Tetrachloroethane  | 11.27 | 83   | 87218    | 20.000  | ug/l   | 99       |
| 72) 1,2,3-Trichloropropane     | 11.29 | 75   | 76699m   | 20.090  | ug/l   |          |
| 73) Bromobenzene               | 11.26 | 156  | 56431    | 20.000  | ug/l   | 80       |
| 74) n-propylbenzene            | 11.36 | 91   | 278913   | 20.000  | ug/l   | 94       |
| 75) 2-Chlorotoluene            | 11.42 | 91   | 167610   | 20.000  | ug/l   | 90       |
| 76) 1,3,5-Trimethylbenzene     | 11.51 | 105  | 197523   | 20.000  | ug/l   | 95       |
| 77) t-1,4-Dichloro-2-butene    | 11.07 | 75   | 24944    | 20.000  | ug/l   | 96       |
| 78) 4-Chlorotoluene            | 11.51 | 91   | 189878   | 20.000  | ug/l   | 91       |
| 79) tert-butylbenzene          | 12.06 | 119  | 197684   | 20.000  | ug/l   | 96       |
| 80) 1,2,4-Trimethylbenzene     | 11.80 | 105  | 198709   | 20.000  | ug/l   | 94       |
| 81) sec-Butylbenzene           | 11.94 | 105  | 234244   | 20.000  | ug/l   | 95       |
| 82) p-Isopropyltoluene         | 12.06 | 119  | 197684   | 20.000  | ug/l   | 96       |
| 83) 1,3-Dichlorobenzene        | 12.02 | 146  | 101630   | 20.000  | ug/l   | 95       |
| 84) 1,4-Dichlorobenzene        | 12.10 | 146  | 98545    | 20.000  | ug/l   | 96       |
| 85) n-Butylbenzene             | 12.38 | 91   | 179216   | 20.000  | ug/l   | 96       |
| 86) Hexachloroethane           | 12.59 | 117  | 33414    | 20.000  | ug/l   | 96       |
| 87) 1,2-Dichlorobenzene        | 12.39 | 146  | 101057   | 20.000  | ug/l   | 97       |
| 88) 1,2-Dibromo-3-Chloropropan | 13.00 | 75   | 18226    | 20.000  | ug/l # | 76       |
| 89) 1,2,4-Trichlorobenzene     | 13.65 | 180  | 63196    | 20.000  | ug/l   | 99       |
| 90) Hexachlorobutadiene        | 13.78 | 225  | 32549    | 20.000  | ug/l   | 97       |
| 91) Naphthalene                | 13.83 | 128  | 207495   | 20.000  | ug/l   | 99       |
| 92) 1,2,3-Trichlorobenzene     | 14.02 | 180  | 63259    | 20.000  | ug/l   | 99       |

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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

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