

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\VX120519\  
 Data File : VX013766.D  
 Acq On : 05 Dec 2019 10:27  
 Operator : JC/SP  
 Sample : VSTDCCC020  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 3 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 VSTDCCC020

Manual Integrations  
 APPROVED

apatel  
 12/6/2019 9:30:40 AM

Quant Time: Dec 06 02:37:27 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA X\METHOD\624X111119W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Tue Nov 12 01:16:13 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.00  | 128  | 119829   | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 6.84  | 114  | 675275   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 10.11 | 117  | 601141   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 6.05   | 65    | 251595   | 28.43    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 94.77%  |
| 60) 4-Bromofluorobenzene  | 11.13  | 95    | 287916   | 29.80    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 99.33%  |
| 63) Toluene-d8            | 8.71   | 98    | 820164   | 30.17    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 100.57% |

## Target Compounds

|                               |      |     |        |         | Ovalue     |
|-------------------------------|------|-----|--------|---------|------------|
| 2) Dichlorodifluoromethane    | 1.19 | 85  | 181074 | 20.168  | ug/l 100   |
| 3) Chloromethane              | 1.32 | 50  | 185079 | 18.914  | ug/l 99    |
| 4) Vinyl Chloride             | 1.40 | 62  | 222676 | 20.028  | ug/l 99    |
| 5) Bromomethane               | 1.63 | 94  | 118209 | 17.685  | ug/l 99    |
| 6) Chloroethane               | 1.72 | 64  | 121001 | 19.798  | ug/l 99    |
| 7) Trichlorofluoromethane     | 1.92 | 101 | 243324 | 20.328  | ug/l 99    |
| 8) Diethyl Ether              | 2.18 | 74  | 109560 | 20.046  | ug/l 96    |
| 9) 1,1,2-Trichlorotrifluoroet | 2.37 | 101 | 149870 | 20.811  | ug/l 100   |
| 10) 1,1-Dichloroethene        | 2.36 | 96  | 144959 | 19.587  | ug/l 99    |
| 11) Methyl Iodide             | 2.50 | 142 | 144194 | 15.780  | ug/l 98    |
| 12) Methyl Acetate            | 2.76 | 43  | 239456 | 18.465  | ug/l 99    |
| 13) Acrolein                  | 2.28 | 56  | 117970 | 85.641  | ug/l 99    |
| 14) Acrylonitrile             | 3.12 | 53  | 417722 | 87.597  | ug/l 99    |
| 15) Acetone                   | 2.43 | 58  | 164374 | 113.811 | ug/l 99    |
| 16) Carbon Disulfide          | 2.56 | 76  | 400524 | 19.404  | ug/l 100   |
| 17) Allyl chloride            | 2.72 | 41  | 259646 | 19.051  | ug/l 98    |
| 18) Methylene Chloride        | 2.84 | 84  | 164520 | 19.593  | ug/l 99    |
| 19) trans-1,2-Dichloroethene  | 3.16 | 96  | 156271 | 19.758  | ug/l 98    |
| 20) Diisopropyl ether         | 3.84 | 45  | 519051 | 19.796  | ug/l 93    |
| 21) 1,1-Dichloroethane        | 3.69 | 63  | 281321 | 19.699  | ug/l 100   |
| 22) cis-1,2-Dichloroethene    | 4.58 | 96  | 176652 | 19.590  | ug/l 99    |
| 23) tert-Butyl Alcohol        | 3.03 | 59  | 186588 | 81.305  | ug/l # 100 |
| 24) Methyl tert-Butyl Ether   | 3.18 | 73  | 485437 | 19.819  | ug/l 100   |
| 25) Chloroform                | 5.20 | 83  | 275411 | 19.702  | ug/l 100   |
| 26) Cyclohexane               | 5.56 | 56  | 253224 | 19.525  | ug/l # 98  |
| 29) 1,1-Dichloropropene       | 5.79 | 75  | 211884 | 20.543  | ug/l 99    |
| 30) 2-Butanone                | 4.65 | 43  | 658087 | 96.666  | ug/l 100   |
| 31) 2,2-Dichloropropane       | 4.56 | 77  | 235536 | 21.086  | ug/l 98    |
| 32) 1,1,1-Trichloroethane     | 5.48 | 97  | 235503 | 20.543  | ug/l 100   |
| 33) Carbon Tetrachloride      | 5.77 | 117 | 204445 | 20.532  | ug/l 98    |
| 34) Benzene                   | 6.13 | 78  | 638599 | 20.413  | ug/l 99    |
| 35) Methacrylonitrile         | 5.03 | 41  | 128242 | 18.863  | ug/l 97    |
| 36) 1,2-Dichloroethane        | 6.18 | 62  | 224402 | 20.493  | ug/l 99    |
| 37) Trichloroethene           | 7.20 | 130 | 177612 | 21.192  | ug/l 93    |
| 38) Methylcyclohexane         | 7.45 | 83  | 266602 | 21.081  | ug/l 98    |
| 39) 1,2-Dichloropropane       | 7.50 | 63  | 162052 | 20.033  | ug/l 100   |
| 40) Dibromomethane            | 7.65 | 93  | 108221 | 20.103  | ug/l 98    |

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|--------------------------------|-------|------|----------|---------|-------|----------|
| 41) Bromodichloromethane       | 7.89  | 83   | 214615   | 20.422  | ug/l  | 99       |
| 42) Vinyl Acetate              | 3.80  | 43   | 2097051  | 97.839  | ug/l  | 100      |
| 43) Ethyl Acetate              | 4.81  | 43   | 231243   | 18.624  | ug/l  | 99       |
| 44) Isopropyl Acetate          | 6.43  | 43   | 374866   | 18.782  | ug/l  | 100      |
| 45) 1,4-Dioxane                | 7.73  | 88   | 75011    | 340.406 | ug/l  | 99       |
| 46) Methyl methacrylate        | 7.76  | 41   | 188059   | 18.942  | ug/l  | 97       |
| 47) n-amyl Acetate             | 10.89 | 43   | 326606   | 18.655  | ug/l  | 99       |
| 48) t-1,3-Dichloropropene      | 9.03  | 75   | 232165   | 19.702  | ug/l  | 98       |
| 49) cis-1,3-Dichloropropene    | 8.43  | 75   | 263026   | 20.370  | ug/l  | 95       |
| 50) 1,1,2-Trichloroethane      | 9.21  | 97   | 163855   | 20.569  | ug/l  | 97       |
| 51) Ethyl methacrylate         | 9.17  | 69   | 254156   | 19.378  | ug/l  | 99       |
| 52) 1,3-Dichloropropane        | 9.36  | 76   | 273210   | 20.062  | ug/l  | 99       |
| 53) Dibromochloromethane       | 9.57  | 129  | 172709   | 20.456  | ug/l  | 97       |
| 54) 1,2-Dibromoethane          | 9.67  | 107  | 169201   | 19.864  | ug/l  | 97       |
| 55) 2-Chloroethyl vinyl ether  | 8.30  | 63   | 596627   | 106.460 | ug/l  | 99       |
| 56) Bromoform                  | 10.85 | 173  | 131091   | 19.511  | ug/l  | 98       |
| 58) 4-Methyl-2-Pentanone       | 8.63  | 43   | 1174126  | 93.496  | ug/l  | 99       |
| 59) 2-Hexanone                 | 9.48  | 43   | 927358   | 93.331  | ug/l  | 99       |
| 61) Tetrachloroethene          | 9.33  | 164  | 162018   | 21.857  | ug/l  | 99       |
| 62) Toluene                    | 8.78  | 91   | 695167   | 20.761  | ug/l  | 100      |
| 64) Chlorobenzene              | 10.13 | 112  | 435361   | 20.794  | ug/l  | 99       |
| 65) 1,1,1,2-Tetrachloroethane  | 10.21 | 131  | 161334   | 20.586  | ug/l  | 99       |
| 66) Ethyl Benzene              | 10.25 | 91   | 762578   | 20.730  | ug/l  | 99       |
| 67) m/p-Xylenes                | 10.36 | 106  | 589751   | 41.561  | ug/l  | 100      |
| 68) o-Xylene                   | 10.69 | 106  | 282967   | 20.663  | ug/l  | 100      |
| 69) Styrene                    | 10.71 | 104  | 482521   | 20.634  | ug/l  | 99       |
| 70) Isopropylbenzene           | 11.01 | 105  | 762327   | 21.126  | ug/l  | 100      |
| 71) 1,1,2,2-Tetrachloroethane  | 11.26 | 83   | 250530   | 19.390  | ug/l  | 99       |
| 72) 1,2,3-Trichloropropane     | 11.29 | 75   | 204574m  | 18.752  | ug/l  |          |
| 73) Bromobenzene               | 11.25 | 156  | 197181   | 20.720  | ug/l  | 96       |
| 74) n-propylbenzene            | 11.35 | 91   | 864484   | 21.080  | ug/l  | 99       |
| 75) 2-Chlorotoluene            | 11.42 | 91   | 509947   | 20.911  | ug/l  | 100      |
| 76) 1,3,5-Trimethylbenzene     | 11.50 | 105  | 632633   | 20.857  | ug/l  | 99       |
| 77) t-1,4-Dichloro-2-butene    | 11.07 | 75   | 80498    | 18.248  | ug/l  | 96       |
| 78) 4-Chlorotoluene            | 11.51 | 91   | 575120   | 20.584  | ug/l  | 98       |
| 79) tert-butylbenzene          | 11.76 | 119  | 618244   | 20.202  | ug/l  | 98       |
| 80) 1,2,4-Trimethylbenzene     | 11.80 | 105  | 630949   | 20.874  | ug/l  | 99       |
| 81) sec-Butylbenzene           | 11.94 | 105  | 744701   | 21.328  | ug/l  | 100      |
| 82) p-Isopropyltoluene         | 12.06 | 119  | 685772   | 21.317  | ug/l  | 99       |
| 83) 1,3-Dichlorobenzene        | 12.02 | 146  | 344416   | 20.586  | ug/l  | 99       |
| 84) 1,4-Dichlorobenzene        | 12.09 | 146  | 344094   | 20.720  | ug/l  | 99       |
| 85) n-Butylbenzene             | 12.39 | 91   | 574880   | 20.705  | ug/l  | 99       |
| 86) Hexachloroethane           | 12.59 | 117  | 119732   | 20.282  | ug/l  | 99       |
| 87) 1,2-Dichlorobenzene        | 12.39 | 146  | 346991   | 20.741  | ug/l  | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 12.99 | 75   | 51683    | 17.887  | ug/l  | 98       |
| 89) 1,2,4-Trichlorobenzene     | 13.64 | 180  | 235384   | 20.406  | ug/l  | 99       |
| 90) Hexachlorobutadiene        | 13.78 | 225  | 115635   | 20.920  | ug/l  | 97       |
| 91) Naphthalene                | 13.83 | 128  | 704040   | 19.277  | ug/l  | 100      |
| 92) 1,2,3-Trichlorobenzene     | 14.01 | 180  | 234721   | 20.135  | ug/l  | 100      |

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

