

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN100920\  
 Data File : VN064048.D  
 Acq On : 9 Oct 2020 19:13  
 Operator : JC/MD  
 Sample : VSTDCCC020  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 18 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleID :  
 VSTDCCC020EC

Manual Integrations  
 APPROVED

MMDadoda  
 10/12/2020 2:10:10 PM

Quant Time: Oct 10 02:21:58 2020  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N100620W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Tue Oct 06 16:42:38 2020  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.15  | 128  | 51189    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.55  | 114  | 254803   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.38 | 117  | 241765   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 7.99   | 65    | 135979   | 29.58    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 98.60%  |
| 60) 4-Bromofluorobenzene  | 12.38  | 95    | 122363   | 29.60    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 98.67%  |
| 63) Toluene-d8            | 10.06  | 98    | 341675   | 31.18    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 103.93% |

## Target Compounds

|                               |      |     |         |        | Ovalue    |
|-------------------------------|------|-----|---------|--------|-----------|
| 2) Dichlorodifluoromethane    | 1.83 | 85  | 59106   | 17.060 | ug/l 93   |
| 3) Chloromethane              | 2.04 | 50  | 66999   | 18.687 | ug/l 94   |
| 4) Vinyl Chloride             | 2.16 | 62  | 61922   | 17.361 | ug/l 96   |
| 5) Bromomethane               | 2.53 | 94  | 33976   | 14.800 | ug/l 100  |
| 6) Chloroethane               | 2.68 | 64  | 38118   | 17.035 | ug/l 100  |
| 7) Trichlorofluoromethane     | 2.98 | 101 | 91938   | 16.329 | ug/l 97   |
| 8) Diethyl Ether              | 3.37 | 74  | 29817   | 16.355 | ug/l 86   |
| 9) 1,1,2-Trichlorotrifluoroet | 3.72 | 101 | 47839   | 16.351 | ug/l 92   |
| 10) 1,1-Dichloroethene        | 3.70 | 96  | 45226   | 16.465 | ug/l 95   |
| 11) Methyl Iodide             | 3.92 | 142 | 57608   | 16.437 | ug/l 91   |
| 12) Methyl Acetate            | 4.28 | 43  | 62573   | 18.509 | ug/l 93   |
| 13) Acrolein                  | 3.57 | 56  | 29357   | 89.217 | ug/l 92   |
| 14) Acrylonitrile             | 4.94 | 53  | 122607  | 88.211 | ug/l 97   |
| 15) Acetone                   | 3.78 | 58  | 32991   | 81.998 | ug/l # 55 |
| 16) Carbon Disulfide          | 4.01 | 76  | 135360  | 16.617 | ug/l 99   |
| 17) Allyl chloride            | 4.28 | 41  | 84329   | 16.494 | ug/l 85   |
| 18) Methylene Chloride        | 4.51 | 84  | 58501   | 17.768 | ug/l 93   |
| 19) trans-1,2-Dichloroethene  | 4.99 | 96  | 51477   | 16.591 | ug/l 93   |
| 20) Diisopropyl ether         | 5.90 | 45  | 178849m | 17.402 | ug/l      |
| 21) 1,1-Dichloroethane        | 5.80 | 63  | 105970  | 17.032 | ug/l 98   |
| 22) cis-1,2-Dichloroethene    | 6.78 | 96  | 57604   | 16.354 | ug/l 91   |
| 23) tert-Butyl Alcohol        | 4.72 | 59  | 46410m  | 77.842 | ug/l      |
| 24) Methyl tert-Butyl Ether   | 4.99 | 73  | 146698  | 15.919 | ug/l # 87 |
| 25) Chloroform                | 7.33 | 83  | 112279  | 17.211 | ug/l 99   |
| 26) Cyclohexane               | 7.61 | 56  | 70970   | 15.836 | ug/l # 97 |
| 29) 1,1-Dichloropropene       | 7.75 | 75  | 74594   | 16.717 | ug/l 97   |
| 30) 2-Butanone                | 6.79 | 43  | 192656  | 88.029 | ug/l 95   |
| 31) 2,2-Dichloropropane       | 6.78 | 77  | 85762   | 16.082 | ug/l 96   |
| 32) 1,1,1-Trichloroethane     | 7.53 | 97  | 94804   | 16.654 | ug/l 98   |
| 33) Carbon Tetrachloride      | 7.73 | 117 | 81340   | 16.309 | ug/l 95   |
| 34) Benzene                   | 8.00 | 78  | 226571  | 17.859 | ug/l 95   |
| 35) Methacrylonitrile         | 7.13 | 41  | 39803   | 19.135 | ug/l 92   |
| 36) 1,2-Dichloroethane        | 8.09 | 62  | 94034   | 16.870 | ug/l # 85 |
| 37) Trichloroethene           | 8.80 | 130 | 55533   | 16.706 | ug/l 96   |
| 38) Methylcyclohexane         | 9.05 | 83  | 58675   | 15.574 | ug/l 97   |
| 39) 1,2-Dichloropropane       | 9.08 | 63  | 62580   | 18.154 | ug/l 95   |
| 40) Dibromomethane            | 9.18 | 93  | 41155   | 17.094 | ug/l 91   |

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| Internal Standards             | R.T.  | QIon | Response | Conc    | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|---------|--------|----------|
| 41) Bromodichloromethane       | 9.37  | 83   | 85463    | 17.079  | ug/l   | 98       |
| 42) Vinyl Acetate              | 5.85  | 43   | 806193   | 88.757  | ug/l   | 97       |
| 43) Ethyl Acetate              | 6.88  | 43   | 82384    | 17.578  | ug/l   | 98       |
| 44) Isopropyl Acetate          | 8.13  | 43   | 136719   | 17.602  | ug/l # | 90       |
| 45) 1,4-Dioxane                | 9.17  | 88   | 15873    | 318.745 | ug/l   | 93       |
| 46) Methyl methacrylate        | 9.17  | 41   | 68385    | 17.696  | ug/l   | 85       |
| 47) n-amyl Acetate             | 12.05 | 43   | 106712   | 15.452  | ug/l   | 96       |
| 48) t-1,3-Dichloropropene      | 10.35 | 75   | 86505    | 15.998  | ug/l   | 95       |
| 49) cis-1,3-Dichloropropene    | 9.81  | 75   | 94966    | 16.937  | ug/l # | 83       |
| 50) 1,1,2-Trichloroethane      | 10.53 | 97   | 57270    | 17.814  | ug/l   | 99       |
| 51) Ethyl methacrylate         | 10.40 | 69   | 76761    | 16.461  | ug/l   | 80       |
| 52) 1,3-Dichloropropane        | 10.68 | 76   | 96613    | 17.544  | ug/l   | 98       |
| 53) Dibromochloromethane       | 10.87 | 129  | 61853    | 16.717  | ug/l   | 98       |
| 54) 1,2-Dibromoethane          | 10.98 | 107  | 58719    | 17.421  | ug/l   | 96       |
| 55) 2-Chloroethyl vinyl ether  | 9.66  | 63   | 217290   | 87.322  | ug/l   | 99       |
| 56) Bromoform                  | 12.10 | 173  | 42678    | 16.646  | ug/l # | 93       |
| 58) 4-Methyl-2-Pentanone       | 9.95  | 43   | 430648   | 91.782  | ug/l   | 93       |
| 59) 2-Hexanone                 | 10.72 | 43   | 301747   | 86.340  | ug/l   | 94       |
| 61) Tetrachloroethene          | 10.60 | 164  | 50809    | 16.566  | ug/l   | 92       |
| 62) Toluene                    | 10.13 | 91   | 243019   | 17.502  | ug/l   | 98       |
| 64) Chlorobenzene              | 11.41 | 112  | 140560   | 16.702  | ug/l   | 100      |
| 65) 1,1,1,2-Tetrachloroethane  | 11.48 | 131  | 56578    | 17.189  | ug/l   | 98       |
| 66) Ethyl Benzene              | 11.49 | 91   | 247751   | 16.248  | ug/l   | 98       |
| 67) m/p-Xylenes                | 11.60 | 106  | 188572   | 33.257  | ug/l   | 97       |
| 68) o-Xylene                   | 11.92 | 106  | 88624    | 16.405  | ug/l   | 95       |
| 69) Styrene                    | 11.94 | 104  | 149900   | 16.262  | ug/l   | 96       |
| 70) Isopropylbenzene           | 12.23 | 105  | 237172   | 16.522  | ug/l   | 96       |
| 71) 1,1,2,2-Tetrachloroethane  | 12.48 | 83   | 81883    | 18.046  | ug/l   | 98       |
| 72) 1,2,3-Trichloropropane     | 12.53 | 75   | 84688m   | 18.303  | ug/l   |          |
| 73) Bromobenzene               | 12.50 | 156  | 58412    | 16.054  | ug/l   | 86       |
| 74) n-propylbenzene            | 12.57 | 91   | 269133   | 16.038  | ug/l   | 100      |
| 75) 2-Chlorotoluene            | 12.65 | 91   | 170551   | 16.662  | ug/l   | 95       |
| 76) 1,3,5-Trimethylbenzene     | 12.71 | 105  | 195534   | 16.153  | ug/l   | 98       |
| 77) t-1,4-Dichloro-2-butene    | 12.28 | 75   | 25403    | 15.436  | ug/l   | 86       |
| 78) 4-Chlorotoluene            | 12.75 | 91   | 179370   | 16.548  | ug/l   | 96       |
| 79) tert-butylbenzene          | 12.97 | 119  | 154900   | 15.972  | ug/l   | 96       |
| 80) 1,2,4-Trimethylbenzene     | 13.02 | 105  | 195099   | 16.077  | ug/l   | 97       |
| 81) sec-Butylbenzene           | 13.15 | 105  | 201858   | 15.836  | ug/l   | 98       |
| 82) p-Isopropyltoluene         | 13.26 | 119  | 178996   | 15.536  | ug/l   | 94       |
| 83) 1,3-Dichlorobenzene        | 13.26 | 146  | 102265   | 15.804  | ug/l   | 97       |
| 84) 1,4-Dichlorobenzene        | 13.34 | 146  | 98232    | 15.282  | ug/l   | 99       |
| 85) n-Butylbenzene             | 13.59 | 91   | 148162   | 14.699  | ug/l   | 96       |
| 86) Hexachloroethane           | 13.85 | 117  | 31961    | 16.097  | ug/l   | 82       |
| 87) 1,2-Dichlorobenzene        | 13.63 | 146  | 100788   | 15.873  | ug/l   | 95       |
| 88) 1,2-Dibromo-3-Chloropropan | 14.24 | 75   | 17140    | 15.809  | ug/l   | 86       |
| 89) 1,2,4-Trichlorobenzene     | 14.88 | 180  | 40220    | 12.461  | ug/l # | 90       |
| 90) Hexachlorobutadiene        | 14.98 | 225  | 26727    | 15.635  | ug/l   | 96       |
| 91) Naphthalene                | 15.10 | 128  | 124897   | 12.650  | ug/l   | 98       |
| 92) 1,2,3-Trichlorobenzene     | 15.28 | 180  | 44536    | 14.167  | ug/l   | 96       |

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ALS Vial : 18 Sample Multiplier: 1

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

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Data File : VN064048.D  
Acq On : 9 Oct 2020 19:13  
Operator : JC/MD  
Sample : VSTDC0020  
Misc : 5.00mL/MSVOA N/WATER  
ALS Vial : 18 Sample Multiplier: 1

Instrument :  
MSVOA\_N  
Client Sample ID :  
VSTDC0020EC

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