

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN071319\  
 Data File : VN056685.D  
 Acq On : 12 Jul 2019 12:53  
 Operator : JC/SP  
 Sample : VSTDICV020  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 9 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 ICVVN071319

Manual Integrations  
 APPROVED

MMDadoda  
 7/16/2019 9:59:33 AM

Quant Time: Jul 13 00:20:15 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N071319W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Jul 12 23:58:13 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.20  | 128  | 53508    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.59  | 114  | 293821   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.41 | 117  | 255694   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 8.03   | 65    | 106053   | 29.26    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 97.53%  |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 114029   | 29.14    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 97.13%  |
| 63) Toluene-d8            | 10.09  | 98    | 356967   | 30.55    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 101.83% |

## Target Compounds

|                               |      |     |        |              | Ovalue |
|-------------------------------|------|-----|--------|--------------|--------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 63311  | 20.822 ug/l  | 98     |
| 3) Chloromethane              | 2.06 | 50  | 83256  | 20.474 ug/l  | 100    |
| 4) Vinyl Chloride             | 2.18 | 62  | 80381  | 20.097 ug/l  | 98     |
| 5) Bromomethane               | 2.55 | 94  | 52836  | 20.958 ug/l  | 92     |
| 6) Chloroethane               | 2.70 | 64  | 47142  | 20.628 ug/l  | 99     |
| 7) Trichlorofluoromethane     | 3.01 | 101 | 103447 | 20.166 ug/l  | 97     |
| 8) Diethyl Ether              | 3.41 | 74  | 41889  | 19.968 ug/l  | 98     |
| 9) 1,1,2-Trichlorotrifluoroet | 3.75 | 101 | 65127  | 20.359 ug/l  | 98     |
| 10) 1,1-Dichloroethene        | 3.73 | 96  | 63638  | 20.166 ug/l  | 97     |
| 11) Methyl Iodide             | 3.95 | 142 | 76505  | 18.242 ug/l  | 96     |
| 12) Methyl Acetate            | 4.32 | 43  | 80262  | 18.999 ug/l  | 95     |
| 13) Acrolein                  | 3.61 | 56  | 27168  | 91.219 ug/l  | 98     |
| 14) Acrylonitrile             | 4.99 | 53  | 185435 | 99.647 ug/l  | 99     |
| 15) Acetone                   | 3.82 | 58  | 57667  | 89.773 ug/l  | 99     |
| 16) Carbon Disulfide          | 4.05 | 76  | 158542 | 19.047 ug/l  | 100    |
| 17) Allyl chloride            | 4.32 | 41  | 106404 | 19.275 ug/l  | 100    |
| 18) Methylene Chloride        | 4.55 | 84  | 74696  | 20.160 ug/l  | 98     |
| 19) trans-1,2-Dichloroethene  | 5.04 | 96  | 67358  | 19.937 ug/l  | 99     |
| 20) Diisopropyl ether         | 5.95 | 45  | 221636 | 20.149 ug/l  | 98     |
| 21) 1,1-Dichloroethane        | 5.85 | 63  | 125007 | 19.890 ug/l  | 99     |
| 22) cis-1,2-Dichloroethene    | 6.83 | 96  | 78611  | 19.899 ug/l  | 100    |
| 23) tert-Butyl Alcohol        | 4.79 | 59  | 66544  | 102.509 ug/l | # 100  |
| 24) Methyl tert-Butyl Ether   | 5.05 | 73  | 199383 | 19.808 ug/l  | 99     |
| 25) Chloroform                | 7.37 | 83  | 124536 | 20.339 ug/l  | 97     |
| 26) Cyclohexane               | 7.65 | 56  | 115992 | 19.855 ug/l  | # 97   |
| 29) 1,1-Dichloropropene       | 7.79 | 75  | 94302  | 20.191 ug/l  | 99     |
| 30) 2-Butanone                | 6.84 | 43  | 257028 | 95.051 ug/l  | 99     |
| 31) 2,2-Dichloropropane       | 6.82 | 77  | 88786  | 19.642 ug/l  | 100    |
| 32) 1,1,1-Trichloroethane     | 7.57 | 97  | 99559  | 19.998 ug/l  | 99     |
| 33) Carbon Tetrachloride      | 7.78 | 117 | 83412  | 19.470 ug/l  | 98     |
| 34) Benzene                   | 8.04 | 78  | 292072 | 20.353 ug/l  | 98     |
| 35) Methacrylonitrile         | 7.18 | 41  | 34601m | 16.749 ug/l  |        |
| 36) 1,2-Dichloroethane        | 8.12 | 62  | 93382  | 20.257 ug/l  | 99     |
| 37) Trichloroethene           | 8.84 | 130 | 77537  | 19.895 ug/l  | 97     |
| 38) Methylcyclohexane         | 9.08 | 83  | 114301 | 19.372 ug/l  | 99     |
| 39) 1,2-Dichloropropane       | 9.12 | 63  | 77618  | 20.151 ug/l  | 100    |
| 40) Dibromomethane            | 9.21 | 93  | 48174  | 19.635 ug/l  | 97     |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Jul 12 23:58:13 2019  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|-------|------|----------|---------|-------|----------|
| 41) Bromodichloromethane       | 9.40  | 83   | 89467    | 19.786  | ug/l  | 98       |
| 42) Vinyl Acetate              | 5.90  | 43   | 915866   | 101.766 | ug/l  | 100      |
| 43) Ethyl Acetate              | 6.93  | 43   | 97999    | 20.055  | ug/l  | 97       |
| 44) Isopropyl Acetate          | 8.17  | 43   | 151129   | 19.829  | ug/l  | 100      |
| 45) 1,4-Dioxane                | 9.20  | 88   | 32392    | 420.100 | ug/l  | 99       |
| 46) Methyl methacrylate        | 9.20  | 41   | 73537    | 20.084  | ug/l  | 98       |
| 47) n-amyl Acetate             | 12.07 | 43   | 118253   | 18.972  | ug/l  | 100      |
| 48) t-1,3-Dichloropropene      | 10.38 | 75   | 94953    | 19.091  | ug/l  | 100      |
| 49) cis-1,3-Dichloropropene    | 9.84  | 75   | 110034   | 19.611  | ug/l  | 98       |
| 50) 1,1,2-Trichloroethane      | 10.56 | 97   | 72293    | 20.225  | ug/l  | 97       |
| 51) Ethyl methacrylate         | 10.43 | 69   | 109813   | 19.973  | ug/l  | 100      |
| 52) 1,3-Dichloropropane        | 10.71 | 76   | 120248   | 20.106  | ug/l  | 98       |
| 53) Dibromochloromethane       | 10.90 | 129  | 69741    | 19.305  | ug/l  | 98       |
| 54) 1,2-Dibromoethane          | 11.00 | 107  | 75317    | 20.274  | ug/l  | 97       |
| 55) 2-Chloroethyl vinyl ether  | 9.70  | 63   | 258824   | 97.350  | ug/l  | 99       |
| 56) Bromoform                  | 12.13 | 173  | 49720    | 18.592  | ug/l  | 99       |
| 58) 4-Methyl-2-Pentanone       | 9.98  | 43   | 503091   | 104.537 | ug/l  | 100      |
| 59) 2-Hexanone                 | 10.75 | 43   | 364485   | 99.774  | ug/l  | 99       |
| 61) Tetrachloroethene          | 10.63 | 164  | 77508    | 21.096  | ug/l  | 97       |
| 62) Toluene                    | 10.16 | 91   | 306762   | 20.426  | ug/l  | 99       |
| 64) Chlorobenzene              | 11.43 | 112  | 185399   | 20.241  | ug/l  | 99       |
| 65) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 67400    | 20.070  | ug/l  | 98       |
| 66) Ethyl Benzene              | 11.51 | 91   | 327821   | 20.194  | ug/l  | 99       |
| 67) m/p-Xylenes                | 11.62 | 106  | 246318   | 40.206  | ug/l  | 99       |
| 68) o-Xylene                   | 11.95 | 106  | 121271   | 20.295  | ug/l  | 99       |
| 69) Styrene                    | 11.96 | 104  | 197659   | 19.963  | ug/l  | 99       |
| 70) Isopropylbenzene           | 12.25 | 105  | 319024   | 20.368  | ug/l  | 100      |
| 71) 1,1,2,2-Tetrachloroethane  | 12.50 | 83   | 105131   | 20.679  | ug/l  | 99       |
| 72) 1,2,3-Trichloropropane     | 12.55 | 75   | 90012m   | 20.716  | ug/l  |          |
| 73) Bromobenzene               | 12.53 | 156  | 81430    | 19.895  | ug/l  | 98       |
| 74) n-propylbenzene            | 12.59 | 91   | 347402   | 19.659  | ug/l  | 99       |
| 75) 2-Chlorotoluene            | 12.67 | 91   | 215139   | 20.215  | ug/l  | 98       |
| 76) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 269518   | 20.174  | ug/l  | 99       |
| 77) t-1,4-Dichloro-2-butene    | 12.30 | 75   | 25829    | 17.883  | ug/l  | 93       |
| 78) 4-Chlorotoluene            | 12.77 | 91   | 203891   | 19.756  | ug/l  | 100      |
| 79) tert-butylbenzene          | 12.99 | 119  | 229769   | 20.217  | ug/l  | 100      |
| 80) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 264501   | 19.963  | ug/l  | 98       |
| 81) sec-Butylbenzene           | 13.17 | 105  | 298045   | 19.812  | ug/l  | 99       |
| 82) p-Isopropyltoluene         | 13.29 | 119  | 270613   | 19.780  | ug/l  | 99       |
| 83) 1,3-Dichlorobenzene        | 13.28 | 146  | 131643   | 19.297  | ug/l  | 99       |
| 84) 1,4-Dichlorobenzene        | 13.36 | 146  | 124246   | 19.000  | ug/l  | 99       |
| 85) n-Butylbenzene             | 13.61 | 91   | 210000   | 18.609  | ug/l  | 99       |
| 86) Hexachloroethane           | 13.87 | 117  | 40618    | 18.922  | ug/l  | 98       |
| 87) 1,2-Dichlorobenzene        | 13.65 | 146  | 136144   | 19.859  | ug/l  | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 17483    | 19.933  | ug/l  | 96       |
| 89) 1,2,4-Trichlorobenzene     | 14.91 | 180  | 64787    | 17.569  | ug/l  | 98       |
| 90) Hexachlorobutadiene        | 15.01 | 225  | 46818    | 19.528  | ug/l  | 98       |
| 91) Naphthalene                | 15.13 | 128  | 164868   | 16.623  | ug/l  | 100      |
| 92) 1,2,3-Trichlorobenzene     | 15.31 | 180  | 69613    | 18.004  | ug/l  | 100      |

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

```
Data Path : Z:\V0ASRV\HPCHEM1\MSVOA N\DATA\VN071319\  
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ALS Vial  : 9    Sample Multiplier: 1
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