

Data Path : Z:\VOASRV\HPCHEM1\MSVOA N\DATA\VN072419\  
 Data File : VN056891.D  
 Acq On : 23 Jul 2019 21:29  
 Operator : JC/SP  
 Sample : VSTDICV020  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 27 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 ICVVN072419

Manual Integrations  
 APPROVED

MMDadoda  
 7/25/2019 2:20:16 PM

Quant Time: Jul 24 03:55:13 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N072419W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Wed Jul 24 03:39:51 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 7.19  | 128  | 59787    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 8.58  | 114  | 321231   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 11.41 | 117  | 278119   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 8.03   | 65    | 114974   | 29.38    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 97.93%  |
| 60) 4-Bromofluorobenzene  | 12.40  | 95    | 122747   | 29.45    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 98.17%  |
| 63) Toluene-d8            | 10.09  | 98    | 397411   | 30.25    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 100.83% |

## Target Compounds

|                               |      |     |        |         | Ovalue     |
|-------------------------------|------|-----|--------|---------|------------|
| 2) Dichlorodifluoromethane    | 1.85 | 85  | 73693  | 20.616  | ug/l 99    |
| 3) Chloromethane              | 2.06 | 50  | 90251  | 20.690  | ug/l 99    |
| 4) Vinyl Chloride             | 2.19 | 62  | 84341  | 20.055  | ug/l 99    |
| 5) Bromomethane               | 2.56 | 94  | 57395  | 22.228  | ug/l 99    |
| 6) Chloroethane               | 2.70 | 64  | 46262  | 19.832  | ug/l 99    |
| 7) Trichlorofluoromethane     | 3.02 | 101 | 102113 | 19.938  | ug/l 99    |
| 8) Diethyl Ether              | 3.41 | 74  | 37875  | 19.847  | ug/l 98    |
| 9) 1,1,2-Trichlorotrifluoroet | 3.75 | 101 | 64017  | 19.904  | ug/l 98    |
| 10) 1,1-Dichloroethene        | 3.73 | 96  | 64488  | 20.204  | ug/l 99    |
| 11) Methyl Iodide             | 3.95 | 142 | 82120  | 17.391  | ug/l 99    |
| 12) Methyl Acetate            | 4.33 | 43  | 70118  | 17.950  | ug/l 94    |
| 13) Acrolein                  | 3.60 | 56  | 38460  | 86.996  | ug/l 100   |
| 14) Acrylonitrile             | 4.99 | 53  | 146316 | 97.125  | ug/l 98    |
| 15) Acetone                   | 3.82 | 58  | 38408  | 98.615  | ug/l 92    |
| 16) Carbon Disulfide          | 4.05 | 76  | 172280 | 20.017  | ug/l 99    |
| 17) Allyl chloride            | 4.32 | 41  | 102072 | 19.111  | ug/l 96    |
| 18) Methylene Chloride        | 4.55 | 84  | 73431  | 19.766  | ug/l 96    |
| 19) trans-1,2-Dichloroethene  | 5.04 | 96  | 66524  | 19.694  | ug/l 97    |
| 20) Diisopropyl ether         | 5.96 | 45  | 213842 | 19.719  | ug/l 96    |
| 21) 1,1-Dichloroethane        | 5.85 | 63  | 124523 | 19.759  | ug/l 98    |
| 22) cis-1,2-Dichloroethene    | 6.83 | 96  | 77067  | 19.685  | ug/l 98    |
| 23) tert-Butyl Alcohol        | 4.81 | 59  | 50881  | 101.208 | ug/l # 100 |
| 24) Methyl tert-Butyl Ether   | 5.05 | 73  | 190265 | 19.717  | ug/l 99    |
| 25) Chloroform                | 7.37 | 83  | 120493 | 19.599  | ug/l 99    |
| 26) Cyclohexane               | 7.65 | 56  | 116620 | 20.144  | ug/l # 100 |
| 29) 1,1-Dichloropropene       | 7.79 | 75  | 92272  | 20.241  | ug/l 97    |
| 30) 2-Butanone                | 6.84 | 43  | 180212 | 98.398  | ug/l 99    |
| 31) 2,2-Dichloropropane       | 6.82 | 77  | 79960  | 18.902  | ug/l # 74  |
| 32) 1,1,1-Trichloroethane     | 7.57 | 97  | 100310 | 20.027  | ug/l 99    |
| 33) Carbon Tetrachloride      | 7.77 | 117 | 85559  | 19.571  | ug/l 98    |
| 34) Benzene                   | 8.04 | 78  | 284996 | 19.842  | ug/l 98    |
| 35) Methacrylonitrile         | 7.18 | 41  | 35138  | 19.211  | ug/l 98    |
| 36) 1,2-Dichloroethane        | 8.12 | 62  | 89079  | 19.949  | ug/l 99    |
| 37) Trichloroethene           | 8.83 | 130 | 76873  | 19.963  | ug/l 98    |
| 38) Methylcyclohexane         | 9.08 | 83  | 115739 | 19.959  | ug/l 99    |
| 39) 1,2-Dichloropropane       | 9.12 | 63  | 77110  | 20.112  | ug/l 100   |
| 40) Dibromomethane            | 9.21 | 93  | 46041  | 19.575  | ug/l 97    |

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 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Wed Jul 24 03:39:51 2019  
 Response via : Initial Calibration

| Internal Standards             | R.T.  | QIon | Response | Conc    | Units  | Dev(Min) |
|--------------------------------|-------|------|----------|---------|--------|----------|
| -----                          |       |      |          |         |        |          |
| 41) Bromodichloromethane       | 9.40  | 83   | 86785    | 19.202  | ug/l   | 100      |
| 42) Vinyl Acetate              | 5.90  | 43   | 812472   | 99.615  | ug/l   | 99       |
| 43) Ethyl Acetate              | 6.93  | 43   | 73308    | 19.525  | ug/l # | 87       |
| 44) Isopropyl Acetate          | 8.17  | 43   | 122002   | 19.494  | ug/l   | 98       |
| 45) 1,4-Dioxane                | 9.20  | 88   | 25188    | 422.762 | ug/l   | 94       |
| 46) Methyl methacrylate        | 9.20  | 41   | 61545    | 19.712  | ug/l   | 95       |
| 47) n-amyl Acetate             | 12.07 | 43   | 95827    | 19.128  | ug/l   | 98       |
| 48) t-1,3-Dichloropropene      | 10.38 | 75   | 89092    | 18.943  | ug/l   | 99       |
| 49) cis-1,3-Dichloropropene    | 9.84  | 75   | 104805   | 19.123  | ug/l   | 98       |
| 50) 1,1,2-Trichloroethane      | 10.56 | 97   | 66717    | 19.757  | ug/l   | 95       |
| 51) Ethyl methacrylate         | 10.43 | 69   | 95978    | 19.650  | ug/l   | 99       |
| 52) 1,3-Dichloropropane        | 10.71 | 76   | 112504   | 19.741  | ug/l   | 99       |
| 53) Dibromochloromethane       | 10.90 | 129  | 67100    | 19.116  | ug/l   | 98       |
| 54) 1,2-Dibromoethane          | 11.00 | 107  | 68581    | 19.907  | ug/l   | 97       |
| 55) 2-Chloroethyl vinyl ether  | 9.69  | 63   | 208430   | 98.530  | ug/l   | 100      |
| 56) Bromoform                  | 12.12 | 173  | 44499    | 18.323  | ug/l   | 99       |
| 58) 4-Methyl-2-Pentanone       | 9.98  | 43   | 377722   | 101.205 | ug/l   | 99       |
| 59) 2-Hexanone                 | 10.75 | 43   | 252969   | 99.468  | ug/l   | 100      |
| 61) Tetrachloroethene          | 10.63 | 164  | 75134    | 19.276  | ug/l   | 97       |
| 62) Toluene                    | 10.15 | 91   | 302239   | 19.981  | ug/l   | 99       |
| 64) Chlorobenzene              | 11.43 | 112  | 181048   | 19.871  | ug/l   | 98       |
| 65) 1,1,1,2-Tetrachloroethane  | 11.51 | 131  | 67222    | 19.479  | ug/l   | 98       |
| 66) Ethyl Benzene              | 11.51 | 91   | 313256   | 19.653  | ug/l   | 97       |
| 67) m/p-Xylenes                | 11.62 | 106  | 236751   | 39.832  | ug/l   | 100      |
| 68) o-Xylene                   | 11.94 | 106  | 114662   | 19.621  | ug/l   | 100      |
| 69) Styrene                    | 11.96 | 104  | 185099   | 19.546  | ug/l   | 100      |
| 70) Isopropylbenzene           | 12.25 | 105  | 307237   | 19.967  | ug/l   | 99       |
| 71) 1,1,2,2-Tetrachloroethane  | 12.50 | 83   | 86898    | 20.163  | ug/l   | 98       |
| 72) 1,2,3-Trichloropropane     | 12.55 | 75   | 69126m   | 18.230  | ug/l   |          |
| 73) Bromobenzene               | 12.52 | 156  | 78085    | 19.666  | ug/l   | 100      |
| 74) n-propylbenzene            | 12.59 | 91   | 325708   | 19.359  | ug/l   | 100      |
| 75) 2-Chlorotoluene            | 12.67 | 91   | 202843   | 19.886  | ug/l   | 100      |
| 76) 1,3,5-Trimethylbenzene     | 12.73 | 105  | 259173   | 20.008  | ug/l   | 100      |
| 77) t-1,4-Dichloro-2-butene    | 12.30 | 75   | 20741    | 17.421  | ug/l   | 96       |
| 78) 4-Chlorotoluene            | 12.77 | 91   | 187749   | 19.363  | ug/l   | 100      |
| 79) tert-butylbenzene          | 12.99 | 119  | 225596   | 20.182  | ug/l   | 97       |
| 80) 1,2,4-Trimethylbenzene     | 13.04 | 105  | 249535   | 19.760  | ug/l   | 99       |
| 81) sec-Butylbenzene           | 13.17 | 105  | 284889   | 19.521  | ug/l   | 100      |
| 82) p-Isopropyltoluene         | 13.28 | 119  | 255761   | 19.513  | ug/l   | 100      |
| 83) 1,3-Dichlorobenzene        | 13.28 | 146  | 120268   | 19.238  | ug/l   | 99       |
| 84) 1,4-Dichlorobenzene        | 13.36 | 146  | 113705   | 19.236  | ug/l   | 98       |
| 85) n-Butylbenzene             | 13.61 | 91   | 192707   | 18.724  | ug/l   | 98       |
| 86) Hexachloroethane           | 13.87 | 117  | 41717    | 19.018  | ug/l   | 97       |
| 87) 1,2-Dichlorobenzene        | 13.65 | 146  | 123590   | 19.903  | ug/l   | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 14.27 | 75   | 12131    | 18.194  | ug/l   | 94       |
| 89) 1,2,4-Trichlorobenzene     | 14.90 | 180  | 52520    | 20.299  | ug/l   | 99       |
| 90) Hexachlorobutadiene        | 15.00 | 225  | 45907    | 20.113  | ug/l   | 97       |
| 91) Naphthalene                | 15.13 | 128  | 134936   | 19.967  | ug/l   | 99       |
| 92) 1,2,3-Trichlorobenzene     | 15.31 | 180  | 61487    | 18.730  | ug/l   | 99       |
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(#) = qualifier out of range (m) = manual integration (+) = signals summed

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