

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL070819\  
 Data File : VL034011.D  
 Acq On : 8 Jul 2019 14:48  
 Operator : SY/AP  
 Sample : K3591-15 0.4 PPB  
 Misc : 400ml/MSVOA L  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_L  
 ClientSampleId :  
 MDL-MDL-AIR-03-QT3-2019

Manual Integrations  
 APPROVED

MMDadoda  
 7/10/2019 8:50:00 AM

Quant Time: Jul 09 04:27:20 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA L\METHODS\VL070219AIR.M  
 Quant Title : AIR ANALYSIS BY METHOD TO-15 Instrument: MSVOA\_L Tue Jul 09  
 QLast Update : Tue Jul 02 19:31:31 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.72  | 49   | 1021500  | 10.00 | ppbv  | -0.02    |
| 33) 1,4-Difluorobenzene | 7.25  | 114  | 2958653  | 10.00 | ppbv  | -0.02    |
| 55) Chlorobenzene-d5    | 12.20 | 117  | 2744912  | 10.00 | ppbv  | 0.00     |

## System Monitoring Compounds

|                             |        |       |          |          |      |        |
|-----------------------------|--------|-------|----------|----------|------|--------|
| 68) 1-Bromo-4-Fluorobenzene | 14.53  | 95    | 2190016  | 9.35     | ppbv | 0.00   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 93.50% |

## Target Compounds

|                                |      |     |        |       |        | Ovalue |
|--------------------------------|------|-----|--------|-------|--------|--------|
| 2) Dichlorodifluoromethane     | 3.06 | 85  | 119166 | 0.565 | ppbv   | 99     |
| 3) Chlorodifluoromethane       | 2.99 | 51  | 58879  | 0.467 | ppbv   | 98     |
| 4) Chloromethane               | 3.15 | 50  | 32484  | 0.448 | ppbv   | 95     |
| 5) Vinyl Chloride              | 3.27 | 62  | 35093  | 0.430 | ppbv   | 100    |
| 6) Bromomethane                | 3.49 | 94  | 21798  | 0.453 | ppbv   | 85     |
| 7) Chloroethane                | 3.58 | 64  | 13262  | 0.455 | ppbv # | 86     |
| 8) Dichlorotetrafluoroethane   | 3.20 | 85  | 93003  | 0.453 | ppbv   | 89     |
| 9) Propene                     | 3.01 | 41  | 19414  | 0.418 | ppbv   | 95     |
| 10) Heptane                    | 8.21 | 43  | 38655m | 0.333 | ppbv   |        |
| 11) Trichlorofluoromethane     | 3.98 | 101 | 102613 | 0.433 | ppbv   | 88     |
| 12) 1,1,2-Trichlorotrifluoroet | 4.52 | 101 | 72671m | 0.433 | ppbv   |        |
| 13) Ethanol                    | 3.63 | 45  | 13380m | 0.928 | ppbv   |        |
| 14) Bromoethene                | 3.77 | 108 | 27390  | 0.437 | ppbv   | 98     |
| 15) Acetone                    | 3.89 | 43  | 86552  | 0.504 | ppbv   | 91     |
| 16) 1,3-Butadiene              | 3.34 | 39  | 24734m | 0.408 | ppbv   |        |
| 17) tert-Butyl alcohol         | 4.35 | 59  | 57365m | 0.419 | ppbv   |        |
| 18) 1,1-Dichloroethene         | 4.33 | 96  | 29954m | 0.401 | ppbv   |        |
| 19) Isopropyl Alcohol          | 4.01 | 45  | 50580m | 0.439 | ppbv   |        |
| 20) Methylene Chloride         | 4.38 | 84  | 33545  | 0.448 | ppbv   | 94     |
| 21) Allyl Chloride             | 4.45 | 41  | 40115  | 0.375 | ppbv   | 90     |
| 22) trans-1,2-Dichloroethene   | 4.93 | 96  | 30411m | 0.427 | ppbv   |        |
| 23) Vinyl Acetate              | 5.12 | 43  | 66435  | 0.388 | ppbv   | 98     |
| 24) 1,1-Dichloroethane         | 5.06 | 63  | 68750  | 0.453 | ppbv # | 96     |
| 25) Ethyl Acetate              | 5.74 | 43  | 91962  | 0.391 | ppbv # | 97     |
| 26) Hexane                     | 5.74 | 57  | 41771m | 0.389 | ppbv   |        |
| 27) Carbon Disulfide           | 4.59 | 76  | 68583  | 0.375 | ppbv # | 87     |
| 28) Methyl tert-Butyl Ether    | 5.09 | 73  | 70357  | 0.386 | ppbv   | 97     |
| 29) Chloroform                 | 5.81 | 83  | 86310  | 0.427 | ppbv   | 85     |
| 30) Cyclohexane                | 7.21 | 84  | 32727m | 0.394 | ppbv   |        |
| 31) cis-1,2-Dichloroethene     | 5.61 | 61  | 36219m | 0.349 | ppbv   |        |
| 32) 1,1,1-Trichloroethane      | 6.59 | 97  | 78427  | 0.383 | ppbv   | 95     |
| 34) 2-Butanone                 | 5.31 | 43  | 54809  | 0.350 | ppbv   | 100    |
| 35) Carbon Tetrachloride       | 7.10 | 117 | 92571  | 0.395 | ppbv   | 88     |
| 36) Benzene                    | 6.97 | 78  | 73942  | 0.319 | ppbv # | 95     |
| 37) 1,2-Dichloroethane         | 6.38 | 62  | 68526  | 0.402 | ppbv   | 99     |
| 38) Trichloroethene            | 7.92 | 130 | 34721m | 0.337 | ppbv   |        |
| 39) 1,2-Dichloropropane        | 7.70 | 63  | 29536m | 0.343 | ppbv   |        |
| 40) 1,4-Dioxane                | 7.96 | 88  | 13932m | 0.351 | ppbv   |        |
| 41) Tetrahydrofuran            | 6.14 | 42  | 20724m | 0.270 | ppbv   |        |
| 42) Bromodichloromethane       | 7.88 | 83  | 84015m | 0.367 | ppbv   |        |
| 43) Methyl Methacrylate        | 8.11 | 69  | 22107m | 0.252 | ppbv   |        |

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| Internal Standards            | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------------|-------|------|----------|-------|-------|----------|
| 44) 2,2,4-Trimethylpentane    | 7.95  | 57   | 121471m  | 0.304 | ppbv  |          |
| 45) t-1,3-Dichloropropene     | 9.37  | 75   | 29679m   | 0.258 | ppbv  |          |
| 46) cis-1,3-Dichloropropene   | 8.80  | 75   | 36875m   | 0.277 | ppbv  |          |
| 47) 1,1,2-Trichloroethane     | 9.57  | 97   | 41111m   | 0.380 | ppbv  |          |
| 48) Dibromochloromethane      | 10.41 | 129  | 63895m   | 0.309 | ppbv  |          |
| 49) Bromoform                 | 13.16 | 173  | 61358    | 0.348 | ppbv  | 97       |
| 50) 4-Methyl-2-Pentanone      | 8.85  | 43   | 62658m   | 0.270 | ppbv  |          |
| 51) 2-Hexanone                | 10.25 | 43   | 43519m   | 0.232 | ppbv  |          |
| 52) Tetrachloroethene         | 11.33 | 164  | 33432m   | 0.336 | ppbv  |          |
| 53) Toluene                   | 9.91  | 91   | 67674    | 0.255 | ppbv  | 97       |
| 54) 1,2-Dibromoethane         | 10.72 | 107  | 57790m   | 0.362 | ppbv  |          |
| 56) 1,1,1,2-Tetrachloroethane | 12.24 | 131  | 54670m   | 0.446 | ppbv  |          |
| 57) Chlorobenzene             | 12.25 | 112  | 92908m   | 0.425 | ppbv  |          |
| 58) Ethyl Benzene             | 12.83 | 91   | 94774m   | 0.287 | ppbv  |          |
| 59) m/p-Xylene                | 13.11 | 91   | 202642m  | 0.678 | ppbv  |          |
| 60) o-Xylene                  | 13.80 | 91   | 94577    | 0.316 | ppbv  | 96       |
| 61) Styrene                   | 13.64 | 104  | 48895m   | 0.247 | ppbv  |          |
| 62) Isopropylbenzene          | 14.78 | 105  | 135682   | 0.295 | ppbv  | 98       |
| 63) 1,1,2,2-Tetrachloroethane | 13.79 | 83   | 94164m   | 0.407 | ppbv  |          |
| 64) n-propylbenzene           | 15.69 | 120  | 33486m   | 0.281 | ppbv  |          |
| 65) tert-Butylbenzene         | 16.87 | 119  | 110579m  | 0.283 | ppbv  |          |
| 66) Benzyl Chloride           | 17.11 | 91   | 56661m   | 0.283 | ppbv  |          |
| 67) sec-Butylbenzene          | 17.42 | 105  | 171576m  | 0.313 | ppbv  |          |
| 69) p-Isopropyltoluene        | 17.78 | 119  | 125431   | 0.277 | ppbv  | 96       |
| 70) n-Butylbenzene            | 18.68 | 91   | 141030m  | 0.297 | ppbv  |          |
| 71) 2-Chlorotoluene           | 15.58 | 91   | 89865m   | 0.267 | ppbv  |          |
| 72) 4-Ethyltoluene            | 15.96 | 105  | 95097m   | 0.248 | ppbv  |          |
| 73) 1,3,5-Trimethylbenzene    | 16.11 | 105  | 104870m  | 0.294 | ppbv  |          |
| 74) 1,2,4-Trimethylbenzene    | 16.89 | 105  | 132019m  | 0.334 | ppbv  |          |
| 75) 1,3-Dichlorobenzene       | 17.12 | 146  | 96515    | 0.384 | ppbv  | 93       |
| 76) 1,4-Dichlorobenzene       | 17.27 | 146  | 86997m   | 0.367 | ppbv  |          |
| 77) 1,2-Dichlorobenzene       | 17.95 | 146  | 87215    | 0.375 | ppbv  | 96       |
| 78) Hexachloro-1,3-Butadiene  | 23.50 | 225  | 82053m   | 0.414 | ppbv  |          |
| 79) Naphthalene               | 22.36 | 128  | 81782m   | 0.246 | ppbv  |          |
| 80) Naphthalene, 2-methyl-    | 25.08 | 142  | 37913    | 0.313 | ppbv  | 96       |
| 81) 1,2,4-Trichlorobenzene    | 22.09 | 180  | 64811m   | 0.303 | ppbv  |          |

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

