

Data Path : Z:\VOASRV\HPCHEM1\MSVOA L\DATA\VL070819\  
 Data File : VL034014.D  
 Acq On : 8 Jul 2019 16:40  
 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 8:50:10 AM

Quant Time: Jul 09 08:41:26 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   | 5.73  | 49   | 969073   | 10.00 | ppbv  | -0.01    |
| 33) 1,4-Difluorobenzene | 7.25  | 114  | 2714373  | 10.00 | ppbv  | -0.02    |
| 55) Chlorobenzene-d5    | 12.19 | 117  | 2502331  | 10.00 | ppbv  | -0.01    |

## System Monitoring Compounds

|                             |        |       |          |          |      |        |
|-----------------------------|--------|-------|----------|----------|------|--------|
| 68) 1-Bromo-4-Fluorobenzene | 14.53  | 95    | 2095854  | 9.82     | ppbv | 0.00   |
| Spiked Amount               | 10.000 | Range | 65 - 135 | Recovery | =    | 98.20% |

## Target Compounds

|                                |      |     |        |              | Ovalue |
|--------------------------------|------|-----|--------|--------------|--------|
| 2) Dichlorodifluoromethane     | 3.06 | 85  | 114807 | 0.574 ppbv   | 93     |
| 3) Chlorodifluoromethane       | 3.00 | 51  | 53766  | 0.449 ppbv   | 100    |
| 4) Chloromethane               | 3.15 | 50  | 30416  | 0.442 ppbv # | 85     |
| 5) Vinyl Chloride              | 3.27 | 62  | 32126  | 0.415 ppbv   | 97     |
| 6) Bromomethane                | 3.49 | 94  | 21910  | 0.480 ppbv # | 77     |
| 7) Chloroethane                | 3.58 | 64  | 13441  | 0.486 ppbv   | 96     |
| 8) Dichlorotetrafluoroethane   | 3.20 | 85  | 90098  | 0.462 ppbv   | 94     |
| 9) Propene                     | 3.02 | 41  | 16734m | 0.380 ppbv   |        |
| 10) Heptane                    | 8.21 | 43  | 35528m | 0.322 ppbv   |        |
| 11) Trichlorofluoromethane     | 3.98 | 101 | 98521  | 0.438 ppbv   | 93     |
| 12) 1,1,2-Trichlorotrifluoroet | 4.53 | 101 | 66630  | 0.419 ppbv   | 93     |
| 13) Ethanol                    | 3.65 | 45  | 5579m  | 0.408 ppbv   |        |
| 14) Bromoethene                | 3.76 | 108 | 25492  | 0.429 ppbv   | 93     |
| 15) Acetone                    | 3.89 | 43  | 71944  | 0.442 ppbv   | 94     |
| 16) 1,3-Butadiene              | 3.34 | 39  | 24207  | 0.421 ppbv   | 93     |
| 17) tert-Butyl alcohol         | 4.36 | 59  | 57381m | 0.442 ppbv   |        |
| 18) 1,1-Dichloroethene         | 4.32 | 96  | 27707m | 0.391 ppbv   |        |
| 19) Isopropyl Alcohol          | 4.01 | 45  | 44922m | 0.411 ppbv   |        |
| 20) Methylene Chloride         | 4.38 | 84  | 32788m | 0.461 ppbv   |        |
| 21) Allyl Chloride             | 4.45 | 41  | 38521m | 0.379 ppbv   |        |
| 22) trans-1,2-Dichloroethene   | 4.93 | 96  | 32705m | 0.484 ppbv   |        |
| 23) Vinyl Acetate              | 5.13 | 43  | 58708  | 0.361 ppbv # | 89     |
| 24) 1,1-Dichloroethane         | 5.06 | 63  | 63622m | 0.441 ppbv   |        |
| 25) Ethyl Acetate              | 5.74 | 43  | 86863  | 0.390 ppbv   | 96     |
| 26) Hexane                     | 5.75 | 57  | 38593m | 0.378 ppbv   |        |
| 27) Carbon Disulfide           | 4.60 | 76  | 61130  | 0.353 ppbv # | 81     |
| 28) Methyl tert-Butyl Ether    | 5.09 | 73  | 62879  | 0.364 ppbv   | 91     |
| 29) Chloroform                 | 5.81 | 83  | 81976  | 0.428 ppbv   | 89     |
| 30) Cyclohexane                | 7.22 | 84  | 28096m | 0.357 ppbv   |        |
| 31) cis-1,2-Dichloroethene     | 5.61 | 61  | 33911  | 0.344 ppbv   | 94     |
| 32) 1,1,1-Trichloroethane      | 6.58 | 97  | 79334m | 0.408 ppbv   |        |
| 34) 2-Butanone                 | 5.31 | 43  | 49481m | 0.344 ppbv   |        |
| 35) Carbon Tetrachloride       | 7.09 | 117 | 88747m | 0.413 ppbv   |        |
| 36) Benzene                    | 6.96 | 78  | 67879m | 0.320 ppbv   |        |
| 37) 1,2-Dichloroethane         | 6.37 | 62  | 62184  | 0.397 ppbv   | 97     |
| 38) Trichloroethene            | 7.93 | 130 | 30718m | 0.325 ppbv   |        |
| 39) 1,2-Dichloropropane        | 7.70 | 63  | 27195m | 0.344 ppbv   |        |
| 40) 1,4-Dioxane                | 7.96 | 88  | 10271m | 0.282 ppbv   |        |
| 41) Tetrahydrofuran            | 6.14 | 42  | 18768m | 0.266 ppbv   |        |
| 42) Bromodichloromethane       | 7.87 | 83  | 82203  | 0.392 ppbv   | 98     |
| 43) Methyl Methacrylate        | 8.10 | 69  | 24984m | 0.310 ppbv   |        |

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|-------------------------------|-------|------|----------|-------|--------|----------|
| -----                         |       |      |          |       |        |          |
| 44) 2,2,4-Trimethylpentane    | 7.95  | 57   | 103898m  | 0.283 | ppbv   |          |
| 45) t-1,3-Dichloropropene     | 9.37  | 75   | 24665m   | 0.234 | ppbv   |          |
| 46) cis-1,3-Dichloropropene   | 8.79  | 75   | 28954m   | 0.237 | ppbv   |          |
| 47) 1,1,2-Trichloroethane     | 9.57  | 97   | 38063m   | 0.383 | ppbv   |          |
| 48) Dibromochloromethane      | 10.40 | 129  | 62208m   | 0.328 | ppbv   |          |
| 49) Bromoform                 | 13.16 | 173  | 58662m   | 0.362 | ppbv   |          |
| 50) 4-Methyl-2-Pentanone      | 8.85  | 43   | 58906m   | 0.276 | ppbv   |          |
| 51) 2-Hexanone                | 10.25 | 43   | 38693m   | 0.225 | ppbv   |          |
| 52) Tetrachloroethene         | 11.34 | 164  | 30348m   | 0.332 | ppbv   |          |
| 53) Toluene                   | 9.90  | 91   | 57512m   | 0.237 | ppbv   |          |
| 54) 1,2-Dibromoethane         | 10.71 | 107  | 49703m   | 0.339 | ppbv   |          |
| 56) 1,1,1,2-Tetrachloroethane | 12.24 | 131  | 51806m   | 0.463 | ppbv   |          |
| 57) Chlorobenzene             | 12.25 | 112  | 82905m   | 0.416 | ppbv   |          |
| 58) Ethyl Benzene             | 12.81 | 91   | 79530m   | 0.264 | ppbv   |          |
| 59) m/p-Xylene                | 13.10 | 91   | 165296m  | 0.607 | ppbv   |          |
| 60) o-Xylene                  | 13.80 | 91   | 80736m   | 0.296 | ppbv   |          |
| 61) Styrene                   | 13.64 | 104  | 40101m   | 0.222 | ppbv   |          |
| 62) Isopropylbenzene          | 14.78 | 105  | 117734   | 0.281 | ppbv   | 98       |
| 63) 1,1,2,2-Tetrachloroethane | 13.79 | 83   | 87894m   | 0.417 | ppbv   |          |
| 64) n-propylbenzene           | 15.69 | 120  | 31496m   | 0.290 | ppbv   |          |
| 65) tert-Butylbenzene         | 16.87 | 119  | 104695m  | 0.294 | ppbv   |          |
| 66) Benzyl Chloride           | 17.12 | 91   | 53958m   | 0.296 | ppbv   |          |
| 67) sec-Butylbenzene          | 17.42 | 105  | 161276   | 0.322 | ppbv   | 98       |
| 69) p-Isopropyltoluene        | 17.77 | 119  | 116230m  | 0.282 | ppbv   |          |
| 70) n-Butylbenzene            | 18.67 | 91   | 128697m  | 0.297 | ppbv   |          |
| 71) 2-Chlorotoluene           | 15.58 | 91   | 75615m   | 0.247 | ppbv   |          |
| 72) 4-Ethyltoluene            | 15.96 | 105  | 89477m   | 0.256 | ppbv   |          |
| 73) 1,3,5-Trimethylbenzene    | 16.12 | 105  | 92351m   | 0.284 | ppbv   |          |
| 74) 1,2,4-Trimethylbenzene    | 16.88 | 105  | 122838   | 0.341 | ppbv # | 87       |
| 75) 1,3-Dichlorobenzene       | 17.12 | 146  | 102891m  | 0.449 | ppbv   |          |
| 76) 1,4-Dichlorobenzene       | 17.26 | 146  | 80419m   | 0.373 | ppbv   |          |
| 77) 1,2-Dichlorobenzene       | 17.95 | 146  | 78744m   | 0.371 | ppbv   |          |
| 78) Hexachloro-1,3-Butadiene  | 23.51 | 225  | 78916m   | 0.437 | ppbv   |          |
| 79) Naphthalene               | 22.35 | 128  | 73014m   | 0.241 | ppbv   |          |
| 80) Naphthalene, 2-methyl-    | 25.09 | 142  | 28281    | 0.256 | ppbv   | 95       |
| 81) 1,2,4-Trichlorobenzene    | 22.08 | 180  | 63137m   | 0.324 | ppbv   |          |
| -----                         |       |      |          |       |        |          |

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

