

Data Path : Z:\VOASRV\HPCHEM1\MSVOA X\DATA\VX102119\  
 Data File : VX013154.D  
 Acq On : 21 Oct 2019 15:50  
 Operator : JC/SP  
 Sample : VSTDICV020  
 Misc : 5.0mL/MSVOA X/WATER  
 ALS Vial : 8 Sample Multiplier: 1

Instrument :  
 MSVOA\_X  
 ClientSampleId :  
 ICVVX102119

Manual Integrations  
 APPROVED

MMDadoda  
 10/22/2019 12:30:29 PM

Quant Time: Oct 22 02:09:30 2019  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA X\METHOD\624X102119W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Tue Oct 22 01:53:07 2019  
 Response via : Initial Calibration

| Internal Standards      | R.T.  | QIon | Response | Conc  | Units | Dev(Min) |
|-------------------------|-------|------|----------|-------|-------|----------|
| 1) Bromochloromethane   | 5.01  | 128  | 26058    | 30.00 | ug/l  | 0.00     |
| 28) 1,4-Difluorobenzene | 6.85  | 114  | 149889   | 30.00 | ug/l  | 0.00     |
| 57) Chlorobenzene-d5    | 10.11 | 117  | 133933   | 30.00 | ug/l  | 0.00     |

## System Monitoring Compounds

|                           |        |       |          |          |      |         |
|---------------------------|--------|-------|----------|----------|------|---------|
| 27) 1,2-Dichloroethane-d4 | 6.05   | 65    | 60698    | 29.59    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 50 - 169 | Recovery | =    | 98.63%  |
| 60) 4-Bromofluorobenzene  | 11.13  | 95    | 69028    | 29.60    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 56 - 143 | Recovery | =    | 98.67%  |
| 63) Toluene-d8            | 8.71   | 98    | 181420   | 30.46    | ug/l | 0.00    |
| Spiked Amount             | 30.000 | Range | 66 - 137 | Recovery | =    | 101.53% |

## Target Compounds

|                               |      |     |        |         | Ovalue     |
|-------------------------------|------|-----|--------|---------|------------|
| 2) Dichlorodifluoromethane    | 1.19 | 85  | 35468  | 18.958  | ug/l 98    |
| 3) Chloromethane              | 1.32 | 50  | 32738  | 20.072  | ug/l 97    |
| 4) Vinyl Chloride             | 1.40 | 62  | 32800  | 19.451  | ug/l 94    |
| 5) Bromomethane               | 1.63 | 94  | 20794  | 22.851  | ug/l 98    |
| 6) Chloroethane               | 1.72 | 64  | 20661  | 19.200  | ug/l 97    |
| 7) Trichlorofluoromethane     | 1.92 | 101 | 49981  | 18.443  | ug/l 92    |
| 8) Diethyl Ether              | 2.18 | 74  | 18479  | 19.978  | ug/l 99    |
| 9) 1,1,2-Trichlorotrifluoroet | 2.37 | 101 | 31873  | 19.256  | ug/l 96    |
| 10) 1,1-Dichloroethene        | 2.36 | 96  | 30126  | 18.845  | ug/l 96    |
| 11) Methyl Iodide             | 2.50 | 142 | 32713  | 15.889  | ug/l 99    |
| 12) Methyl Acetate            | 2.76 | 43  | 41321  | 20.017  | ug/l 99    |
| 13) Acrolein                  | 2.28 | 56  | 28186  | 91.725  | ug/l 99    |
| 14) Acrylonitrile             | 3.13 | 53  | 88195  | 102.161 | ug/l 97    |
| 15) Acetone                   | 2.43 | 58  | 29059  | 102.168 | ug/l 94    |
| 16) Carbon Disulfide          | 2.56 | 76  | 79589  | 18.644  | ug/l 96    |
| 17) Allyl chloride            | 2.72 | 41  | 49565  | 19.492  | ug/l 98    |
| 18) Methylene Chloride        | 2.84 | 84  | 35644  | 19.257  | ug/l 96    |
| 19) trans-1,2-Dichloroethene  | 3.15 | 96  | 33033  | 19.473  | ug/l 96    |
| 20) Diisopropyl ether         | 3.84 | 45  | 96387  | 19.599  | ug/l 97    |
| 21) 1,1-Dichloroethane        | 3.69 | 63  | 57549  | 19.272  | ug/l 97    |
| 22) cis-1,2-Dichloroethene    | 4.59 | 96  | 36940  | 19.097  | ug/l 97    |
| 23) tert-Butyl Alcohol        | 3.03 | 59  | 46730  | 102.742 | ug/l # 100 |
| 24) Methyl tert-Butyl Ether   | 3.18 | 73  | 106993 | 19.407  | ug/l 97    |
| 25) Chloroform                | 5.20 | 83  | 60556  | 19.298  | ug/l 98    |
| 26) Cyclohexane               | 5.56 | 56  | 50163  | 19.145  | ug/l # 99  |
| 29) 1,1-Dichloropropene       | 5.79 | 75  | 45242  | 19.429  | ug/l 75    |
| 30) 2-Butanone                | 4.66 | 43  | 124171 | 101.661 | ug/l 98    |
| 31) 2,2-Dichloropropane       | 4.57 | 77  | 51244  | 19.035  | ug/l 97    |
| 32) 1,1,1-Trichloroethane     | 5.48 | 97  | 53638  | 19.036  | ug/l 98    |
| 33) Carbon Tetrachloride      | 5.78 | 117 | 45353  | 18.727  | ug/l 94    |
| 34) Benzene                   | 6.13 | 78  | 132266 | 19.731  | ug/l 97    |
| 35) Methacrylonitrile         | 5.03 | 41  | 24476  | 19.540  | ug/l 98    |
| 36) 1,2-Dichloroethane        | 6.18 | 62  | 49755  | 19.635  | ug/l 99    |
| 37) Trichloroethene           | 7.21 | 130 | 36011  | 19.367  | ug/l 92    |
| 38) Methylcyclohexane         | 7.46 | 83  | 54696  | 19.261  | ug/l 100   |
| 39) 1,2-Dichloropropane       | 7.51 | 63  | 32907  | 20.000  | ug/l 98    |
| 40) Dibromomethane            | 7.65 | 93  | 23480  | 19.979  | ug/l 100   |

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| Internal Standards             | R.T.  | QIon | Response | Conc    | Units | Dev(Min) |
|--------------------------------|-------|------|----------|---------|-------|----------|
| 41) Bromodichloromethane       | 7.89  | 83   | 45795    | 19.325  | ug/l  | 99       |
| 42) Vinyl Acetate              | 3.80  | 43   | 425486   | 100.456 | ug/l  | 100      |
| 43) Ethyl Acetate              | 4.82  | 43   | 46769    | 20.994  | ug/l  | 99       |
| 44) Isopropyl Acetate          | 6.43  | 43   | 75092    | 20.056  | ug/l  | 98       |
| 45) 1,4-Dioxane                | 7.73  | 88   | 18922    | 399.618 | ug/l  | 96       |
| 46) Methyl methacrylate        | 7.76  | 41   | 37236    | 20.211  | ug/l  | 93       |
| 47) n-amyl Acetate             | 10.89 | 43   | 61814    | 19.586  | ug/l  | 98       |
| 48) t-1,3-Dichloropropene      | 9.04  | 75   | 50127    | 19.284  | ug/l  | 99       |
| 49) cis-1,3-Dichloropropene    | 8.43  | 75   | 55277    | 19.543  | ug/l  | 97       |
| 50) 1,1,2-Trichloroethane      | 9.21  | 97   | 34545    | 19.904  | ug/l  | 97       |
| 51) Ethyl methacrylate         | 9.17  | 69   | 53323    | 19.594  | ug/l  | 98       |
| 52) 1,3-Dichloropropane        | 9.37  | 76   | 58560    | 20.035  | ug/l  | 99       |
| 53) Dibromochloromethane       | 9.57  | 129  | 35521    | 18.973  | ug/l  | 100      |
| 54) 1,2-Dibromoethane          | 9.67  | 107  | 37377    | 20.141  | ug/l  | 99       |
| 55) 2-Chloroethyl vinyl ether  | 8.31  | 63   | 119616   | 108.203 | ug/l  | 100      |
| 56) Bromoform                  | 10.85 | 173  | 24472    | 18.425  | ug/l  | 99       |
| 58) 4-Methyl-2-Pentanone       | 8.64  | 43   | 232685   | 103.103 | ug/l  | 99       |
| 59) 2-Hexanone                 | 9.48  | 43   | 179712   | 101.607 | ug/l  | 99       |
| 61) Tetrachloroethene          | 9.33  | 164  | 35513    | 20.001  | ug/l  | 97       |
| 62) Toluene                    | 8.78  | 91   | 145117   | 20.071  | ug/l  | 99       |
| 64) Chlorobenzene              | 10.14 | 112  | 91863    | 19.816  | ug/l  | 95       |
| 65) 1,1,1,2-Tetrachloroethane  | 10.21 | 131  | 34993    | 20.151  | ug/l  | 98       |
| 66) Ethyl Benzene              | 10.25 | 91   | 162307   | 19.505  | ug/l  | 99       |
| 67) m/p-Xylenes                | 10.35 | 106  | 123401   | 39.019  | ug/l  | 100      |
| 68) o-Xylene                   | 10.70 | 106  | 59690    | 19.771  | ug/l  | 95       |
| 69) Styrene                    | 10.71 | 104  | 102097   | 19.651  | ug/l  | 99       |
| 70) Isopropylbenzene           | 11.01 | 105  | 159937   | 19.306  | ug/l  | 99       |
| 71) 1,1,2,2-Tetrachloroethane  | 11.26 | 83   | 50562    | 19.918  | ug/l  | 100      |
| 72) 1,2,3-Trichloropropane     | 11.29 | 75   | 48794m   | 22.130  | ug/l  |          |
| 73) Bromobenzene               | 11.25 | 156  | 37535    | 18.880  | ug/l  | 97       |
| 74) n-propylbenzene            | 11.35 | 91   | 177030   | 19.469  | ug/l  | 99       |
| 75) 2-Chlorotoluene            | 11.42 | 91   | 113463   | 19.942  | ug/l  | 100      |
| 76) 1,3,5-Trimethylbenzene     | 11.50 | 105  | 135777   | 19.524  | ug/l  | 99       |
| 77) t-1,4-Dichloro-2-butene    | 11.07 | 75   | 16148    | 18.863  | ug/l  | 96       |
| 78) 4-Chlorotoluene            | 11.51 | 91   | 127019   | 19.538  | ug/l  | 98       |
| 79) tert-butylbenzene          | 11.76 | 119  | 132575   | 19.798  | ug/l  | 97       |
| 80) 1,2,4-Trimethylbenzene     | 11.81 | 105  | 137887   | 19.848  | ug/l  | 100      |
| 81) sec-Butylbenzene           | 11.94 | 105  | 153135   | 19.196  | ug/l  | 100      |
| 82) p-Isopropyltoluene         | 12.06 | 119  | 139236   | 19.090  | ug/l  | 98       |
| 83) 1,3-Dichlorobenzene        | 12.02 | 146  | 69555    | 19.157  | ug/l  | 99       |
| 84) 1,4-Dichlorobenzene        | 12.09 | 146  | 67647    | 18.839  | ug/l  | 98       |
| 85) n-Butylbenzene             | 12.39 | 91   | 114002   | 18.401  | ug/l  | 98       |
| 86) Hexachloroethane           | 12.59 | 117  | 23689    | 18.608  | ug/l  | 95       |
| 87) 1,2-Dichlorobenzene        | 12.39 | 146  | 68748    | 19.520  | ug/l  | 99       |
| 88) 1,2-Dibromo-3-Chloropropan | 12.99 | 75   | 11804    | 18.871  | ug/l  | 94       |
| 89) 1,2,4-Trichlorobenzene     | 13.64 | 180  | 41574    | 18.980  | ug/l  | 98       |
| 90) Hexachlorobutadiene        | 13.78 | 225  | 20292    | 18.246  | ug/l  | 96       |
| 91) Naphthalene                | 13.83 | 128  | 142638   | 20.019  | ug/l  | 100      |
| 92) 1,2,3-Trichlorobenzene     | 14.01 | 180  | 43402    | 19.340  | ug/l  | 95       |

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

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