

Data Path : Z:\voasrv\HPCHEM1\MSVOA\_N\Data\VN032423\  
 Data File : VN077184.D  
 Acq On : 24 Mar 2023 17:51  
 Operator : JC\MD  
 Sample : VSTDC0020  
 Misc : 5.0mL/MSVOA\_N/WATER  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 VSTDC0020EC

Manual Integrations  
 APPROVED

Reviewed By : John Carlone 03/27/2023  
 Supervised By : Semsettin Yesilyurt 03/27/2023

Quant Time: Mar 24 23:33:25 2023  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_N\methods\624N032423W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Mar 24 05:55:38 2023  
 Response via : Initial Calibration

| Compound                     | R.T.           | QIon | Response   | Conc     | Units  | Dev(Min) |
|------------------------------|----------------|------|------------|----------|--------|----------|
| -----                        |                |      |            |          |        |          |
| Internal Standards           |                |      |            |          |        |          |
| 1) Bromochloromethane        | 7.825          | 128  | 43033      | 30.000   | ug/l   | 0.00     |
| 28) 1,4-Difluorobenzene      | 9.107          | 114  | 287839     | 30.000   | ug/l   | 0.00     |
| 57) Chlorobenzene-d5         | 11.866         | 117  | 307730     | 30.000   | ug/l   | 0.00     |
|                              |                |      |            |          |        |          |
| System Monitoring Compounds  |                |      |            |          |        |          |
| 27) 1,2-Dichloroethane-d4    | 8.584          | 65   | 127487     | 29.171   | ug/l   | 0.00     |
| Spiked Amount 30.000         | Range 91 - 110 |      | Recovery = | 97.233%  |        |          |
| 60) 4-Bromofluorobenzene     | 12.854         | 95   | 165201     | 29.883   | ug/l   | 0.00     |
| Spiked Amount 30.000         | Range 63 - 112 |      | Recovery = | 99.600%  |        |          |
| 63) Toluene-d8               | 10.566         | 98   | 339871     | 30.940   | ug/l   | 0.00     |
| Spiked Amount 30.000         | Range 91 - 112 |      | Recovery = | 103.133% |        |          |
|                              |                |      |            |          |        |          |
| Target Compounds             |                |      |            |          |        |          |
|                              |                |      |            |          | Qvalue |          |
| 2) Dichlorodifluoromethane   | 2.137          | 85   | 69881      | 24.662   | ug/l   | 91       |
| 3) Chloromethane             | 2.378          | 50   | 110028     | 24.401   | ug/l   | 94       |
| 4) Vinyl Chloride            | 2.525          | 62   | 139400     | 21.926   | ug/l   | 97       |
| 5) Bromomethane              | 2.972          | 94   | 119517     | 26.811   | ug/l   | 91       |
| 6) Chloroethane              | 3.137          | 64   | 127882     | 24.128   | ug/l   | 98       |
| 7) Trichlorofluoromethane    | 3.507          | 101  | 187743     | 20.514   | ug/l   | 96       |
| 8) Diethyl Ether             | 3.978          | 74   | 63510      | 19.778   | ug/l   | 94       |
| 9) 1,1,2-Trichlorotrifluo... | 4.390          | 101  | 94288      | 19.702   | ug/l   | 98       |
| 10) 1,1-Dichloroethene       | 4.354          | 96   | 86074      | 19.222   | ug/l   | 89       |
| 11) Methyl Iodide            | 4.601          | 142  | 93178      | 19.539   | ug/l   | 95       |
| 12) Methyl Acetate           | 5.043          | 43   | 193196     | 20.009   | ug/l   | 92       |
| 13) Acrolein                 | 4.196          | 56   | 122282     | 93.450   | ug/l   | 99       |
| 14) Acrylonitrile            | 5.737          | 53   | 287118     | 98.027   | ug/l   | 98       |
| 15) Acetone                  | 4.437          | 58   | 77182      | 100.779  | ug/l   | 96       |
| 16) Carbon Disulfide         | 4.725          | 76   | 237471     | 18.778   | ug/l   | 99       |
| 17) Allyl chloride           | 5.043          | 41   | 150452     | 19.104   | ug/l   | 98       |
| 18) Methylene Chloride       | 5.296          | 84   | 110669     | 20.110   | ug/l   | 97       |
| 19) trans-1,2-Dichloroethene | 5.795          | 96   | 95225      | 19.850   | ug/l   | 95       |
| 20) Diisopropyl ether        | 6.684          | 45   | 367976     | 20.626   | ug/l   | 91       |
| 21) 1,1-Dichloroethane       | 6.578          | 63   | 204028     | 20.313   | ug/l   | 98       |
| 22) cis-1,2-Dichloroethene   | 7.489          | 96   | 108860     | 19.219   | ug/l   | 94       |
| 23) tert-Butyl Alcohol       | 5.537          | 59   | 89993      | 90.519   | ug/l # | 100      |
| 24) Methyl tert-Butyl Ether  | 5.813          | 73   | 314682     | 19.794   | ug/l   | 99       |
| 25) Chloroform               | 7.972          | 83   | 197084     | 20.054   | ug/l   | 97       |
| 26) Cyclohexane              | 8.266          | 56   | 156795     | 18.508   | ug/l # | 95       |
| 29) 1,1-Dichloropropene      | 8.378          | 75   | 133885     | 19.174   | ug/l   | 99       |
| 30) 2-Butanone               | 7.489          | 43   | 405812     | 100.742  | ug/l   | 98       |
| 31) 2,2-Dichloropropane      | 7.501          | 77   | 146871     | 22.454   | ug/l # | 63       |
| 32) 1,1,1-Trichloroethane    | 8.178          | 97   | 166037     | 19.722   | ug/l   | 98       |
| 33) Carbon Tetrachloride     | 8.372          | 117  | 140669     | 19.889   | ug/l   | 97       |
| 34) Benzene                  | 8.613          | 78   | 445095     | 20.795   | ug/l   | 98       |
| 35) Methacrylonitrile        | 7.784          | 41   | 83748      | 18.940   | ug/l   | 97       |
| 36) 1,2-Dichloroethane       | 8.678          | 62   | 160031     | 20.281   | ug/l   | 99       |
| 37) Trichloroethene          | 9.360          | 130  | 94546      | 19.539   | ug/l   | 98       |
| 38) Methylcyclohexane        | 9.607          | 83   | 156482     | 18.826   | ug/l   | 97       |
| 39) 1,2-Dichloropropane      | 9.625          | 63   | 116323     | 20.301   | ug/l   | 96       |
| 40) Dibromomethane           | 9.713          | 93   | 76081      | 20.763   | ug/l   | 95       |
| 41) Bromodichloromethane     | 9.889          | 83   | 149316     | 20.012   | ug/l   | 99       |
| 42) Vinyl Acetate            | 6.613          | 43   | 1205781    | 99.864   | ug/l   | 99       |

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 Acq On : 24 Mar 2023 17:51  
 Operator : JC\MD  
 Sample : VSTDCCC020  
 Misc : 5.0mL/MSVOA\_N/WATER  
 ALS Vial : 1 Sample Multiplier: 1

Instrument :  
 MSVOA\_N  
 ClientSampleId :  
 VSTDCCC020EC

Manual Integrations  
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 Supervised By : Semsettin Yesilyurt 03/27/2023

Quant Time: Mar 24 23:33:25 2023  
 Quant Method : Z:\voasrv\HPCHEM1\MSVOA\_N\methods\624N032423W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Mar 24 05:55:38 2023  
 Response via : Initial Calibration

| Compound                      | R.T.   | QIon | Response | Conc    | Units  | Dev(Min) |
|-------------------------------|--------|------|----------|---------|--------|----------|
| 43) Ethyl Acetate             | 7.572  | 43   | 161427   | 20.059  | ug/l   | 96       |
| 44) Isopropyl Acetate         | 8.695  | 43   | 259256   | 19.963  | ug/l   | 99       |
| 45) 1,4-Dioxane               | 9.701  | 88   | 40513    | 383.654 | ug/l   | 94       |
| 46) Methyl methacrylate       | 9.683  | 41   | 127363   | 21.270  | ug/l   | 98       |
| 47) n-amyl Acetate            | 12.495 | 43   | 202482   | 18.532  | ug/l   | 95       |
| 48) t-1,3-Dichloropropene     | 10.836 | 75   | 147986   | 19.526  | ug/l   | 97       |
| 49) cis-1,3-Dichloropropene   | 10.319 | 75   | 166394   | 20.054  | ug/l   | 97       |
| 50) 1,1,2-Trichloroethane     | 11.019 | 97   | 102665   | 19.960  | ug/l   | 98       |
| 51) Ethyl methacrylate        | 10.878 | 69   | 150378   | 18.935  | ug/l   | 95       |
| 52) 1,3-Dichloropropane       | 11.166 | 76   | 189460   | 20.751  | ug/l   | 98       |
| 53) Dibromochloromethane      | 11.360 | 129  | 107945   | 20.269  | ug/l   | 97       |
| 54) 1,2-Dibromoethane         | 11.472 | 107  | 103661   | 20.480  | ug/l   | 99       |
| 55) 2-Chloroethyl vinyl ether | 10.160 | 63   | 301065   | 90.671  | ug/l   | 99       |
| 56) Bromoform                 | 12.583 | 173  | 70533    | 18.874  | ug/l   | 99       |
| 58) 4-Methyl-2-Pentanone      | 10.448 | 43   | 849357   | 106.942 | ug/l   | 99       |
| 59) 2-Hexanone                | 11.195 | 43   | 603842   | 104.273 | ug/l   | 99       |
| 61) Tetrachloroethene         | 11.107 | 164  | 80576    | 20.862  | ug/l # | 89       |
| 62) Toluene                   | 10.636 | 91   | 443806   | 20.520  | ug/l   | 100      |
| 64) Chlorobenzene             | 11.895 | 112  | 264383   | 20.662  | ug/l   | 98       |
| 65) 1,1,1,2-Tetrachloroethane | 11.966 | 131  | 98043    | 20.864  | ug/l   | 97       |
| 66) Ethyl Benzene             | 11.966 | 91   | 475129   | 20.445  | ug/l   | 99       |
| 67) m/p-Xylenes               | 12.072 | 106  | 360301   | 40.287  | ug/l   | 92       |
| 68) o-Xylene                  | 12.401 | 106  | 177844   | 20.310  | ug/l   | 97       |
| 69) Styrene                   | 12.413 | 104  | 280323   | 19.715  | ug/l   | 98       |
| 70) Isopropylbenzene          | 12.701 | 105  | 450624   | 19.846  | ug/l   | 98       |
| 71) 1,1,2,2-Tetrachloroethane | 12.936 | 83   | 159442   | 21.452  | ug/l   | 99       |
| 72) 1,2,3-Trichloropropane    | 12.995 | 75   | 140146m  | 21.303  | ug/l   |          |
| 73) Bromobenzene              | 12.983 | 156  | 106199   | 20.921  | ug/l   | 97       |
| 74) n-propylbenzene           | 13.036 | 91   | 518673   | 19.731  | ug/l   | 100      |
| 75) 2-Chlorotoluene           | 13.130 | 91   | 318441   | 20.091  | ug/l   | 99       |
| 76) 1,3,5-Trimethylbenzene    | 13.177 | 105  | 382908   | 20.316  | ug/l   | 96       |
| 77) t-1,4-Dichloro-2-butene   | 12.736 | 75   | 43042    | 20.524  | ug/l   | 93       |
| 78) 4-Chlorotoluene           | 13.224 | 91   | 295669   | 19.392  | ug/l   | 97       |
| 79) tert-butylbenzene         | 13.442 | 119  | 314754   | 19.548  | ug/l   | 94       |
| 80) 1,2,4-Trimethylbenzene    | 13.483 | 105  | 377376   | 20.176  | ug/l   | 98       |
| 81) sec-Butylbenzene          | 13.618 | 105  | 446738   | 19.215  | ug/l   | 99       |
| 82) p-Isopropyltoluene        | 13.730 | 119  | 362544   | 19.453  | ug/l   | 98       |
| 83) 1,3-Dichlorobenzene       | 13.736 | 146  | 192669   | 20.498  | ug/l   | 97       |
| 84) 1,4-Dichlorobenzene       | 13.813 | 146  | 180343   | 19.696  | ug/l   | 97       |
| 85) n-Butylbenzene            | 14.060 | 91   | 289595   | 18.384  | ug/l   | 99       |
| 86) Hexachloroethane          | 14.336 | 117  | 67696    | 19.048  | ug/l   | 94       |
| 87) 1,2-Dichlorobenzene       | 14.107 | 146  | 194304   | 20.672  | ug/l   | 98       |
| 88) 1,2-Dibromo-3-Chloropr... | 14.718 | 75   | 27779    | 19.479  | ug/l   | 95       |
| 89) 1,2,4-Trichlorobenzene    | 15.395 | 180  | 77860    | 18.569  | ug/l   | 98       |
| 90) Hexachlorobutadiene       | 15.507 | 225  | 45915    | 19.410  | ug/l   | 95       |
| 91) Naphthalene               | 15.642 | 128  | 227433   | 16.529  | ug/l   | 99       |
| 92) 1,2,3-Trichlorobenzene    | 15.842 | 180  | 70288    | 16.881  | ug/l   | 99       |

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

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Operator : JC\MD  
Sample : VSTDCCC020  
Misc : 5.0mL/MSVOA\_N/WATER  
ALS Vial : 1 Sample Multiplier: 1

Instrument :  
MSVOA\_N  
ClientSampleId :  
VSTDCCC020EC

Quant Time: Mar 24 23:33:25 2023  
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