

Data Path : Z:\voasrv\HPCHEM1\MSVOA N\Data\VN110818\  
 Data File : VN052215.D  
 Acq On : 8 Nov 2018 10:55  
 Operator : MD\SY  
 Sample : VSTDCCC020  
 Misc : 5.00mL/MSVOA N/WATER  
 ALS Vial : 4 Sample Multiplier: 28

Instrument :  
 MSVOA\_N  
 LabSampleId :  
 VSTDCCC020

Quant Time: Nov 08 11:18:02 2018  
 Quant Method : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\624N110118W.M  
 Quant Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 QLast Update : Fri Nov 02 05:39:38 2018  
 Response via : Initial Calibration

Min. RRF : 0.050 Min. Rel. Area : 20% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 150%

|      | Compound                    | AvqRF | CCRF   | %Dev   | Area% | Dev(min) |
|------|-----------------------------|-------|--------|--------|-------|----------|
| 1 I  | Bromochloromethane          | 1.000 | 1.000  | 0.0    | 107   | 0.00     |
| 2 M  | Dichlorodifluoromethane     | 2.004 | 2.252  | -12.4  | 117   | 0.00     |
| 3 M  | Chloromethane               | 2.290 | 2.377  | -3.8   | 107   | 0.00     |
| 4 M  | Vinyl Chloride              | 2.246 | 2.317  | -3.2   | 104   | 0.00     |
| 5 M  | Bromomethane                | 1.533 | 1.542  | -0.6   | 107   | 0.00     |
| 6 M  | Chloroethane                | 1.436 | 1.364  | 5.0    | 99    | 0.00     |
| 7 M  | Trichlorofluoromethane      | 3.042 | 3.243  | -6.6   | 112   | 0.00     |
| 8 T  | Diethyl Ether               | 1.027 | 1.089  | -6.0   | 110   | 0.00     |
| 9    | 1,1,2-Trichlorotrifluoroeth | 1.778 | 1.972  | -10.9  | 119   | 0.00     |
| 10 M | 1,1-Dichloroethene          | 1.659 | 1.735  | -4.6   | 114   | 0.00     |
| 11   | Methyl Iodide               | 2.399 | 2.505  | -4.4   | 118   | 0.00     |
| 12   | Methyl Acetate              | 1.396 | 1.531  | -9.7   | 116   | 0.00     |
| 13 M | Acrolein                    | 0.148 | 0.129  | 12.8   | 95    | 0.00     |
| 14 M | Acrylonitrile               | 0.619 | 0.668  | -7.9   | 112   | 0.00     |
| 15 M | Acetone                     | 0.146 | 0.176  | -20.5  | 122   | 0.00     |
| 16 M | Carbon Disulfide            | 4.899 | 4.830  | 1.4    | 108   | 0.00     |
| 17   | Allyl chloride              | 2.817 | 3.017  | -7.1   | 115   | 0.00     |
| 18 M | Methylene Chloride          | 2.048 | 2.041  | 0.3    | 107   | 0.00     |
| 19 M | trans-1,2-Dichloroethene    | 1.818 | 1.880  | -3.4   | 110   | 0.00     |
| 20 T | Diisopropyl ether           | 6.121 | 6.571  | -7.4   | 113   | 0.00     |
| 21 M | 1,1-Dichloroethane          | 3.577 | 3.617  | -1.1   | 105   | 0.00     |
| 22 M | cis-1,2-Dichloroethene      | 2.123 | 2.235  | -5.3   | 111   | 0.00     |
| 23 M | tert-Butyl Alcohol          | 0.096 | 0.116  | -20.8  | 108   | 0.00     |
| 24 M | Methyl tert-Butyl Ether     | 4.703 | 4.945  | -5.1   | 109   | 0.00     |
| 25 M | Chloroform                  | 3.592 | 3.720  | -3.6   | 108   | 0.00     |
| 26   | Cyclohexane                 | 3.207 | 3.378  | -5.3   | 114   | 0.00     |
| 27 s | 1,2-Dichloroethane-d4       | 2.227 | 2.199  | 1.3    | 100   | 0.00     |
| 28 I | 1,4-Difluorobenzene         | 1.000 | 1.000  | 0.0    | 109   | 0.00     |
| 29   | 1,1-Dichloropropene         | 0.476 | 0.486  | -2.1   | 108   | 0.00     |
| 30 M | 2-Butanone                  | 0.127 | 0.143  | -12.6  | 115   | 0.00     |
| 31   | 2,2-Dichloropropane         | 0.491 | 0.487  | 0.8    | 107   | 0.00     |
| 32 M | 1,1,1-Trichloroethane       | 0.533 | 0.539  | -1.1   | 111   | 0.00     |
| 33 M | Carbon Tetrachloride        | 0.474 | 0.479  | -1.1   | 112   | 0.00     |
| 34 M | Benzene                     | 1.395 | 1.428  | -2.4   | 110   | 0.00     |
| 35   | Methacrylonitrile           | 0.174 | 0.256  | -47.1# | 146   | 0.00     |
| 36 M | 1,2-Dichloroethane          | 0.466 | 0.474  | -1.7   | 110   | 0.00     |
| 37 M | Trichloroethene             | 0.349 | 0.365  | -4.6   | 118   | 0.00     |
| 38   | Methylcyclohexane           | 0.581 | 0.591  | -1.7   | 111   | 0.00     |
| 39 M | 1,2-Dichloropropane         | 0.371 | 0.387  | -4.3   | 108   | 0.00     |
| 40   | Dibromomethane              | 0.229 | 0.236  | -3.1   | 110   | 0.00     |
| 41 M | Bromodichloromethane        | 0.468 | 0.461  | 1.5    | 107   | 0.00     |
| 42 M | Vinyl Acetate               | 0.743 | 0.774  | -4.2   | 110   | 0.00     |
| 43   | Ethyl Acetate               | 0.637 | 0.716  | -12.4  | 115   | 0.00     |
| 44   | Isopropyl Acetate           | 0.528 | 0.563  | -6.6   | 114   | 0.00     |
| 45 T | 1,4-Dioxane                 | 0.002 | 0.003# | -50.0# | 115   | 0.00     |

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Min. RRF : 0.050 Min. Rel. Area : 20% Max. R.T. Dev 0.50min  
 Max. RRF Dev : 30% Max. Rel. Area : 150%

|      | Compound                    | AvqRF | CCRF  | %Dev  | Area% | Dev(min) |
|------|-----------------------------|-------|-------|-------|-------|----------|
| 46   | Methyl methacrylate         | 0.263 | 0.286 | -8.7  | 112   | 0.00     |
| 47   | n-amyl Acetate              | 0.478 | 0.497 | -4.0  | 114   | 0.00     |
| 48 M | t-1,3-Dichloropropene       | 0.465 | 0.471 | -1.3  | 111   | 0.00     |
| 49 T | cis-1,3-Dichloropropene     | 0.537 | 0.542 | -0.9  | 108   | 0.00     |
| 50 M | 1,1,2-Trichloroethane       | 0.303 | 0.316 | -4.3  | 113   | 0.00     |
| 51   | Ethyl methacrylate          | 0.391 | 0.405 | -3.6  | 112   | 0.00     |
| 52   | 1,3-Dichloropropane         | 0.527 | 0.541 | -2.7  | 110   | 0.00     |
| 53 M | Dibromochloromethane        | 0.327 | 0.331 | -1.2  | 113   | 0.00     |
| 54 M | 1,2-Dibromoethane           | 0.307 | 0.311 | -1.3  | 113   | 0.00     |
| 55 M | 2-Chloroethyl vinyl ether   | 0.214 | 0.220 | -2.8  | 107   | 0.00     |
| 56 M | Bromoform                   | 0.189 | 0.196 | -3.7  | 122   | 0.00     |
| 57 I | Chlorobenzene-d5            | 1.000 | 1.000 | 0.0   | 109   | 0.00     |
| 58 M | 4-Methyl-2-Pentanone        | 0.321 | 0.357 | -11.2 | 116   | 0.00     |
| 59 M | 2-Hexanone                  | 0.221 | 0.248 | -12.2 | 117   | 0.00     |
| 60 S | 4-Bromofluorobenzene        | 0.480 | 0.454 | 5.4   | 102   | 0.00     |
| 61 M | Tetrachloroethene           | 0.326 | 0.367 | -12.6 | 127   | 0.00     |
| 62 M | Toluene                     | 1.684 | 1.712 | -1.7  | 110   | 0.00     |
| 63 S | Toluene-d8                  | 1.411 | 1.395 | 1.1   | 106   | 0.00     |
| 64 M | Chlorobenzene               | 1.067 | 1.080 | -1.2  | 113   | 0.00     |
| 65   | 1,1,1,2-Tetrachloroethane   | 0.363 | 0.388 | -6.9  | 119   | 0.00     |
| 66 M | Ethyl Benzene               | 1.819 | 1.858 | -2.1  | 114   | 0.00     |
| 67 M | m/p-Xylenes                 | 0.700 | 0.727 | -3.9  | 116   | 0.00     |
| 68 M | o-Xylene                    | 0.668 | 0.693 | -3.7  | 115   | 0.00     |
| 69 M | Styrene                     | 1.076 | 1.110 | -3.2  | 112   | 0.00     |
| 70   | Isopropylbenzene            | 1.792 | 1.841 | -2.7  | 115   | 0.00     |
| 71 M | 1,1,2,2-Tetrachloroethane   | 0.394 | 0.423 | -7.4  | 117   | 0.00     |
| 72   | 1,2,3-Trichloropropane      | 0.347 | 0.324 | 6.6   | 99    | 0.00     |
| 73   | Bromobenzene                | 0.397 | 0.427 | -7.6  | 124   | 0.00     |
| 74   | n-propylbenzene             | 2.087 | 2.117 | -1.4  | 113   | 0.00     |
| 75   | 2-Chlorotoluene             | 1.203 | 1.209 | -0.5  | 111   | 0.00     |
| 76   | 1,3,5-Trimethylbenzene      | 1.437 | 1.489 | -3.6  | 115   | 0.00     |
| 77   | t-1,4-Dichloro-2-butene     | 0.108 | 0.102 | 5.6   | 116   | 0.00     |
| 78   | 4-Chlorotoluene             | 1.212 | 1.230 | -1.5  | 113   | 0.00     |
| 79   | tert-butylbenzene           | 1.252 | 1.290 | -3.0  | 113   | 0.00     |
| 80   | 1,2,4-Trimethylbenzene      | 1.432 | 1.515 | -5.8  | 116   | 0.00     |
| 81   | sec-Butylbenzene            | 1.723 | 1.813 | -5.2  | 117   | 0.00     |
| 82   | p-Isopropyltoluene          | 1.456 | 1.545 | -6.1  | 120   | 0.00     |
| 83 M | 1,3-Dichlorobenzene         | 0.703 | 0.747 | -6.3  | 122   | 0.00     |
| 84 M | 1,4-Dichlorobenzene         | 0.695 | 0.737 | -6.0  | 124   | 0.00     |
| 85   | n-Butylbenzene              | 1.260 | 1.289 | -2.3  | 117   | 0.00     |
| 86 T | Hexachloroethane            | 0.246 | 0.255 | -3.7  | 119   | 0.00     |
| 87 M | 1,2-Dichlorobenzene         | 0.667 | 0.732 | -9.7  | 125   | 0.00     |
| 88   | 1,2-Dibromo-3-Chloropropane | 0.054 | 0.060 | -11.1 | 116   | 0.00     |
| 89   | 1,2,4-Trichlorobenzene      | 0.271 | 0.305 | -12.5 | 131   | 0.00     |
| 90   | Hexachlorobutadiene         | 0.148 | 0.183 | -23.6 | 141   | 0.00     |

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|      | Compound               | AvgRF | CCRF  | %Dev  | Area% | Dev(min) |
|------|------------------------|-------|-------|-------|-------|----------|
| 91 M | Naphthalene            | 0.625 | 0.741 | -18.6 | 135   | 0.00     |
| 92   | 1,2,3-Trichlorobenzene | 0.236 | 0.289 | -22.5 | 145   | 0.00     |

(#) = Out of Range

SPCC's out = 0 CCC's out = 0