

Method Path : Z:\VOASRV\HPCHEM1\MSVOA\_N\METHODS\  
 Method File : 624N122818W.M  
 Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 Last Update : Fri Dec 28 10:33:50 2018  
 Response Via : Initial Calibration

## Calibration Files

5 =VN053211.D 20 =VN053212.D 50 =VN053213.D 100 =VN053214.D 150 =VN053215.D

| Compound       |                     | 5     | 20    | 50    | 100   | 150   | Avg    | %RSD |
|----------------|---------------------|-------|-------|-------|-------|-------|--------|------|
| -----ISTD----- |                     |       |       |       |       |       |        |      |
| 1) I           | Bromochloromethane  |       |       |       |       |       |        |      |
| 2) M           | Dichlorodifluoro... | 1.918 | 2.033 | 2.027 | 2.032 | 1.983 | 1.999  | 2.48 |
| 3) M           | Chloromethane       | 2.439 | 2.330 | 2.293 | 2.333 | 2.334 | 2.346  | 2.34 |
| 4) M           | Vinyl Chloride      | 2.387 | 2.317 | 2.308 | 2.292 | 2.239 | 2.309  | 2.32 |
| 5) M           | Bromomethane        | 1.616 | 1.451 | 1.445 | 1.486 | 1.445 | 1.488  | 4.91 |
| 6) M           | Chloroethane        | 1.420 | 1.328 | 1.316 | 1.313 | 1.271 | 1.330  | 4.12 |
| 7) M           | Trichlorofluorom... | 3.012 | 2.820 | 2.822 | 2.827 | 2.773 | 2.851  | 3.26 |
| 8) T           | Diethyl Ether       | 1.096 | 1.033 | 1.061 | 1.066 | 1.040 | 1.059  | 2.36 |
| 9)             | 1,1,2-Trichlorot... | 1.908 | 1.777 | 1.768 | 1.769 | 1.734 | 1.791  | 3.76 |
| 10) M          | 1,1-Dichloroethene  | 1.849 | 1.719 | 1.717 | 1.748 | 1.707 | 1.748  | 3.34 |
| 11)            | Methyl Iodide       | 2.365 | 2.509 | 2.556 | 2.697 | 2.673 | 2.560  | 5.24 |
| 12)            | Methyl Acetate      | 1.506 | 1.272 | 1.308 | 1.357 | 1.369 | 1.362  | 6.55 |
| 13) M          | Acrolein            | 0.159 | 0.156 | 0.165 | 0.165 | 0.168 | 0.163  | 3.11 |
| 14) M          | Acrylonitrile       | 0.607 | 0.605 | 0.610 | 0.618 | 0.607 | 0.610  | 0.83 |
| 15) M          | Acetone             | 0.129 | 0.131 | 0.127 | 0.131 | 0.129 | 0.130  | 1.28 |
| 16) M          | Carbon Disulfide    | 5.536 | 5.220 | 5.321 | 5.428 | 5.383 | 5.377  | 2.20 |
| 17)            | Allyl chloride      | 2.748 | 2.806 | 2.703 | 2.771 | 2.722 | 2.750  | 1.48 |
| 18) M          | Methylene Chloride  | 2.244 | 1.967 | 1.942 | 1.949 | 1.900 | 2.001  | 6.90 |
| 19) M          | trans-1,2-Dichlo... | 1.964 | 1.820 | 1.818 | 1.833 | 1.802 | 1.847  | 3.57 |
| 20) T          | Diisopropyl ether   | 6.017 | 5.931 | 5.907 | 5.872 | 5.719 | 5.889  | 1.86 |
| 21) M          | 1,1-Dichloroethane  | 3.595 | 3.388 | 3.398 | 3.410 | 3.353 | 3.429  | 2.78 |
| 22) M          | cis-1,2-Dichloro... | 2.139 | 2.036 | 2.086 | 2.081 | 2.062 | 2.081  | 1.83 |
| 23) M          | tert-Butyl Alcohol  | 0.101 | 0.098 | 0.101 | 0.108 | 0.106 | 0.103  | 4.10 |
| 24) M          | Methyl tert-Buty... | 4.598 | 4.516 | 4.547 | 4.599 | 4.531 | 4.558  | 0.84 |
| 25) M          | Chloroform          | 3.460 | 3.279 | 3.257 | 3.278 | 3.205 | 3.296  | 2.92 |
| 26)            | Cyclohexane         | 3.276 | 3.121 | 3.201 | 3.224 | 3.169 | 3.198  | 1.82 |
| 27) s          | 1,2-Dichloroetha... | 1.917 | 1.932 | 1.919 | 1.884 | 1.877 | 1.906  | 1.27 |
| -----ISTD----- |                     |       |       |       |       |       |        |      |
| 28) I          | 1,4-Difluorobenzene |       |       |       |       |       |        |      |
| 29)            | 1,1-Dichloropropene | 0.473 | 0.439 | 0.446 | 0.460 | 0.453 | 0.454  | 2.84 |
| 30) M          | 2-Butanone          | 0.108 | 0.113 | 0.114 | 0.117 | 0.115 | 0.113  | 2.78 |
| 31)            | 2,2-Dichloropropane | 0.449 | 0.427 | 0.433 | 0.448 | 0.443 | 0.440  | 2.20 |
| 32) M          | 1,1,1-Trichloroe... | 0.488 | 0.464 | 0.469 | 0.482 | 0.479 | 0.476  | 2.03 |
| 33) M          | Carbon Tetrachlo... | 0.415 | 0.404 | 0.411 | 0.429 | 0.425 | 0.417  | 2.41 |
| 34) M          | Benzene             | 1.439 | 1.347 | 1.340 | 1.361 | 1.341 | 1.366  | 3.05 |
| 35)            | Methacrylonitrile   | 0.148 | 0.147 | 0.149 | 0.144 | 0.143 | 0.146  | 1.85 |
| 36) M          | 1,2-Dichloroethane  | 0.419 | 0.396 | 0.389 | 0.394 | 0.384 | 0.396  | 3.41 |
| 37) M          | Trichloroethene     | 0.387 | 0.362 | 0.364 | 0.372 | 0.365 | 0.370  | 2.82 |
| 38)            | Methylcyclohexane   | 0.550 | 0.509 | 0.526 | 0.538 | 0.535 | 0.532  | 2.90 |
| 39) M          | 1,2-Dichloropropane | 0.370 | 0.349 | 0.353 | 0.357 | 0.354 | 0.357  | 2.23 |
| 40)            | Dibromomethane      | 0.213 | 0.197 | 0.197 | 0.203 | 0.198 | 0.202  | 3.46 |
| 41) M          | Bromodichloromet... | 0.453 | 0.418 | 0.425 | 0.438 | 0.431 | 0.433  | 3.07 |
| 42) M          | Vinyl Acetate       | 0.596 | 0.613 | 0.612 | 0.641 | 0.631 | 0.619  | 2.86 |
| 43)            | Ethyl Acetate       | 0.237 | 0.257 | 0.254 | 0.259 | 0.259 | 0.253  | 3.73 |
| 44)            | Isopropyl Acetate   | 0.473 | 0.453 | 0.466 | 0.486 | 0.481 | 0.472  | 2.73 |
| 45) T          | 1,4-Dioxane         | 0.003 | 0.003 | 0.003 | 0.003 | 0.003 | 0.003# | 3.97 |
| 46)            | Methyl methacrylate | 0.228 | 0.230 | 0.239 | 0.247 | 0.247 | 0.238  | 3.79 |
| 47)            | n-amyl Acetate      | 0.390 | 0.388 | 0.411 | 0.441 | 0.441 | 0.414  | 6.29 |
| 48) M          | t-1,3-Dichloropr... | 0.422 | 0.423 | 0.438 | 0.463 | 0.465 | 0.442  | 4.74 |
| 49) T          | cis-1,3-Dichloro... | 0.523 | 0.501 | 0.515 | 0.535 | 0.528 | 0.521  | 2.56 |
| 50) M          | 1,1,2-Trichloroe... | 0.303 | 0.285 | 0.284 | 0.289 | 0.285 | 0.289  | 2.82 |
| 51)            | Ethyl methacrylate  | 0.357 | 0.359 | 0.377 | 0.396 | 0.395 | 0.377  | 5.02 |
| 52)            | 1,3-Dichloropropane | 0.517 | 0.486 | 0.491 | 0.504 | 0.494 | 0.498  | 2.45 |
| 53) M          | Dibromochloromet... | 0.325 | 0.309 | 0.322 | 0.335 | 0.333 | 0.325  | 3.21 |
| 54) M          | 1,2-Dibromoethane   | 0.294 | 0.286 | 0.286 | 0.296 | 0.296 | 0.292  | 1.88 |
| 55) M          | 2-Chloroethyl vi... | 0.208 | 0.213 | 0.215 | 0.224 | 0.222 | 0.216  | 3.06 |
| 56) M          | Bromoform           | 0.214 | 0.211 | 0.216 | 0.232 | 0.238 | 0.222  | 5.49 |

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|       |                     | -----ISTD----- |       |       |       |       |       |       |
|-------|---------------------|----------------|-------|-------|-------|-------|-------|-------|
| 57) I | Chlorobenzene-d5    |                |       |       |       |       |       |       |
| 58) M | 4-Methyl-2-Penta... | 0.278          | 0.291 | 0.290 | 0.291 | 0.280 | 0.286 | 2.24  |
| 59) M | 2-Hexanone          | 0.192          | 0.201 | 0.199 | 0.201 | 0.194 | 0.197 | 2.00  |
| 60) S | 4-Bromofluoroben... | 0.451          | 0.454 | 0.454 | 0.466 | 0.470 | 0.459 | 1.85  |
| 61) M | Tetrachloroethene   | 0.478          | 0.444 | 0.451 | 0.432 | 0.412 | 0.443 | 5.55  |
| 62) M | Toluene             | 1.764          | 1.626 | 1.628 | 1.631 | 1.576 | 1.645 | 4.27  |
| 63) S | Toluene-d8          | 1.373          | 1.373 | 1.355 | 1.350 | 1.308 | 1.352 | 1.98  |
| 64) M | Chlorobenzene       | 1.091          | 1.010 | 1.014 | 1.037 | 1.011 | 1.032 | 3.34  |
| 65) M | 1,1,1,2-Tetrachl... | 0.374          | 0.355 | 0.358 | 0.365 | 0.359 | 0.362 | 2.10  |
| 66) M | Ethyl Benzene       | 1.837          | 1.750 | 1.765 | 1.806 | 1.764 | 1.784 | 2.01  |
| 67) M | m/p-Xylenes         | 0.705          | 0.666 | 0.660 | 0.678 | 0.666 | 0.675 | 2.68  |
| 68) M | o-Xylene            | 0.673          | 0.646 | 0.641 | 0.660 | 0.650 | 0.654 | 1.91  |
| 69) M | Styrene             | 1.057          | 1.048 | 1.049 | 1.099 | 1.084 | 1.067 | 2.14  |
| 70) M | Isopropylbenzene    | 1.779          | 1.694 | 1.692 | 1.731 | 1.707 | 1.720 | 2.09  |
| 71) M | 1,1,2,2-Tetrachl... | 0.376          | 0.357 | 0.350 | 0.370 | 0.358 | 0.362 | 2.88  |
| 72) M | 1,2,3-Trichlorop... | 0.308          | 0.326 | 0.290 | 0.331 | 0.331 | 0.317 | 5.73  |
| 73) M | Bromobenzene        | 0.449          | 0.439 | 0.427 | 0.452 | 0.444 | 0.442 | 2.28  |
| 74) M | n-propylbenzene     | 1.977          | 1.906 | 1.890 | 1.992 | 1.973 | 1.948 | 2.37  |
| 75) M | 2-Chlorotoluene     | 1.189          | 1.147 | 1.107 | 1.172 | 1.151 | 1.153 | 2.67  |
| 76) M | 1,3,5-Trimethylb... | 1.398          | 1.352 | 1.305 | 1.397 | 1.371 | 1.365 | 2.82  |
| 77) M | t-1,4-Dichloro-2... | 0.100          | 0.105 | 0.108 | 0.121 | 0.123 | 0.111 | 9.03  |
| 78) M | 4-Chlorotoluene     | 1.205          | 1.153 | 1.118 | 1.205 | 1.189 | 1.174 | 3.23  |
| 79) M | tert-butylbenzene   | 1.245          | 1.172 | 1.139 | 1.209 | 1.186 | 1.190 | 3.32  |
| 80) M | 1,2,4-Trimethylb... | 1.393          | 1.356 | 1.305 | 1.414 | 1.371 | 1.368 | 3.03  |
| 81) M | sec-Butylbenzene    | 1.650          | 1.536 | 1.496 | 1.620 | 1.577 | 1.576 | 3.94  |
| 82) M | p-Isopropyltoluene  | 1.375          | 1.340 | 1.289 | 1.434 | 1.371 | 1.362 | 3.87  |
| 83) M | 1,3-Dichlorobenzene | 0.785          | 0.737 | 0.706 | 0.792 | 0.745 | 0.753 | 4.77  |
| 84) M | 1,4-Dichlorobenzene | 0.748          | 0.719 | 0.689 | 0.783 | 0.731 | 0.734 | 4.77  |
| 85) M | n-Butylbenzene      | 1.084          | 1.070 | 1.042 | 1.207 | 1.136 | 1.108 | 5.87  |
| 86) T | Hexachloroethane    | 0.207          | 0.207 | 0.206 | 0.236 | 0.231 | 0.217 | 6.83  |
| 87) M | 1,2-Dichlorobenzene | 0.739          | 0.708 | 0.647 | 0.737 | 0.667 | 0.700 | 5.93  |
| 88) M | 1,2-Dibromo-3-Ch... | 0.053          | 0.052 | 0.046 | 0.055 | 0.052 | 0.052 | 6.30  |
| 89) M | 1,2,4-Trichlorob... | 0.301          | 0.318 | 0.317 | 0.379 | 0.383 | 0.340 | 11.27 |
| 90) M | Hexachlorobutadiene | 0.235          | 0.215 | 0.186 | 0.204 | 0.189 | 0.206 | 9.77  |
| 91) M | Naphthalene         | 0.569          | 0.664 | 0.685 | 0.843 | 0.841 | 0.721 | 16.53 |
| 92) M | 1,2,3-Trichlorob... | 0.261          | 0.284 | 0.288 | 0.342 | 0.341 | 0.303 | 12.02 |

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(#) = Out of Range