

Method Path : Z:\VOASRV\HPCHEM1\MSVOA N\METHODS\  
 Method File : 624N102320W.M  
 Title : METHOD 624 VOLATILE ORGANIC ANALYSIS  
 Last Update : Fri Oct 23 15:14:21 2020  
 Response Via : Initial Calibration

## Calibration Files

5 =VN064279.D 20 =VN064285.D 50 =VN064281.D  
 100 =VN064282.D 150 =VN064283.D

|       | Compound            | 5              | 20    | 50    | 100   | 150   | Avg    | %RSD  |
|-------|---------------------|----------------|-------|-------|-------|-------|--------|-------|
| ----- |                     |                |       |       |       |       |        |       |
| 1) I  | Bromochloromethane  | -----ISTD----- |       |       |       |       |        |       |
| 2) M  | Dichlorodifluoromet | 1.527          | 2.249 | 2.035 | 2.042 | 1.905 | 1.952  | 13.71 |
| 3) M  | Chloromethane       | 1.816          | 2.261 | 2.100 | 2.113 | 2.016 | 2.061  | 7.92  |
| 4) M  | Vinyl Chloride      | 1.924          | 2.196 | 2.118 | 2.104 | 2.011 | 2.071  | 5.07  |
| 5) M  | Bromomethane        | 1.474          | 1.467 | 1.315 | 1.283 | 1.257 | 1.359  | 7.61  |
| 6) M  | Chloroethane        | 1.178          | 1.294 | 1.205 | 1.231 | 1.164 | 1.214  | 4.23  |
| 7) M  | Trichlorofluorometh | 3.455          | 3.730 | 3.521 | 3.445 | 3.362 | 3.502  | 3.97  |
| 8) T  | Diethyl Ether       | 1.194          | 1.211 | 1.128 | 1.142 | 1.095 | 1.154  | 4.15  |
| 9)    | 1,1,2-Trichlorotrif | 1.716          | 1.896 | 1.750 | 1.722 | 1.646 | 1.746  | 5.27  |
| 10) M | 1,1-Dichloroethene  | 1.602          | 1.806 | 1.673 | 1.672 | 1.618 | 1.674  | 4.79  |
| 11)   | Methyl Iodide       | 2.093          | 2.405 | 2.513 | 2.522 | 2.460 | 2.399  | 7.38  |
| 12)   | Methyl Acetate      | 1.909          | 2.052 | 1.929 | 1.956 | 1.942 | 1.958  | 2.84  |
| 13) M | Acrolein            | 0.186          | 0.144 | 0.149 | 0.166 | 0.158 | 0.161  | 10.30 |
| 14) M | Acrylonitrile       | 0.705          | 0.776 | 0.777 | 0.771 | 0.760 | 0.758  | 3.97  |
| 15) M | Acetone             | 0.258          | 0.260 | 0.247 | 0.231 | 0.217 | 0.243  | 7.59  |
| 16) M | Carbon Disulfide    | 4.685          | 5.062 | 4.843 | 4.923 | 4.737 | 4.850  | 3.10  |
| 17)   | Allyl chloride      | 3.121          | 3.230 | 3.171 | 3.193 | 3.331 | 3.209  | 2.45  |
| 18) M | Methylene Chloride  | 2.049          | 1.990 | 1.914 | 1.944 | 1.889 | 1.957  | 3.26  |
| 19) M | trans-1,2-Dichloroe | 1.965          | 2.003 | 1.842 | 1.884 | 1.820 | 1.903  | 4.15  |
| 20) T | Diisopropyl ether   | 5.729          | 6.479 | 6.170 | 6.239 | 5.960 | 6.115  | 4.66  |
| 21) M | 1,1-Dichloroethane  | 3.425          | 3.861 | 3.704 | 3.708 | 3.538 | 3.647  | 4.63  |
| 22) M | cis-1,2-Dichloroeth | 2.147          | 2.278 | 2.209 | 2.190 | 2.092 | 2.183  | 3.18  |
| 23) M | tert-Butyl Alcohol  | 0.351          | 0.364 | 0.355 | 0.347 | 0.340 | 0.351  | 2.61  |
| 24) M | Methyl tert-Butyl E | 5.877          | 6.034 | 5.802 | 5.790 | 5.568 | 5.814  | 2.90  |
| 25) M | Chloroform          | 4.089          | 4.100 | 3.936 | 3.894 | 3.719 | 3.947  | 3.98  |
| 26)   | Cyclohexane         | 2.757          | 2.999 | 2.822 | 2.831 | 2.733 | 2.828  | 3.68  |
| 27) s | 1,2-Dichloroethane- | 2.754          | 2.720 | 2.616 | 2.561 | 2.443 | 2.619  | 4.78  |
| ----- |                     |                |       |       |       |       |        |       |
| 28) I | 1,4-Difluorobenzene | -----ISTD----- |       |       |       |       |        |       |
| 29)   | 1,1-Dichloropropene | 0.492          | 0.535 | 0.525 | 0.537 | 0.504 | 0.519  | 3.83  |
| 30) M | 2-Butanone          | 0.219          | 0.235 | 0.231 | 0.234 | 0.220 | 0.228  | 3.42  |
| 31)   | 2,2-Dichloropropane | 0.648          | 0.679 | 0.660 | 0.651 | 0.607 | 0.649  | 4.06  |
| 32) M | 1,1,1-Trichloroetha | 0.652          | 0.679 | 0.677 | 0.669 | 0.636 | 0.663  | 2.76  |
| 33) M | Carbon Tetrachlorid | 0.555          | 0.611 | 0.607 | 0.617 | 0.577 | 0.594  | 4.44  |
| 34) M | Benzene             | 1.359          | 1.443 | 1.427 | 1.463 | 1.395 | 1.417  | 2.89  |
| 35)   | Methacrylonitrile   | 0.225          | 0.239 | 0.241 | 0.238 | 0.205 | 0.230  | 6.52  |
| 36) M | 1,2-Dichloroethane  | 0.613          | 0.615 | 0.604 | 0.620 | 0.570 | 0.604  | 3.31  |
| 37) M | Trichloroethene     | 0.379          | 0.404 | 0.385 | 0.403 | 0.380 | 0.390  | 3.15  |
| 38)   | Methylcyclohexane   | 0.468          | 0.483 | 0.468 | 0.487 | 0.461 | 0.473  | 2.32  |
| 39) M | 1,2-Dichloropropane | 0.361          | 0.386 | 0.382 | 0.393 | 0.373 | 0.379  | 3.29  |
| 40)   | Dibromomethane      | 0.257          | 0.278 | 0.263 | 0.272 | 0.255 | 0.265  | 3.76  |
| 41) M | Bromodichloromethan | 0.544          | 0.602 | 0.576 | 0.587 | 0.566 | 0.575  | 3.82  |
| 42) M | Vinyl Acetate       | 0.931          | 1.024 | 1.020 | 1.054 | 0.994 | 1.005  | 4.63  |
| 43)   | Ethyl Acetate       | 0.476          | 0.481 | 0.478 | 0.507 | 0.468 | 0.482  | 3.03  |
| 44)   | Isopropyl Acetate   | 0.802          | 0.900 | 0.881 | 0.898 | 0.843 | 0.865  | 4.85  |
| 45) T | 1,4-Dioxane         | 0.005          | 0.005 | 0.005 | 0.006 | 0.005 | 0.005# | 3.72  |
| 46)   | Methyl methacrylate | 0.351          | 0.432 | 0.442 | 0.444 | 0.423 | 0.418  | 9.22  |
| 47)   | n-amyl Acetate      | 0.631          | 0.731 | 0.783 | 0.805 | 0.782 | 0.746  | 9.39  |
| 48) M | t-1,3-Dichloroprope | 0.589          | 0.664 | 0.642 | 0.672 | 0.641 | 0.642  | 5.06  |
| 49) T | cis-1,3-Dichloropro | 0.646          | 0.674 | 0.668 | 0.690 | 0.655 | 0.667  | 2.57  |
| 50) M | 1,1,2-Trichloroetha | 0.334          | 0.354 | 0.353 | 0.359 | 0.345 | 0.349  | 2.82  |
| 51)   | Ethyl methacrylate  | 0.482          | 0.531 | 0.548 | 0.575 | 0.548 | 0.537  | 6.40  |
| 52)   | 1,3-Dichloropropane | 0.592          | 0.636 | 0.623 | 0.633 | 0.604 | 0.617  | 3.10  |

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|       | Compound             | 5              | 20    | 50    | 100   | 150   | Avg   | %RSD  |
|-------|----------------------|----------------|-------|-------|-------|-------|-------|-------|
| 53) M | Dibromochloromethan  | 0.399          | 0.440 | 0.444 | 0.457 | 0.442 | 0.436 | 5.03  |
| 54) M | 1,2-Dibromoethane    | 0.351          | 0.374 | 0.381 | 0.390 | 0.369 | 0.373 | 3.92  |
| 55) M | 2-Chloroethyl vinyl  | 0.281          | 0.176 | 0.272 | 0.297 | 0.279 | 0.261 | 18.64 |
| 56) M | Bromoform            | 0.285          | 0.301 | 0.310 | 0.329 | 0.316 | 0.308 | 5.40  |
| 57) I | Chlorobenzene-d5     | -----ISTD----- |       |       |       |       |       |       |
| 58) M | 4-Methyl-2-Pentanone | 0.476          | 0.534 | 0.528 | 0.535 | 0.513 | 0.517 | 4.74  |
| 59) M | 2-Hexanone           | 0.382          | 0.408 | 0.393 | 0.395 | 0.382 | 0.392 | 2.74  |
| 60) S | 4-Bromofluorobenzene | 0.538          | 0.544 | 0.517 | 0.536 | 0.535 | 0.534 | 1.93  |
| 61) M | Tetrachloroethene    | 0.425          | 0.437 | 0.419 | 0.416 | 0.399 | 0.419 | 3.26  |
| 62) M | Toluene              | 1.662          | 1.772 | 1.736 | 1.761 | 1.703 | 1.727 | 2.60  |
| 63) S | Toluene-d8           | 1.339          | 1.357 | 1.348 | 1.324 | 1.336 | 1.341 | 0.92  |
| 64) M | Chlorobenzene        | 0.993          | 1.121 | 1.074 | 1.104 | 1.064 | 1.071 | 4.61  |
| 65)   | 1,1,1,2-Tetrachloro  | 0.417          | 0.440 | 0.431 | 0.433 | 0.419 | 0.428 | 2.33  |
| 66) M | Ethyl Benzene        | 1.906          | 2.014 | 2.003 | 2.028 | 1.950 | 1.980 | 2.56  |
| 67) M | m/p-Xylenes          | 0.691          | 0.752 | 0.737 | 0.761 | 0.729 | 0.734 | 3.68  |
| 68) M | o-Xylene             | 0.682          | 0.729 | 0.715 | 0.732 | 0.707 | 0.713 | 2.82  |
| 69) M | Styrene              | 1.062          | 1.206 | 1.197 | 1.252 | 1.219 | 1.187 | 6.13  |
| 70)   | Isopropylbenzene     | 1.777          | 1.929 | 1.900 | 1.950 | 1.869 | 1.885 | 3.60  |
| 71) M | 1,1,2,2-Tetrachloro  | 0.473          | 0.512 | 0.515 | 0.523 | 0.505 | 0.506 | 3.77  |
| 72)   | 1,2,3-Trichloroprop  | 0.531          | 0.522 | 0.551 | 0.513 | 0.508 | 0.525 | 3.23  |
| 73)   | Bromobenzene         | 0.425          | 0.468 | 0.464 | 0.476 | 0.460 | 0.459 | 4.32  |
| 74)   | n-propylbenzene      | 1.979          | 2.236 | 2.195 | 2.256 | 2.148 | 2.163 | 5.11  |
| 75)   | 2-Chlorotoluene      | 1.280          | 1.347 | 1.351 | 1.384 | 1.316 | 1.335 | 2.94  |
| 76)   | 1,3,5-Trimethylbenz  | 1.493          | 1.633 | 1.604 | 1.660 | 1.599 | 1.598 | 3.96  |
| 77)   | t-1,4-Dichloro-2-bu  | 0.170          | 0.202 | 0.209 | 0.220 | 0.215 | 0.203 | 9.72  |
| 78)   | 4-Chlorotoluene      | 1.239          | 1.422 | 1.425 | 1.460 | 1.416 | 1.392 | 6.29  |
| 79)   | tert-butylbenzene    | 1.204          | 1.348 | 1.321 | 1.354 | 1.301 | 1.306 | 4.66  |
| 80)   | 1,2,4-Trimethylbenz  | 1.496          | 1.648 | 1.650 | 1.682 | 1.631 | 1.621 | 4.47  |
| 81)   | sec-Butylbenzene     | 1.570          | 1.757 | 1.712 | 1.752 | 1.684 | 1.695 | 4.47  |
| 82)   | p-Isopropyltoluene   | 1.407          | 1.593 | 1.580 | 1.619 | 1.579 | 1.555 | 5.43  |
| 83) M | 1,3-Dichlorobenzene  | 0.717          | 0.821 | 0.816 | 0.850 | 0.840 | 0.809 | 6.57  |
| 84) M | 1,4-Dichlorobenzene  | 0.751          | 0.836 | 0.829 | 0.863 | 0.839 | 0.824 | 5.17  |
| 85)   | n-Butylbenzene       | 1.243          | 1.406 | 1.378 | 1.425 | 1.391 | 1.369 | 5.30  |
| 86) T | Hexachloroethane     | 0.238          | 0.265 | 0.261 | 0.279 | 0.270 | 0.263 | 5.91  |
| 87) M | 1,2-Dichlorobenzene  | 0.707          | 0.800 | 0.805 | 0.832 | 0.802 | 0.789 | 6.02  |
| 88)   | 1,2-Dibromo-3-Chlor  | 0.104          | 0.124 | 0.127 | 0.133 | 0.128 | 0.123 | 9.00  |
| 89)   | 1,2,4-Trichlorobenz  | 0.360          | 0.454 | 0.470 | 0.479 | 0.488 | 0.450 | 11.58 |
| 90)   | Hexachlorobutadiene  | 0.246          | 0.255 | 0.244 | 0.249 | 0.239 | 0.246 | 2.49  |
| 91) M | Naphthalene          | 0.985          | 1.341 | 1.389 | 1.430 | 1.438 | 1.316 | 14.36 |
| 92)   | 1,2,3-Trichlorobenz  | 0.337          | 0.446 | 0.448 | 0.457 | 0.470 | 0.432 | 12.48 |

(#) = Out of Range