

## 500.00 ATMOSPHERE ISOBAR

| TEMP.<br>K | DENSITY<br>MOL/LITER | ENTHALPY<br>J/MOL | INTERNAL<br>ENERGY<br>J/MOL | ENTROPY<br>J/MOL-K | TEMP.<br>K | DENSITY<br>MOL/LITER | ENTHALPY<br>J/MOL | INTERNAL<br>ENERGY<br>J/MOL | ENTROPY<br>J/MOL-K |
|------------|----------------------|-------------------|-----------------------------|--------------------|------------|----------------------|-------------------|-----------------------------|--------------------|
| * 95.888   | 36.7399              |                   |                             |                    | 95.888     | 36.7399              | 4290.1            | 2911.1                      | 53.61              |
| 96         | 36.7274              |                   |                             |                    | 96         | 36.7274              | 4294.8            | 2915.3                      | 53.65              |
| 97         | 36.6164              |                   |                             |                    | 97         | 36.6164              | 4336.2            | 2952.6                      | 54.08              |
| 98         | 36.5053              |                   |                             |                    | 98         | 36.5053              | 4377.7            | 2989.9                      | 54.51              |
| 99         | 36.3943              |                   |                             |                    | 99         | 36.3943              | 4419.3            | 3027.2                      | 54.93              |
| 100        | 36.2832              |                   |                             |                    | 100        | 36.2832              | 4460.9            | 3064.5                      | 55.35              |
| 101        | 36.1722              |                   |                             |                    | 101        | 36.1722              | 4502.5            | 3101.8                      | 55.76              |
| 102        | 36.0612              |                   |                             |                    | 102        | 36.0612              | 4544.1            | 3139.1                      | 56.17              |
| 103        | 35.9503              |                   |                             |                    | 103        | 35.9503              | 4585.6            | 3176.4                      | 56.58              |
| 104        | 35.8394              |                   |                             |                    | 104        | 35.8394              | 4627.2            | 3213.5                      | 56.98              |
| 105        | 35.7287              |                   |                             |                    | 105        | 35.7287              | 4668.6            | 3250.6                      | 57.38              |
| 106        | 35.6180              |                   |                             |                    | 106        | 35.6180              | 4710.1            | 3287.6                      | 57.77              |
| 107        | 35.5074              |                   |                             |                    | 107        | 35.5074              | 4751.4            | 3324.5                      | 58.16              |
| 108        | 35.3969              |                   |                             |                    | 108        | 35.3969              | 4792.7            | 3361.3                      | 58.54              |
| 109        | 35.2865              |                   |                             |                    | 109        | 35.2865              | 4833.8            | 3398.0                      | 58.92              |
| 110        | 35.1762              |                   |                             |                    | 110        | 35.1762              | 4874.8            | 3434.6                      | 59.30              |
| 111        | 35.0661              |                   |                             |                    | 111        | 35.0661              | 4915.8            | 3471.0                      | 59.67              |
| 112        | 34.9561              |                   |                             |                    | 112        | 34.9561              | 4956.6            | 3507.2                      | 60.03              |
| 113        | 34.8461              |                   |                             |                    | 113        | 34.8461              | 4997.2            | 3543.3                      | 60.39              |
| 114        | 34.7364              |                   |                             |                    | 114        | 34.7364              | 5037.7            | 3579.2                      | 60.75              |
| 115        | 34.6267              |                   |                             |                    | 115        | 34.6267              | 5078.1            | 3614.9                      | 61.10              |
| 116        | 34.5172              |                   |                             |                    | 116        | 34.5172              | 5118.3            | 3650.5                      | 61.45              |
| 117        | 34.4078              |                   |                             |                    | 117        | 34.4078              | 5158.4            | 3685.9                      | 61.80              |
| 118        | 34.2985              |                   |                             |                    | 118        | 34.2985              | 5198.3            | 3721.1                      | 62.14              |
| 119        | 34.1893              |                   |                             |                    | 119        | 34.1893              | 5238.0            | 3756.2                      | 62.47              |
| 120        | 34.0803              |                   |                             |                    | 120        | 34.0803              | 5277.6            | 3791.0                      | 62.80              |
| 121        | 33.9714              |                   |                             |                    | 121        | 33.9714              | 5317.1            | 3825.7                      | 63.13              |
| 122        | 33.8627              |                   |                             |                    | 122        | 33.8627              | 5356.4            | 3860.3                      | 63.45              |
| 123        | 33.7540              |                   |                             |                    | 123        | 33.7540              | 5395.6            | 3894.6                      | 63.77              |
| 124        | 33.6455              |                   |                             |                    | 124        | 33.6455              | 5434.6            | 3928.8                      | 64.09              |
| 125        | 33.5371              |                   |                             |                    | 125        | 33.5371              | 5473.6            | 3962.9                      | 64.40              |
| 126        | 33.4288              |                   |                             |                    | 126        | 33.4288              | 5512.4            | 3996.8                      | 64.71              |
| 127        | 33.3207              |                   |                             |                    | 127        | 33.3207              | 5551.2            | 4030.7                      | 65.02              |
| 128        | 33.2126              |                   |                             |                    | 128        | 33.2126              | 5589.8            | 4064.4                      | 65.32              |
| 129        | 33.1047              |                   |                             |                    | 129        | 33.1047              | 5628.5            | 4098.1                      | 65.62              |
| 130        | 32.9969              |                   |                             |                    | 130        | 32.9969              | 5667.1            | 4131.7                      | 65.92              |
| 131        | 32.8892              |                   |                             |                    | 131        | 32.8892              | 5705.7            | 4165.2                      | 66.22              |
| 132        | 32.7816              |                   |                             |                    | 132        | 32.7816              | 5744.3            | 4198.8                      | 66.51              |
| 133        | 32.6742              |                   |                             |                    | 133        | 32.6742              | 5783.0            | 4232.4                      | 66.80              |
| 134        | 32.5668              |                   |                             |                    | 134        | 32.5668              | 5821.8            | 4266.1                      | 67.09              |
| 135        | 32.4596              |                   |                             |                    | 135        | 32.4596              | 5860.7            | 4299.9                      | 67.38              |
| 136        | 32.3524              |                   |                             |                    | 136        | 32.3524              | 5899.4            | 4333.4                      | 67.67              |
| 137        | 32.2454              |                   |                             |                    | 137        | 32.2454              | 5937.9            | 4366.7                      | 67.95              |
| 138        | 32.1384              |                   |                             |                    | 138        | 32.1384              | 5976.3            | 4399.9                      | 68.23              |
| 139        | 32.0316              |                   |                             |                    | 139        | 32.0316              | 6014.6            | 4432.9                      | 68.50              |
| 140        | 31.9248              |                   |                             |                    | 140        | 31.9248              | 6052.6            | 4465.6                      | 68.78              |
| 141        | 31.8182              |                   |                             |                    | 141        | 31.8182              | 6090.5            | 4498.2                      | 69.05              |
| 142        | 31.7116              |                   |                             |                    | 142        | 31.7116              | 6128.2            | 4530.5                      | 69.31              |
| 143        | 31.6051              |                   |                             |                    | 143        | 31.6051              | 6165.8            | 4562.8                      | 69.58              |
| 144        | 31.4987              |                   |                             |                    | 144        | 31.4987              | 6203.4            | 4595.0                      | 69.84              |
| 145        | 31.3925              |                   |                             |                    | 145        | 31.3925              | 6241.0            | 4627.1                      | 70.10              |
| 146        | 31.2863              |                   |                             |                    | 146        | 31.2863              | 6278.7            | 4659.3                      | 70.36              |
| 147        | 31.1802              |                   |                             |                    | 147        | 31.1802              | 6316.4            | 4691.5                      | 70.62              |
| 148        | 31.0741              |                   |                             |                    | 148        | 31.0741              | 6354.1            | 4723.7                      | 70.88              |
| 149        | 30.9682              |                   |                             |                    | 149        | 30.9682              | 6391.8            | 4755.9                      | 71.14              |
| 150        | 30.8624              |                   |                             |                    | 150        | 30.8624              | 6429.6            | 4788.0                      | 71.39              |
| 151        | 30.7566              |                   |                             |                    | 151        | 30.7566              | 6467.7            | 4820.4                      | 71.65              |
| 152        | 30.6509              |                   |                             |                    | 152        | 30.6509              | 6506.2            | 4853.3                      | 71.90              |
| 153        | 30.5453              |                   |                             |                    | 153        | 30.5453              | 6544.8            | 4886.2                      | 72.16              |
| 154        | 30.4398              |                   |                             |                    | 154        | 30.4398              | 6583.4            | 4919.0                      | 72.41              |
| 155        | 30.3344              |                   |                             |                    | 155        | 30.3344              | 6622.0            | 4951.8                      | 72.66              |
| 156        | 30.2290              |                   |                             |                    | 156        | 30.2290              | 6660.6            | 4984.6                      | 72.91              |
| 157        | 30.1238              |                   |                             |                    | 157        | 30.1238              | 6699.2            | 5017.3                      | 73.15              |
| 158        | 30.0186              |                   |                             |                    | 158        | 30.0186              | 6737.7            | 5050.0                      | 73.40              |
| 159        | 29.9135              |                   |                             |                    | 159        | 29.9135              | 6776.3            | 5082.7                      | 73.64              |
| 160        | 29.8085              |                   |                             |                    | 160        | 29.8085              | 6815.0            | 5115.3                      | 73.88              |

\* PHASE CHANGE

## 500.00 ATMOSPHERE ISOBAR

| TEMP.<br>K | DENSITY<br>MOL/LITER | ENTHALPY<br>J/MOL | INTERNAL<br>ENERGY<br>J/MOL | ENTROPY<br>J/MOL-K | TEMP.<br>K | DENSITY<br>MOL/LITER | ENTHALPY<br>J/MOL | INTERNAL<br>ENERGY<br>J/MOL | ENTROPY<br>J/MOL-K |
|------------|----------------------|-------------------|-----------------------------|--------------------|------------|----------------------|-------------------|-----------------------------|--------------------|
| 161        | 29.7036              | 6853.6            | 5147.9                      | 74.12              | 231        | 22.7376              | 9527.5            | 7299.4                      | 87.93              |
| 162        | 29.5988              | 6892.2            | 5180.5                      | 74.36              | 232        | 22.6472              | 9564.8            | 7327.7                      | 88.09              |
| 163        | 29.4940              | 6930.8            | 5213.0                      | 74.60              | 233        | 22.5571              | 9601.9            | 7355.9                      | 88.25              |
| 164        | 29.3894              | 6969.4            | 5245.5                      | 74.84              | 234        | 22.4674              | 9639.0            | 7384.0                      | 88.41              |
| 165        | 29.2848              | 7008.0            | 5278.0                      | 75.07              | 235        | 22.3780              | 9676.1            | 7412.1                      | 88.56              |
| 166        | 29.1803              | 7046.6            | 5310.4                      | 75.30              | 236        | 22.2890              | 9713.1            | 7440.1                      | 88.72              |
| 167        | 29.0759              | 7085.2            | 5342.7                      | 75.54              | 237        | 22.2005              | 9750.1            | 7468.0                      | 88.88              |
| 168        | 28.9717              | 7123.8            | 5375.1                      | 75.77              | 238        | 22.1123              | 9787.0            | 7495.8                      | 89.03              |
| 169        | 28.8675              | 7162.4            | 5407.4                      | 75.99              | 239        | 22.0244              | 9823.8            | 7523.5                      | 89.19              |
| 170        | 28.7634              | 7201.0            | 5439.6                      | 76.22              | 240        | 21.9370              | 9860.6            | 7551.1                      | 89.34              |
| 171        | 28.6594              | 7239.6            | 5471.8                      | 76.45              | 241        | 21.8500              | 9897.4            | 7578.7                      | 89.49              |
| 172        | 28.5555              | 7278.2            | 5504.0                      | 76.67              | 242        | 21.7634              | 9934.1            | 7606.2                      | 89.65              |
| 173        | 28.4517              | 7316.8            | 5536.1                      | 76.90              | 243        | 21.6772              | 9970.7            | 7633.5                      | 89.80              |
| 174        | 28.3480              | 7355.4            | 5568.2                      | 77.12              | 244        | 21.5914              | 10007.3           | 7660.9                      | 89.95              |
| 175        | 28.2444              | 7394.0            | 5600.2                      | 77.34              | 245        | 21.5060              | 10043.9           | 7688.1                      | 90.10              |
| 176        | 28.1409              | 7432.5            | 5632.2                      | 77.56              | 246        | 21.4210              | 10080.3           | 7715.2                      | 90.25              |
| 177        | 28.0376              | 7471.1            | 5664.1                      | 77.78              | 247        | 21.3365              | 10116.8           | 7742.3                      | 90.39              |
| 178        | 27.9343              | 7509.7            | 5696.0                      | 78.00              | 248        | 21.2523              | 10153.1           | 7769.2                      | 90.54              |
| 179        | 27.8312              | 7548.2            | 5727.8                      | 78.21              | 249        | 21.1686              | 10189.4           | 7796.1                      | 90.69              |
| 180        | 27.7282              | 7586.8            | 5759.6                      | 78.43              | 250        | 21.0853              | 10225.7           | 7822.9                      | 90.83              |
| 181        | 27.6253              | 7625.3            | 5791.4                      | 78.64              | 251        | 21.0024              | 10261.9           | 7849.6                      | 90.98              |
| 182        | 27.5226              | 7663.9            | 5823.1                      | 78.85              | 252        | 20.9200              | 10298.0           | 7876.2                      | 91.12              |
| 183        | 27.4200              | 7702.4            | 5854.7                      | 79.06              | 253        | 20.8379              | 10334.1           | 7902.7                      | 91.26              |
| 184        | 27.3175              | 7740.9            | 5886.3                      | 79.27              | 254        | 20.7563              | 10370.1           | 7929.2                      | 91.41              |
| 185        | 27.2152              | 7779.4            | 5917.8                      | 79.48              | 255        | 20.6752              | 10406.0           | 7955.5                      | 91.55              |
| 186        | 27.1130              | 7817.9            | 5949.3                      | 79.69              | 256        | 20.5944              | 10441.9           | 7981.8                      | 91.69              |
| 187        | 27.0109              | 7856.4            | 5980.7                      | 79.90              | 257        | 20.5141              | 10477.7           | 8008.0                      | 91.83              |
| 188        | 26.9090              | 7894.8            | 6012.1                      | 80.10              | 258        | 20.4343              | 10513.5           | 8034.1                      | 91.97              |
| 189        | 26.8073              | 7933.3            | 6043.4                      | 80.31              | 259        | 20.3549              | 10549.2           | 8060.1                      | 92.10              |
| 190        | 26.7057              | 7971.7            | 6074.6                      | 80.51              | 260        | 20.2759              | 10584.8           | 8086.1                      | 92.24              |
| 191        | 26.6043              | 8010.2            | 6105.8                      | 80.71              | 261        | 20.1973              | 10620.4           | 8111.9                      | 92.38              |
| 192        | 26.5030              | 8048.6            | 6137.0                      | 80.91              | 262        | 20.1192              | 10655.9           | 8137.7                      | 92.51              |
| 193        | 26.4020              | 8087.0            | 6168.0                      | 81.11              | 263        | 20.0415              | 10691.3           | 8163.4                      | 92.65              |
| 194        | 26.3011              | 8125.4            | 6199.1                      | 81.31              | 264        | 19.9643              | 10726.7           | 8188.9                      | 92.78              |
| 195        | 26.2003              | 8163.7            | 6230.0                      | 81.51              | 265        | 19.8875              | 10762.0           | 8214.5                      | 92.92              |
| 196        | 26.0998              | 8202.1            | 6260.9                      | 81.70              | 266        | 19.8111              | 10797.2           | 8239.9                      | 93.05              |
| 197        | 25.9995              | 8240.4            | 6291.8                      | 81.90              | 267        | 19.7352              | 10832.4           | 8265.2                      | 93.18              |
| 198        | 25.8993              | 8278.7            | 6322.6                      | 82.09              | 268        | 19.6597              | 10867.5           | 8290.5                      | 93.31              |
| 199        | 25.7994              | 8317.0            | 6353.3                      | 82.28              | 269        | 19.5847              | 10902.5           | 8315.6                      | 93.44              |
| 200        | 25.6996              | 8355.3            | 6383.9                      | 82.48              | 270        | 19.5101              | 10937.5           | 8340.7                      | 93.57              |
| 201        | 25.6001              | 8393.6            | 6414.5                      | 82.67              | 271        | 19.4359              | 10972.4           | 8365.7                      | 93.70              |
| 202        | 25.5008              | 8431.8            | 6445.0                      | 82.86              | 272        | 19.3622              | 11007.3           | 8390.6                      | 93.83              |
| 203        | 25.4017              | 8470.0            | 6475.5                      | 83.05              | 273        | 19.2890              | 11042.0           | 8415.5                      | 93.96              |
| 204        | 25.3028              | 8508.2            | 6505.9                      | 83.23              | 274        | 19.2161              | 11076.7           | 8440.2                      | 94.08              |
| 205        | 25.2042              | 8546.4            | 6536.2                      | 83.42              | 275        | 19.1437              | 11111.4           | 8464.9                      | 94.21              |
| 206        | 25.1058              | 8584.5            | 6566.5                      | 83.61              | 276        | 19.0718              | 11146.0           | 8489.5                      | 94.34              |
| 207        | 25.0076              | 8622.6            | 6596.7                      | 83.79              | 277        | 19.0003              | 11180.5           | 8514.0                      | 94.46              |
| 208        | 24.9097              | 8660.7            | 6626.8                      | 83.97              | 278        | 18.9292              | 11214.9           | 8538.4                      | 94.58              |
| 209        | 24.8120              | 8698.8            | 6656.9                      | 84.16              | 279        | 18.8585              | 11249.3           | 8562.7                      | 94.71              |
| 210        | 24.7146              | 8736.8            | 6686.8                      | 84.34              | 280        | 18.7883              | 11283.6           | 8587.0                      | 94.83              |
| 211        | 24.6175              | 8774.8            | 6716.7                      | 84.52              | 281        | 18.7185              | 11317.8           | 8611.2                      | 94.95              |
| 212        | 24.5206              | 8812.8            | 6746.6                      | 84.70              | 282        | 18.6492              | 11351.9           | 8635.3                      | 95.07              |
| 213        | 24.4240              | 8850.7            | 6776.4                      | 84.88              | 283        | 18.5803              | 11386.0           | 8659.3                      | 95.19              |
| 214        | 24.3277              | 8888.6            | 6806.1                      | 85.05              | 284        | 18.5118              | 11420.1           | 8683.2                      | 95.31              |
| 215        | 24.2316              | 8926.5            | 6835.7                      | 85.23              | 285        | 18.4437              | 11454.0           | 8707.1                      | 95.43              |
| 216        | 24.1359              | 8964.4            | 6865.2                      | 85.41              | 286        | 18.3761              | 11487.9           | 8730.9                      | 95.55              |
| 217        | 24.0404              | 9002.2            | 6894.7                      | 85.58              | 287        | 18.3089              | 11521.7           | 8754.6                      | 95.67              |
| 218        | 23.9453              | 9039.9            | 6924.1                      | 85.75              | 288        | 18.2421              | 11555.5           | 8778.2                      | 95.79              |
| 219        | 23.8504              | 9077.7            | 6953.5                      | 85.93              | 289        | 18.1757              | 11589.2           | 8801.7                      | 95.90              |
| 220        | 23.7559              | 9115.4            | 6982.7                      | 86.10              | 290        | 18.1098              | 11622.8           | 8825.2                      | 96.02              |
| 221        | 23.6616              | 9153.1            | 7011.9                      | 86.27              | 291        | 18.0443              | 11656.3           | 8848.6                      | 96.14              |
| 222        | 23.5677              | 9190.7            | 7041.0                      | 86.44              | 292        | 17.9792              | 11689.8           | 8871.9                      | 96.25              |
| 223        | 23.4741              | 9228.3            | 7070.0                      | 86.61              | 293        | 17.9145              | 11723.2           | 8895.1                      | 96.37              |
| 224        | 23.3809              | 9265.8            | 7099.0                      | 86.78              | 294        | 17.8502              | 11756.6           | 8918.3                      | 96.48              |
| 225        | 23.2880              | 9303.4            | 7127.8                      | 86.94              | 295        | 17.7863              | 11789.9           | 8941.4                      | 96.59              |
| 226        | 23.1954              | 9340.8            | 7156.6                      | 87.11              | 296        | 17.7229              | 11823.1           | 8964.4                      | 96.70              |
| 227        | 23.1031              | 9378.3            | 7185.3                      | 87.28              | 297        | 17.6598              | 11856.2           | 8987.3                      | 96.82              |
| 228        | 23.0112              | 9415.6            | 7213.9                      | 87.44              | 298        | 17.5972              | 11889.3           | 9010.2                      | 96.93              |
| 229        | 22.9197              | 9453.0            | 7242.5                      | 87.60              | 299        | 17.5350              | 11922.3           | 9033.0                      | 97.04              |
| 230        | 22.8285              | 9490.3            | 7271.0                      | 87.77              | 300        | 17.4731              | 11955.2           | 9055.7                      | 97.15              |