

# Ethane, 1,1'-oxybis[2-methoxy-

|                      |                                                  |
|----------------------|--------------------------------------------------|
| Other names:         | (2-Methoxyethyl) ether                           |
|                      | .beta.,.beta.-dimethoxy diethyl ether            |
|                      | 1,1'-Oxybis(2-methoxy)ethane                     |
|                      | 1,1'-oxybis(2-methoxyethane)                     |
|                      | 1,5-dimethoxydiethyl ether                       |
|                      | 2,2'-Oxybisethanol dimethyl ether                |
|                      | 2,5,8-Trioxanonane                               |
|                      | 2-(2-Methoxyethoxy)-1-methoxyethane              |
|                      | 2-methoxyethyl ether                             |
|                      | 3-oxa-1,5-pentanediol, dimethyl ether            |
|                      | Bis(2-methoxyethyl) ether                        |
|                      | CH3OCH2CH2OCH2CH2OCH3                            |
|                      | Di(2-Methoxyethyl) ether                         |
|                      | Diethyl glycol dimethyl ether                    |
|                      | Diethylene glycol dimethyl ether                 |
|                      | Diglycol methyl ether                            |
|                      | Diglyme                                          |
|                      | Dimethoxydiethylene glycol                       |
|                      | Dimethyl carbitol                                |
|                      | Dimethyldigol                                    |
|                      | Ethanol, 2,2'-oxybis-, dimethyl ether            |
|                      | Ether, bis(2-methoxyethyl)                       |
|                      | Glyme-2                                          |
|                      | Methyl diglyme                                   |
|                      | NSC 59726                                        |
|                      | Poly-Solv                                        |
|                      | diethylene glycol, dimethyl ether                |
|                      | diglyme (diethylene glycol dimethyl ether)       |
|                      | dimethyldiglycol                                 |
| Inchi:               | InChI=1S/C6H14O3/c1-7-3-5-9-6-4-8-2/h3-6H2,1-2H3 |
| InchiKey:            | SBZXBUIDTXKZTM-UHFFFAOYSA-N                      |
| Formula:             | C6H14O3                                          |
| SMILES:              | COCCOCCOC                                        |
| Mol. weight [g/mol]: | 134.17                                           |
| CAS:                 | 111-96-6                                         |

## Physical Properties

| Property code | Value           | Unit    | Source                               |
|---------------|-----------------|---------|--------------------------------------|
| affp          | 918.80          | kJ/mol  | NIST Webbook                         |
| basg          | 870.90          | kJ/mol  | NIST Webbook                         |
| chl           | -3805.50 ± 0.90 | kJ/mol  | NIST Webbook                         |
| gf            | -315.36         | kJ/mol  | Joback Method                        |
| hf            | -511.70         | kJ/mol  | NIST Webbook                         |
| hf            | -524.70         | kJ/mol  | NIST Webbook                         |
| hfl           | -569.40         | kJ/mol  | NIST Webbook                         |
| hfl           | -556.40 ± 0.90  | kJ/mol  | NIST Webbook                         |
| hfus          | 14.86           | kJ/mol  | Joback Method                        |
| hvap          | 48.00 ± 0.60    | kJ/mol  | NIST Webbook                         |
| hvap          | 44.70           | kJ/mol  | NIST Webbook                         |
| ie            | 9.80            | eV      | NIST Webbook                         |
| log10ws       | 0.88            |         | Aqueous Solubility Prediction Method |
| logp          | 0.296           |         | Crippen Method                       |
| mcvol         | 113.010         | ml/mol  | McGowan Method                       |
| pc            | 2937.70         | kPa     | Joback Method                        |
| rinpol        | 951.00          |         | NIST Webbook                         |
| rinpol        | 950.90          |         | NIST Webbook                         |
| rinpol        | 950.90          |         | NIST Webbook                         |
| sl            | 352.70          | J/mol×K | NIST Webbook                         |
| tb            | 435.00 ± 4.00   | K       | NIST Webbook                         |
| tb            | 435.15          | K       | NIST Webbook                         |
| tb            | 435.20          | K       | NIST Webbook                         |
| tc            | 569.71          | K       | Joback Method                        |
| tf            | 209.10 ± 0.20   | K       | NIST Webbook                         |
| tf            | 209.15          | K       | NIST Webbook                         |
| tf            | 207.82          | K       | Aqueous Solubility Prediction Method |
| vc            | 0.425           | m3/kmol | Joback Method                        |

## Temperature Dependent Properties

| Property code | Value  | Unit    | Temperature [K] | Source        |
|---------------|--------|---------|-----------------|---------------|
| cpg           | 274.56 | J/mol×K | 542.08          | Joback Method |
| cpg           | 256.17 | J/mol×K | 486.83          | Joback Method |
| cpg           | 246.70 | J/mol×K | 459.20          | Joback Method |
| cpg           | 227.24 | J/mol×K | 403.94          | Joback Method |
| cpg           | 237.05 | J/mol×K | 431.57          | Joback Method |
| cpg           | 283.44 | J/mol×K | 569.71          | Joback Method |

|       |           |         |        |                                                               |
|-------|-----------|---------|--------|---------------------------------------------------------------|
| cpg   | 265.47    | J/mol×K | 514.45 | Joback Method                                                 |
| cpl   | 274.10    | J/mol×K | 298.15 | NIST Webbook                                                  |
| cpl   | 279.84    | J/mol×K | 298.15 | NIST Webbook                                                  |
| cpl   | 277.76    | J/mol×K | 298.15 | NIST Webbook                                                  |
| dvisc | 0.0005220 | Pa×s    | 343.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0004120 | Pa×s    | 363.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0009760 | Pa×s    | 298.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0010600 | Pa×s    | 293.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0011400 | Pa×s    | 288.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0012600 | Pa×s    | 283.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0007770 | Pa×s    | 313.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0004640 | Pa×s    | 353.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0013800 | Pa×s    | 278.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0015200 | Pa×s    | 273.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0005920 | Pa×s    | 333.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0009010 | Pa×s    | 303.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| dvisc | 0.0006760 | Pa×s    | 323.15 | Density, viscosity and solubility of carbon dioxide in glymes |
| hfust | 17.80     | kJ/mol  | 209.10 | NIST Webbook                                                  |

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|-------|---------|--------|--------|-----------------------------------------------------------------------------------------------------------------------------------------|
| hfust | 17.78   | kJ/mol | 209.10 | NIST Webbook                                                                                                                            |
| hfust | 17.80   | kJ/mol | 209.10 | NIST Webbook                                                                                                                            |
| hvapt | 45.40   | kJ/mol | 402.50 | NIST Webbook                                                                                                                            |
| hvapt | 47.40   | kJ/mol | 359.50 | NIST Webbook                                                                                                                            |
| rfi   | 1.40120 |        | 308.15 | Liquid Densities and Refractive Indices of Binary Mixtures for the Dimethyl Ether of a Glycol + Ethanol from T=288.15 K to 318.15 K     |
| rfi   | 1.40570 |        | 298.15 | Solubility of $\alpha$ -Carotene in Binary Solvents Formed by Some Hydrocarbons with 2,5,8-Trioxanonane, 2-Propanone, and Cyclohexanone |
| rfi   | 1.40580 |        | 298.15 | Liquid Densities and Refractive Indices of Binary Mixtures for the Dimethyl Ether of a Glycol + Ethanol from T=288.15 K to 318.15 K     |
| rfi   | 1.41010 |        | 288.15 | Liquid Densities and Refractive Indices of Binary Mixtures for the Dimethyl Ether of a Glycol + Ethanol from T=288.15 K to 318.15 K     |
| rfi   | 1.40580 |        | 298.15 | Non-ideal behaviour of a room temperature ionic liquid in an alkoxyethanol or poly ethers at T = (298.15 to 318.15) K                   |
| rfi   | 1.39680 |        | 318.15 | Liquid Densities and Refractive Indices of Binary Mixtures for the Dimethyl Ether of a Glycol + Ethanol from T=288.15 K to 318.15 K     |

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|------|---------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rfi  | 1.40600 |       | 298.15 | Density, Speed of Sound, and Refractive Index of Aqueous Binary Mixtures of Some Glycol Ethers at T = 298.15 K                       |
| rhoI | 933.82  | kg/m3 | 303.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 948.70  | kg/m3 | 288.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 943.80  | kg/m3 | 293.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 938.80  | kg/m3 | 298.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 933.80  | kg/m3 | 303.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 928.80  | kg/m3 | 308.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 923.80  | kg/m3 | 313.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 913.70  | kg/m3 | 323.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 903.60  | kg/m3 | 333.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 893.40  | kg/m3 | 343.15 | Thermophysical properties of glycols and glymes                                                                                      |

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|------|--------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 953.66 | kg/m3 | 283.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 952.67 | kg/m3 | 284.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 951.69 | kg/m3 | 285.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 950.70 | kg/m3 | 286.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 949.71 | kg/m3 | 287.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 948.72 | kg/m3 | 288.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |

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|------|--------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 947.73 | kg/m3 | 289.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 946.74 | kg/m3 | 290.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 945.75 | kg/m3 | 291.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 944.76 | kg/m3 | 292.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 943.76 | kg/m3 | 293.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 942.79 | kg/m3 | 294.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |

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|------|--------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 941.79 | kg/m3 | 295.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 940.79 | kg/m3 | 296.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 939.80 | kg/m3 | 297.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 938.80 | kg/m3 | 298.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 937.80 | kg/m3 | 299.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 936.81 | kg/m3 | 300.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |



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|------|--------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 935.81 | kg/m3 | 301.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 934.82 | kg/m3 | 302.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 953.70 | kg/m3 | 283.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 932.82 | kg/m3 | 304.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 931.82 | kg/m3 | 305.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 930.82 | kg/m3 | 306.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 929.83 | kg/m3 | 307.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |

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|------|--------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 863.80 | kg/m3 | 373.15 | Thermophysical properties of glycols and glymes                                                                                      |
| rhoI | 927.82 | kg/m3 | 309.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 926.83 | kg/m3 | 310.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 925.82 | kg/m3 | 311.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 924.82 | kg/m3 | 312.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 923.82 | kg/m3 | 313.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |

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|------|--------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 922.81 | kg/m3 | 314.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 921.81 | kg/m3 | 315.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 920.80 | kg/m3 | 316.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 919.80 | kg/m3 | 317.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 918.79 | kg/m3 | 318.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 917.78 | kg/m3 | 319.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |

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|------|--------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 916.78 | kg/m3 | 320.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 915.77 | kg/m3 | 321.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 914.75 | kg/m3 | 322.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 913.75 | kg/m3 | 323.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 912.73 | kg/m3 | 324.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 911.72 | kg/m3 | 325.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |

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|------|--------|-------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 910.70 | kg/m3 | 326.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 909.69 | kg/m3 | 327.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 908.67 | kg/m3 | 328.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 907.65 | kg/m3 | 329.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 906.63 | kg/m3 | 330.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI | 905.62 | kg/m3 | 331.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |

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|------|--------|-------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 904.60 | kg/m3 | 332.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure                             |
| rhoI | 903.59 | kg/m3 | 333.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure                             |
| rhoI | 945.20 | kg/m3 | 293.15 | Excess Properties and Spectral Investigation for the Binary System Diethylene Glycol Dimethyl Ether + Water at T = (293.15, 298.15, 303.15, 308.15 and 313.15) K |
| rhoI | 939.80 | kg/m3 | 298.15 | Excess Properties and Spectral Investigation for the Binary System Diethylene Glycol Dimethyl Ether + Water at T = (293.15, 298.15, 303.15, 308.15 and 313.15) K |
| rhoI | 935.00 | kg/m3 | 303.15 | Excess Properties and Spectral Investigation for the Binary System Diethylene Glycol Dimethyl Ether + Water at T = (293.15, 298.15, 303.15, 308.15 and 313.15) K |

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|------|--------|-------|--------|------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| rhoI | 930.70 | kg/m3 | 308.15 | Excess Properties and Spectral Investigation for the Binary System Diethylene Glycol Dimethyl Ether + Water at T = (293.15, 298.15, 303.15, 308.15 and 313.15) K |
| rhoI | 925.40 | kg/m3 | 313.15 | Excess Properties and Spectral Investigation for the Binary System Diethylene Glycol Dimethyl Ether + Water at T = (293.15, 298.15, 303.15, 308.15 and 313.15) K |
| rhoI | 869.00 | kg/m3 | 368.15 | Thermophysical properties of glycols and glymes                                                                                                                  |
| rhoI | 874.20 | kg/m3 | 363.15 | Thermophysical properties of glycols and glymes                                                                                                                  |
| rhoI | 879.40 | kg/m3 | 358.15 | Thermophysical properties of glycols and glymes                                                                                                                  |
| rhoI | 884.60 | kg/m3 | 353.15 | Thermophysical properties of glycols and glymes                                                                                                                  |
| rhoI | 889.70 | kg/m3 | 348.15 | Thermophysical properties of glycols and glymes                                                                                                                  |
| rhoI | 894.80 | kg/m3 | 343.15 | Thermophysical properties of glycols and glymes                                                                                                                  |
| rhoI | 899.90 | kg/m3 | 338.15 | Thermophysical properties of glycols and glymes                                                                                                                  |
| rhoI | 905.00 | kg/m3 | 333.15 | Thermophysical properties of glycols and glymes                                                                                                                  |
| rhoI | 910.10 | kg/m3 | 328.15 | Thermophysical properties of glycols and glymes                                                                                                                  |

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|------|--------|-------|--------|----------------------------------------------------------------------|
| rhoI | 915.20 | kg/m3 | 323.15 | Thermophysical properties of glycols and glymes                      |
| rhoI | 920.20 | kg/m3 | 318.15 | Thermophysical properties of glycols and glymes                      |
| rhoI | 925.20 | kg/m3 | 313.15 | Thermophysical properties of glycols and glymes                      |
| rhoI | 930.20 | kg/m3 | 308.15 | Thermophysical properties of glycols and glymes                      |
| rhoI | 935.20 | kg/m3 | 303.15 | Thermophysical properties of glycols and glymes                      |
| rhoI | 940.20 | kg/m3 | 298.15 | Thermophysical properties of glycols and glymes                      |
| rhoI | 945.20 | kg/m3 | 293.15 | Thermophysical properties of glycols and glymes                      |
| rhoI | 872.81 | kg/m3 | 363.15 | Surface tension of four oxygenated fuels: experiment and correlation |
| rhoI | 878.04 | kg/m3 | 358.15 | Surface tension of four oxygenated fuels: experiment and correlation |
| rhoI | 883.24 | kg/m3 | 353.15 | Surface tension of four oxygenated fuels: experiment and correlation |
| rhoI | 888.41 | kg/m3 | 348.15 | Surface tension of four oxygenated fuels: experiment and correlation |
| rhoI | 893.55 | kg/m3 | 343.15 | Surface tension of four oxygenated fuels: experiment and correlation |
| rhoI | 898.67 | kg/m3 | 338.15 | Surface tension of four oxygenated fuels: experiment and correlation |



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|-------|--------|---------|--------|--------------------------------------------------------------------------------------------------------------------------------------|
| rhoI  | 903.76 | kg/m3   | 333.15 | Surface tension of four oxygenated fuels: experiment and correlation                                                                 |
| rhoI  | 908.84 | kg/m3   | 328.15 | Surface tension of four oxygenated fuels: experiment and correlation                                                                 |
| rhoI  | 913.90 | kg/m3   | 323.15 | Surface tension of four oxygenated fuels: experiment and correlation                                                                 |
| rhoI  | 918.94 | kg/m3   | 318.15 | Surface tension of four oxygenated fuels: experiment and correlation                                                                 |
| rhoI  | 923.97 | kg/m3   | 313.15 | Surface tension of four oxygenated fuels: experiment and correlation                                                                 |
| rhoI  | 928.95 | kg/m3   | 308.15 | Surface tension of four oxygenated fuels: experiment and correlation                                                                 |
| rhoI  | 933.98 | kg/m3   | 303.15 | Surface tension of four oxygenated fuels: experiment and correlation                                                                 |
| rhoI  | 938.62 | kg/m3   | 298.15 | Excess molar enthalpies and volumes of binary mixtures of nonafluorobutylmethylether with ethylene glycol ethers at T = 298.15 K     |
| rhoI  | 928.83 | kg/m3   | 308.15 | Volumetric Properties of Binary Mixtures of 1,2-Dichloroethane with Polyethers from (283.15 to 333.15) K and at Atmospheric Pressure |
| rhoI  | 950.20 | kg/m3   | 288.15 | Thermophysical properties of glycols and glymes                                                                                      |
| sfust | 85.10  | J/mol×K | 209.10 | NIST Webbook                                                                                                                         |

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|--------|------|-------|--------|-----------------------------------------------------------------------------------------------------------|
| srf    | 0.02 | N/m   | 298.15 | Volumetric and Surface Properties of Aqueous Mixtures of Polyethers at T = (298.15, 308.15, and 318.15) K |
| srf    | 0.03 | N/m   | 308.15 | Volumetric and Surface Properties of Aqueous Mixtures of Polyethers at T = (298.15, 308.15, and 318.15) K |
| srf    | 0.02 | N/m   | 318.15 | Volumetric and Surface Properties of Aqueous Mixtures of Polyethers at T = (298.15, 308.15, and 318.15) K |
| tcondl | 0.13 | W/m×K | 332.54 | Thermal Conductivity Measurement of Polyglycol Alkyl Ethers at Temperatures from (303.15 to 393.15) K     |
| tcondl | 0.15 | W/m×K | 302.75 | Thermal Conductivity Measurement of Polyglycol Alkyl Ethers at Temperatures from (303.15 to 393.15) K     |
| tcondl | 0.12 | W/m×K | 362.39 | Thermal Conductivity Measurement of Polyglycol Alkyl Ethers at Temperatures from (303.15 to 393.15) K     |
| tcondl | 0.11 | W/m×K | 392.16 | Thermal Conductivity Measurement of Polyglycol Alkyl Ethers at Temperatures from (303.15 to 393.15) K     |

# Correlations

| Information                 | Value                         |
|-----------------------------|-------------------------------|
| Property code               | pvap                          |
| Equation                    | $\ln(P_{vp}) = A + B/(T + C)$ |
| Coeff. A                    | 1.56921e+01                   |
| Coeff. B                    | -4.43052e+03                  |
| Coeff. C                    | -3.51090e+01                  |
| Temperature range (K), min. | 322.72                        |
| Temperature range (K), max. | 461.92                        |

# Datasets

## Speed of sound, m/s

| Temperature, K - Liquid | Pressure, kPa - Liquid | Speed of sound, m/s - Liquid |
|-------------------------|------------------------|------------------------------|
| 293.15                  | 100.00                 | 1298.9                       |
| 293.15                  | 10000.00               | 1344.9                       |
| 293.15                  | 20000.00               | 1386.5                       |
| 293.15                  | 30000.00               | 1426.6                       |
| 293.15                  | 40000.00               | 1463.9                       |
| 293.15                  | 50000.00               | 1499.2                       |
| 293.15                  | 60000.00               | 1532.5                       |
| 293.15                  | 70000.00               | 1565.1                       |
| 293.15                  | 80000.00               | 1595.5                       |
| 293.15                  | 90000.00               | 1624.9                       |
| 293.15                  | 100000.00              | 1653.4                       |
| 303.15                  | 100.00                 | 1259.3                       |
| 303.15                  | 10000.00               | 1306.7                       |
| 303.15                  | 20000.00               | 1350.6                       |
| 303.15                  | 30000.00               | 1392.0                       |
| 303.15                  | 40000.00               | 1430.4                       |
| 303.15                  | 50000.00               | 1466.9                       |
| 303.15                  | 60000.00               | 1501.5                       |
| 303.15                  | 70000.00               | 1534.3                       |
| 303.15                  | 80000.00               | 1565.8                       |

|        |           |        |
|--------|-----------|--------|
| 303.15 | 90000.00  | 1595.9 |
| 303.15 | 100000.00 | 1625.1 |
| 313.15 | 100.00    | 1219.9 |
| 313.15 | 10000.00  | 1269.5 |
| 313.15 | 20000.00  | 1315.4 |
| 313.15 | 30000.00  | 1357.6 |
| 313.15 | 40000.00  | 1397.8 |
| 313.15 | 50000.00  | 1435.3 |
| 313.15 | 60000.00  | 1470.5 |
| 313.15 | 70000.00  | 1504.4 |
| 313.15 | 80000.00  | 1536.7 |
| 313.15 | 90000.00  | 1567.6 |
| 313.15 | 100000.00 | 1597.0 |
| 323.15 | 100.00    | 1180.9 |
| 323.15 | 10000.00  | 1232.5 |
| 323.15 | 20000.00  | 1280.2 |
| 323.15 | 30000.00  | 1324.4 |
| 323.15 | 40000.00  | 1365.5 |
| 323.15 | 50000.00  | 1404.0 |
| 323.15 | 60000.00  | 1440.6 |
| 323.15 | 70000.00  | 1475.2 |
| 323.15 | 80000.00  | 1508.2 |
| 323.15 | 90000.00  | 1539.8 |
| 323.15 | 100000.00 | 1569.9 |
| 333.15 | 100.00    | 1142.4 |
| 333.15 | 10000.00  | 1196.4 |
| 333.15 | 20000.00  | 1246.0 |
| 333.15 | 30000.00  | 1291.4 |
| 333.15 | 40000.00  | 1333.7 |
| 333.15 | 50000.00  | 1373.6 |
| 333.15 | 60000.00  | 1410.9 |
| 333.15 | 70000.00  | 1446.2 |
| 333.15 | 80000.00  | 1480.1 |
| 333.15 | 90000.00  | 1512.3 |
| 333.15 | 100000.00 | 1543.1 |
| 343.15 | 100.00    | 1104.2 |
| 343.15 | 10000.00  | 1160.8 |
| 343.15 | 20000.00  | 1212.0 |
| 343.15 | 30000.00  | 1259.5 |
| 343.15 | 40000.00  | 1303.1 |
| 343.15 | 50000.00  | 1343.9 |
| 343.15 | 60000.00  | 1382.1 |
| 343.15 | 70000.00  | 1418.6 |
| 343.15 | 80000.00  | 1452.9 |

|        |           |        |
|--------|-----------|--------|
| 343.15 | 90000.00  | 1485.9 |
| 343.15 | 100000.00 | 1517.4 |
| 353.15 | 100.00    | 1066.6 |
| 353.15 | 10000.00  | 1125.7 |
| 353.15 | 20000.00  | 1179.3 |
| 353.15 | 30000.00  | 1228.1 |
| 353.15 | 40000.00  | 1273.4 |
| 353.15 | 50000.00  | 1314.9 |
| 353.15 | 60000.00  | 1354.4 |
| 353.15 | 70000.00  | 1391.3 |
| 353.15 | 80000.00  | 1426.7 |
| 353.15 | 90000.00  | 1460.4 |
| 353.15 | 100000.00 | 1492.3 |

Reference

<https://www.doi.org/10.1007/s10765-006-0110-x>

## Mass density, kg/m3

| Temperature, K - Liquid | Pressure, kPa - Liquid | Mass density, kg/m3 - Liquid |
|-------------------------|------------------------|------------------------------|
| 283.69                  | 100.00                 | 953.48                       |
| 283.69                  | 1000.00                | 954.15                       |
| 283.69                  | 5000.00                | 956.94                       |
| 283.68                  | 10000.00               | 960.29                       |
| 283.68                  | 20000.00               | 966.68                       |
| 283.68                  | 30000.00               | 972.8                        |
| 283.67                  | 40000.00               | 978.49                       |
| 283.67                  | 60000.00               | 989.12                       |
| 283.67                  | 80000.00               | 998.75                       |
| 283.67                  | 100000.00              | 1007.71                      |
| 303.47                  | 100.00                 | 933.69                       |
| 303.47                  | 1000.00                | 934.43                       |
| 303.48                  | 5000.00                | 937.55                       |
| 303.48                  | 10000.00               | 941.31                       |
| 322.62                  | 30000.00               | 938.31                       |
| 322.62                  | 40000.00               | 945.16                       |
| 322.62                  | 60000.00               | 957.74                       |
| 322.62                  | 80000.00               | 968.98                       |
| 322.62                  | 100000.00              | 979.2                        |
| 342.49                  | 100.00                 | 894.03                       |
| 342.49                  | 1000.00                | 894.98                       |
| 342.49                  | 5000.00                | 898.96                       |

|        |           |        |
|--------|-----------|--------|
| 342.50 | 10000.00  | 903.66 |
| 342.50 | 20000.00  | 912.57 |
| 342.51 | 30000.00  | 920.68 |
| 342.51 | 40000.00  | 928.18 |
| 342.51 | 60000.00  | 941.77 |
| 342.51 | 80000.00  | 953.82 |
| 303.49 | 20000.00  | 948.42 |
| 303.49 | 30000.00  | 955.17 |
| 303.49 | 40000.00  | 961.41 |
| 303.49 | 60000.00  | 973.02 |
| 303.50 | 80000.00  | 983.33 |
| 303.50 | 100000.00 | 992.97 |
| 322.62 | 100.00    | 914.41 |
| 322.62 | 1000.00   | 915.3  |
| 322.62 | 5000.00   | 918.77 |
| 322.62 | 10000.00  | 923.02 |
| 322.62 | 20000.00  | 930.99 |
| 342.52 | 100000.00 | 964.68 |
| 362.51 | 100.00    | 873.45 |
| 362.51 | 1000.00   | 874.46 |
| 362.51 | 5000.00   | 879.02 |
| 362.52 | 10000.00  | 884.41 |
| 362.52 | 20000.00  | 894.33 |
| 362.52 | 30000.00  | 903.29 |
| 362.52 | 40000.00  | 911.53 |
| 362.53 | 60000.00  | 926.3  |
| 362.53 | 80000.00  | 939.26 |
| 362.53 | 100000.00 | 950.89 |

Reference

<https://www.doi.org/10.1021/acs.jced.7b00176>

| Temperature, K | Pressure, kPa | Mass density, kg/m3 |
|----------------|---------------|---------------------|
| 293.15         | 100.00        | 943.5               |
| 293.15         | 5000.00       | 947.3               |
| 293.15         | 10000.00      | 950.9               |
| 293.15         | 15000.00      | 954.4               |
| 293.15         | 20000.00      | 957.7               |
| 293.15         | 25000.00      | 960.9               |
| 293.15         | 30000.00      | 964.0               |
| 293.15         | 35000.00      | 967.0               |
| 293.15         | 40000.00      | 969.8               |
| 293.15         | 45000.00      | 972.8               |
| 293.15         | 50000.00      | 975.4               |

|        |          |       |
|--------|----------|-------|
| 293.15 | 55000.00 | 978.2 |
| 293.15 | 60000.00 | 980.9 |
| 303.15 | 100.00   | 933.7 |
| 303.15 | 5000.00  | 937.6 |
| 303.15 | 10000.00 | 941.1 |
| 303.15 | 15000.00 | 945.0 |
| 303.15 | 20000.00 | 948.4 |
| 303.15 | 25000.00 | 951.8 |
| 303.15 | 30000.00 | 955.2 |
| 303.15 | 35000.00 | 958.2 |
| 303.15 | 40000.00 | 961.1 |
| 303.15 | 45000.00 | 964.0 |
| 303.15 | 50000.00 | 967.3 |
| 303.15 | 55000.00 | 970.1 |
| 303.15 | 60000.00 | 973.2 |
| 313.15 | 100.00   | 923.7 |
| 313.15 | 5000.00  | 927.9 |
| 313.15 | 10000.00 | 931.8 |
| 313.15 | 15000.00 | 935.7 |
| 313.15 | 20000.00 | 939.4 |
| 313.15 | 25000.00 | 942.6 |
| 313.15 | 30000.00 | 946.5 |
| 313.15 | 35000.00 | 949.7 |
| 313.15 | 40000.00 | 952.8 |
| 313.15 | 45000.00 | 956.1 |
| 313.15 | 50000.00 | 958.8 |
| 313.15 | 55000.00 | 961.9 |
| 313.15 | 60000.00 | 964.9 |
| 323.15 | 100.00   | 913.7 |
| 323.15 | 5000.00  | 918.2 |
| 323.15 | 10000.00 | 922.7 |
| 323.15 | 15000.00 | 926.4 |
| 323.15 | 20000.00 | 930.5 |
| 323.15 | 25000.00 | 934.2 |
| 323.15 | 30000.00 | 937.6 |
| 323.15 | 35000.00 | 941.0 |
| 323.15 | 40000.00 | 944.4 |
| 323.15 | 45000.00 | 947.6 |
| 323.15 | 50000.00 | 951.0 |
| 323.15 | 55000.00 | 953.9 |
| 323.15 | 60000.00 | 956.7 |
| 333.15 | 100.00   | 903.6 |
| 333.15 | 5000.00  | 908.3 |
| 333.15 | 10000.00 | 912.8 |

|        |          |       |
|--------|----------|-------|
| 333.15 | 15000.00 | 917.3 |
| 333.15 | 20000.00 | 921.0 |
| 333.15 | 25000.00 | 925.3 |
| 333.15 | 30000.00 | 928.9 |
| 333.15 | 35000.00 | 932.6 |
| 333.15 | 40000.00 | 936.4 |
| 333.15 | 45000.00 | 939.8 |
| 333.15 | 50000.00 | 942.9 |
| 333.15 | 55000.00 | 946.0 |
| 333.15 | 60000.00 | 949.1 |
| 343.15 | 100.00   | 893.6 |
| 343.15 | 5000.00  | 898.5 |
| 343.15 | 10000.00 | 903.2 |
| 343.15 | 15000.00 | 907.8 |
| 343.15 | 20000.00 | 912.3 |
| 343.15 | 25000.00 | 916.2 |
| 343.15 | 30000.00 | 920.5 |
| 343.15 | 35000.00 | 924.2 |
| 343.15 | 40000.00 | 928.0 |
| 343.15 | 45000.00 | 931.4 |
| 343.15 | 50000.00 | 934.8 |
| 343.15 | 55000.00 | 938.2 |
| 343.15 | 60000.00 | 941.4 |
| 353.15 | 100.00   | 883.3 |
| 353.15 | 5000.00  | 888.7 |
| 353.15 | 10000.00 | 893.9 |
| 353.15 | 15000.00 | 898.7 |
| 353.15 | 20000.00 | 903.2 |
| 353.15 | 25000.00 | 907.6 |
| 353.15 | 30000.00 | 911.6 |
| 353.15 | 35000.00 | 915.5 |
| 353.15 | 40000.00 | 919.5 |
| 353.15 | 45000.00 | 923.1 |
| 353.15 | 50000.00 | 927.0 |
| 353.15 | 55000.00 | 930.4 |
| 353.15 | 60000.00 | 933.6 |

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<https://www.doi.org/10.1021/je0340304>

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<http://webbook.nist.gov/cgi/cbook.cgi?ID=C111966&Units=SI>



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| Measurement of the Heat Capacity of Nitropropane and Nitroethane                                                                                                                                                                                                  | <a href="http://pubs.acs.org/doi/abs/10.1021/ci990307I">http://pubs.acs.org/doi/abs/10.1021/ci990307I</a>                                                                                                               |
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## Legend

|        |                                                           |
|--------|-----------------------------------------------------------|
| affp:  | Proton affinity                                           |
| basg:  | Gas basicity                                              |
| chl:   | Standard liquid enthalpy of combustion                    |
| cpg:   | Ideal gas heat capacity                                   |
| cpl:   | Liquid phase heat capacity                                |
| dvisc: | Dynamic viscosity                                         |
| gf:    | Standard Gibbs free energy of formation                   |
| hf:    | Enthalpy of formation at standard conditions              |
| hfl:   | Liquid phase enthalpy of formation at standard conditions |
| hfus:  | Enthalpy of fusion at standard conditions                 |
| hfust: | Enthalpy of fusion at a given temperature                 |
| hvap:  | Enthalpy of vaporization at standard conditions           |

|                 |                                                   |
|-----------------|---------------------------------------------------|
| <b>hvapt:</b>   | Enthalpy of vaporization at a given temperature   |
| <b>ie:</b>      | Ionization energy                                 |
| <b>log10ws:</b> | Log10 of Water solubility in mol/l                |
| <b>logp:</b>    | Octanol/Water partition coefficient               |
| <b>mcvol:</b>   | McGowan's characteristic volume                   |
| <b>pc:</b>      | Critical Pressure                                 |
| <b>pvap:</b>    | Vapor pressure                                    |
| <b>rfi:</b>     | Refractive Index                                  |
| <b>rho:</b>     | Liquid Density                                    |
| <b>rinpol:</b>  | Non-polar retention indices                       |
| <b>sfust:</b>   | Entropy of fusion at a given temperature          |
| <b>sl:</b>      | Liquid phase molar entropy at standard conditions |
| <b>speedsl:</b> | Speed of sound in fluid                           |
| <b>srf:</b>     | Surface Tension                                   |
| <b>tb:</b>      | Normal Boiling Point Temperature                  |
| <b>tc:</b>      | Critical Temperature                              |
| <b>tcondl:</b>  | Liquid thermal conductivity                       |
| <b>tf:</b>      | Normal melting (fusion) point                     |
| <b>vc:</b>      | Critical Volume                                   |

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