DIFFUSION COEFFICIENTS IN LIQUIDS AT INFINITE DILUTION

This table lists diffusion coefficients D_{AB} at infinite dilution for some binary liquid mixtures. Although values are given to two decimal places, measurements in the literature are often in poor agreement. Therefore most values in the table cannot be relied upon to better than 10%.

Solvents are listed in alphabetical order, as are the solutes within each solvent group.

REFERENCE

Landolt-Börnstein, *Numerical Data and Functional Relationships in Science and Technology*, Sixth Edition, Vol. II/5a, 1969.

Solute	Solvent	t/°C	D_{AB} 10^{-5} cm^2 s^{-1}
Acetic acid	Acetone	25	3.31
Benzoic acid	Acetone	25	2.62
Formic acid	Acetone	25	3.77
Nitrobenzene	Acetone	20	2.94
Tetrachloromethane	Acetone	25	3.29
Trichloromethane	Acetone	25	3.64
Water	Acetone	25	4.56
Acetic acid	Benzene	25	2.09
Aniline	Benzene	25	1.96
Benzoic acid	Benzene	25	1.38
Bromobenzene	Benzene	8	1.45
2-Butanone	Benzene	30	2.09
Chloroethylene	Benzene	8	1.77
Cyclohexane	Benzene	25	2.25
Ethanol	Benzene	25	3.02
Formic acid	Benzene	25	2.28
Heptane	Benzene	25	1.78
Methanol	Benzene	25	3.80
Toluene	Benzene	25	1.85
1,2,4-Trichlorobenzene	Benzene	8	1.34
Trichloromethane	Benzene	25	2.26
Adipic acid	1-Butanol	30	0.40
Benzene	1-Butanol	25	1.00
Biphenyl	1-Butanol	25	0.63
Butyric acid	1-Butanol	30	0.51
p-Dichlorobenzene	1-Butanol	25	0.82
Methanol	1-Butanol	30	0.59
Oleic acid	1-Butanol	30	0.25
Propane	1-Butanol	25	1.57
Water	1-Butanol	25	0.56
Benzene	Cyclohexane	25	1.41
Tetrachloromethane	Cyclohexane	25	1.49
Toluene	Cyclohexane	25	1.57
Allyl alcohol	Ethanol	20	0.98
Benzene	Ethanol	25	1.81
Iodine	Ethanol	25	1.32
Iodobenzene	Ethanol	20	1.00
3-Methyl-1-butanol	Ethanol	20	0.81
Pyridine	Ethanol	20	1.10
Tetrachloromethane	Ethanol	25	1.50
Water	Ethanol	25	1.24
Acetic acid	Ethyl acetate	20	2.18
Acetone	Ethyl acetate	20	3.18
2-Butanone	Ethyl acetate	30	2.93
Ethyl benzoate	Ethyl acetate	20	1.85
Nitrobenzene	Ethyl acetate	20	2.25
Water	Ethyl acetate	25	3.20
Benzene	Heptane	25	3.91
Toluene	Heptane	25	3.72
Bromobenzene	Hexane	8	2.60
2-Butanone	Hexane	30	3.74
Dodecane	Hexane	25	2.73
Iodine	Hexane	25	4.45
Methane	Hexane	25	0.09
Propane	Hexane	25	4.87
Tetrachloromethane	Hexane	25	3.70
Toluene	Hexane	25	4.21
Acetone	Tetrachloromethane	25	1.75
Benzene	Tetrachloromethane	25	1.42
Cyclohexane	Tetrachloromethane	25	1.30
Ethanol	Tetrachloromethane	25	1.90
Iodine	Tetrachloromethane	30	1.63
Trichloromethane	Tetrachloromethane	25	1.66
Acetic acid	Toluene	25	2.26
Benzene	Toluene	25	2.54
Benzoic acid	Toluene	25	1.49
Cyclohexane	Toluene	25	2.42
Formic acid	Toluene	25	2.65
Water	Toluene	25	6.19
Acetone	Trichloromethane	25	2.55
Benzene	Trichloromethane	25	2.89
2-Butanone	Trichloromethane	25	2.13
Butyl acetate	Trichloromethane	25	1.71
Diethyl ether	Trichloromethane	25	2.15
Ethanol	Trichloromethane	15	2.20
Ethyl acetate	Trichloromethane	25	2.02
Acetic acid	Water	25	1.29
Acetone	Water	25	1.28
Acetonitrile	Water	15	1.26
Alanine	Water	25	0.91
Allyl alcohol	Water	15	0.90
Aniline	Water	20	0.92
Arabinose	Water	20	0.69
Benzene	Water	20	1.02
1-Butanol	Water	25	0.56
Caprolactam	Water	25	0.87
Chloroethylene	Water	25	1.34
Cyclohexane	Water	20	0.84
Diethylamine	Water	20	0.97
Ethanol	Water	25	1.24
Ethanolamine	Water	25	1.08
Ethyl acetate	Water	20	1.00
Ethylbenzene	Water	20	0.81
Ethylene glycol	Water	25	1.16
Glucose	Water	25	0.67
Glycerol	Water	25	1.06
Glycine	Water	25	1.05
Lactose	Water	15	0.38
Maltose	Water	15	0.38
Mannitol	Water	15	0.50
Methane	Water	25	1.49
Methanol	Water	15	1.28
3-Methyl-1-butanol	Water	10	0.69
Methylcyclopentane	Water	20	0.85
Phenol	Water	20	0.89
1-Propanol	Water	15	0.87
Propene	Water	25	1.44
Pyridine	Water	25	0.58
Raffinose	Water	15	0.33
Sucrose	Water	25	0.52
Toluene	Water	20	0.85
Urea	Water	25	1.38
Urethane	Water	15	0.80