Basic Principles and Calculations in Chemical Engineering

Ninth Edition

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Conversion Factors

Instructions: Locate the given units on the row on the left-hand side of the table. Next, locate the desired units at the top of the column of the table. The conversion factor from the given units to the desired units is listed at the intersection of the row and the column. For example, to convert miles to feet, multiply by 5280.

Length Equivalents

	meter	kilometer	inch	foot	mile
meter	1	10^{-3}	39.37	3.2808	6.214×10^{-4}
kilometer	1000	1	3.937×10^{4}	3280.8	0.6214
inch	0.02540	2.540×10^{-5}	1	0.08333	1.5783×10^{-5}
foot	0.3048	3.048×10^{-4}	12	1	1.894×10^{-4}
mile	1609.3	1.61	6.336×10^{4}	5280	1

Mass Equivalents

	grams	kilograms	metric ton	pounds	ton
grams	1	10^{-3}	10^{-6}	2.2046×10^{-3}	1.102×10^{-6}
kilograms	1000	1	10^{-3}	2.2046	1.102×10^{-3}
metric ton	10^{6}	1000	1	2204.6	1.1023
pounds	453.6	0.4536	4.536×10^{-4}	1	5×10^{-4}
ton	9.072×10^{5}	907.2	0.9072	2000	1

Volume Equivalents

	liters	m^3	in^3	US gallon	ft^3
liters	1	10^{-3}	61.023	0.2642	0.03531
m^3	1000	1	61.023×10^{3}	264.2	35.31
in^3	1.639×10^{-2}	1.639×10^{-5}	1	4.329×10^{-3}	5.787×10^{-4}
US gallon	3.785	3.785×10^{-3}	231	1	0.1337
ft^3	28.32	0.02832	1.728×10^{3}	7.481	1

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