

Table B1. Metric Conversion Factors

| Type of Unit | U.S. Unit | | Equivalent in | Metric Units |
|--------------------------------|---|---|-------------------------------|---------------------------------------|
| Mass | 1 short ton (2,000 lb) | = | 0.907 184 7 | metric tons (t) |
| | 1 long ton | = | 1.016 047 | metric tons (t) |
| | 1 pound (lb) | = | 0.453 592 37 ^a | kilograms (kg) |
| | 1 pound uranium oxide (lb U ₃ O ₈) | = | 0.384 647 ^b | kilograms uranium (kgU) |
| | 1 ounce, avoirdupois (avdp oz) | = | 28.349 52 | grams (g) |
| Volume | 1 barrel of oil (bbl) | = | 0.158 987 3 | cubic meters (m ³) |
| | 1 cubic yard (yd ³) | = | 0.764 555 | cubic meters (m ³) |
| | 1 cubic foot (ft ³) | = | 0.028 316 85 | cubic meters (m ³) |
| | 1 U.S. gallon (gal) | = | 3.785 412 | liters (L) |
| | 1 ounce, fluid (fl oz) | = | 29.573 53 | milliliters (mL) |
| | 1 cubic inch (in ³) | = | 16.387 06 | milliliters (mL) |
| Length | 1 mile (mi) | = | 1.609 344 ^a | kilometers (km) |
| | 1 yard (yd) | = | 0.914 4 ^a | meters (m) |
| | 1 foot (ft) | = | 0.304 8 ^a | meters (m) |
| | 1 inch (in) | = | 2.54 ^a | centimeters (cm) |
| Area | 1 acre | = | 0.404 69 | hectares (ha) |
| | 1 square mile (mi ²) | = | 2.589 988 | square kilometers (km ²) |
| | 1 square yard (yd ²) | = | 0.836 127 4 | square meters (m ²) |
| | 1 square foot (ft ²) | = | 0.092 903 04 ^a | square meters (m ²) |
| | 1 square inch (in ²) | = | 6.451 6 ^a | square centimeters (cm ²) |
| Energy | 1 British thermal unit (Btu) ^c | = | 1,055.055 852 62 ^a | joules (J) |
| | 1 calorie (cal) | = | 4.186 8 ^a | joules (J) |
| | 1 kilowatthour (kWh) | = | 3.6 ^a | megajoules (MJ) |
| Temperature^d | 32 degrees Fahrenheit (°F) | = | 0 ^a | degrees Celsius (°C) |
| | 212 degrees Fahrenheit (°F) | = | 100 ^a | degrees Celsius (°C) |

^aExact conversion.

^bCalculated by the Energy Information Administration.

^cThe Btu used in this table is the International Table Btu adopted by the Fifth International Conference on Properties of Steam, London, 1956.

^dTo convert degrees Fahrenheit (°F) to degrees Celsius (°C) exactly, subtract 32, then multiply by 5/9.

Notes: • Spaces have been inserted after every third digit to the right of the decimal for ease of reading. • Most metric units belong to the International System of Units (SI), and the liter, hectare, and metric ton are accepted for use with the SI units. For more information about the SI units, see <http://physics.nist.gov/cuu/Units/index.html>.

Web Page: http://www.eia.doe.gov/emeu/mer/append_b.html.

Sources: • General Services Administration, Federal Standard 376B, *Preferred Metric Units for General Use by the Federal Government* (Washington, DC, January 1993), pp. 9-11, 13, and 16. • U.S. Department of Commerce, National Institute of Standards and Technology, Special Publications 330, 811, and 814. • American National Standards Institute/Institute of Electrical and Electronic Engineers, ANSI/IEEE Std 268-1992, pp. 28 and 29.