

# Appendix A: Units of Measure

**Appendix Table A-1 Base Units of Measure**

This table presents the standard base units of measure that may be encountered throughout this text and the associated reference texts.

| Measured Quantity | Symbol          | Name                       |
|-------------------|-----------------|----------------------------|
| Temperature       | °C              | degrees Celsius            |
|                   | °F              | degrees Fahrenheit         |
| Time              | d               | day                        |
|                   | h               | hour                       |
|                   | m               | minute                     |
|                   | s               | second                     |
|                   | y               | year                       |
| Length            | ft or '         | foot                       |
|                   | in              | inch                       |
|                   | m               | meter                      |
|                   | yd              | yard                       |
| Mass              | g               | gram                       |
|                   | lb              | pound                      |
| Area              | mi <sup>2</sup> | square mile                |
|                   | ft <sup>2</sup> | square foot                |
|                   | ft <sup>3</sup> | cubic foot                 |
|                   | m <sup>3</sup>  | cubic meter                |
|                   | yd <sup>3</sup> | cubic yard                 |
| Volume            | gal             | gallon                     |
|                   | L               | liter                      |
| Concentration     | ppb             | parts per billion          |
|                   | ppm             | parts per million          |
| Rate              | cfs             | cubic feet per second      |
|                   | gpm             | gallons per minute         |
| Conductivity      | mho             | mho                        |
| Radioactivity     | Ci              | curie                      |
|                   | cpm             | counts per minute          |
|                   | Bq              | becquerel                  |
|                   | d/m or dpm      | disintegrations per minute |
| Radiation Dose    | rad             | radiation absorbed dose    |
|                   | rem             | roentgen equivalent man    |
|                   | Sv              | sievert                    |
|                   | R               | roentgen                   |
|                   | Gy              | gray                       |

**Appendix Table A-2 Conversion Tables**

These tables present the prefixes and conversions that may be encountered throughout this text and the associated reference texts.

| <b>Conversion Table (Fractions and Multiples of Units)</b> |                           |               |               |                      |
|------------------------------------------------------------|---------------------------|---------------|---------------|----------------------|
| <b>Multiple</b>                                            | <b>Decimal Equivalent</b> | <b>Prefix</b> | <b>Symbol</b> | <b>Report Format</b> |
| $10^6$                                                     | 1,000,000                 | mega-         | M             | E+06                 |
| $10^3$                                                     | 1,000                     | kilo-         | k             | E+03                 |
| $10^2$                                                     | 100                       | hecto-        | h             | E+02                 |
| 10                                                         | 10                        | deka-         | da            | E+01                 |
| $10^{-1}$                                                  | 0.1                       | deci-         | d             | E-01                 |
| $10^{-2}$                                                  | 0.01                      | centi-        | c             | E-02                 |
| $10^{-3}$                                                  | 0.001                     | milli-        | m             | E-03                 |
| $10^{-6}$                                                  | 0.000001                  | micro-        | $\mu$         | E-06                 |
| $10^{-9}$                                                  | 0.000000001               | nano-         | n             | E-09                 |
| $10^{-12}$                                                 | 1E-12                     | pico-         | p             | E-12                 |
| $10^{-15}$                                                 | 1E-15                     | femto-        | f             | E-15                 |
| $10^{-18}$                                                 | 1E-18                     | atto-         | a             | E-18                 |

| <b>Conversion Table (English and <i>Système International</i> Units)</b> |            |                     |                     |           |                          |
|--------------------------------------------------------------------------|------------|---------------------|---------------------|-----------|--------------------------|
| <b>Multiply</b>                                                          | <b>By</b>  | <b>To Obtain</b>    | <b>Multiply</b>     | <b>By</b> | <b>To Obtain</b>         |
| in                                                                       | 2.54       | cm                  | cm                  | 0.394     | in                       |
| ft                                                                       | 0.305      | m                   | m                   | 3.28      | ft                       |
| mi                                                                       | 1.61       | km                  | km                  | 0.621     | mi                       |
| lb                                                                       | 0.4536     | kg                  | kg                  | 2.205     | lb                       |
| liq qt-US                                                                | 0.945      | L                   | L                   | 1.057     | liq qt-US                |
| ft <sup>2</sup>                                                          | 0.093      | m <sup>2</sup>      | m <sup>2</sup>      | 10.764    | ft <sup>2</sup>          |
| mi <sup>2</sup>                                                          | 2.59       | km <sup>2</sup>     | km <sup>2</sup>     | 0.386     | mi <sup>2</sup>          |
| ft <sup>3</sup>                                                          | 0.028      | m <sup>3</sup>      | m <sup>3</sup>      | 35.31     | ft <sup>3</sup>          |
| d/m                                                                      | 0.450      | pCi                 | pCi                 | 2.22      | d/m                      |
| pCi                                                                      | $10^{-6}$  | $\mu$ Ci            | $\mu$ Ci            | $10^6$    | pCi                      |
| pCi/L (water)                                                            | $10^{-9}$  | $\mu$ Ci/mL (water) | $\mu$ Ci/mL (water) | $10^9$    | pCi/L (water)            |
| pCi/m <sup>3</sup> (air)                                                 | $10^{-12}$ | $\mu$ Ci/mL (air)   | $\mu$ Ci/mL (air)   | $10^{12}$ | pCi/m <sup>3</sup> (air) |

| <b>Conversion Table (Units of Radiation Measure)</b> |                                     |                                |
|------------------------------------------------------|-------------------------------------|--------------------------------|
| <b>Current System</b>                                | <b><i>Système International</i></b> | <b>Conversion</b>              |
| curie (Ci)                                           | becquerel (Bq)                      | 1 Ci = $3.7 \times 10^{10}$ Bq |
| rad (radiation absorbed dose)                        | gray (Gy)                           | 1 rad = 0.01 Gy                |
| rem (roentgen equivalent man)                        | sievert (Sv)                        | 1 rem = 0.01 Sv                |