Units of Measure

Radioactivity	*Symbol*	*Name*
	Ci	curie
	mCi	millicurie (1E-03 Ci)
	µCi	microcurie (1E-06 Ci)
	nCi	nanocurie (1E-09 Ci)
	pCi	picocurie (1E-12 Ci)
	Bq	becquerel (27 pCi)
	d/s	disintegrations per second

Dose	*Symbol*	*Name*
	Sv	sievert (100 rem)
	mSv	millisievert (1E-03 Sv)
	Gy	gray (100 rad)
	mrem	millirem (1E-03 rem)

Concentration	*Symbol*	*Name*
	µCi/mL	microcuries per milliliter
	mL/L	milliliters per liter
	µCi/g	microcuries per gram
	mg/L	milligrams per liter (ppm)
	mg/kg	milligrams per kilogram (ppm)
	µg/mL	micrograms per milliliter (ppm)
	pCi/L	picocuries per liter
	ng/L	nanograms per liter (ppt)
	µg/L	micrograms per liter (ppb)
	µg/g	micrograms per gram (ppm)
	Bq/L	becquerels per liter
	ppm	parts per million
	ppb	parts per billion
	ppt	parts per trillion
	NTU	nephlemetric turbidity units
	SU	standard units

Mass	*Symbol*	*Name*
	g	gram
	kg	kilogram (1E+03 g)
	mg	milligram (1E-03 g)
	µg	microgram (1E-06 g)
	ng	nanogram (1E-09 g)
	t	metric ton (1E+06 g)

Volume	*Symbol*	*Name*
	cm^3	cubic centimeter
	L	liter
	mL	milliliter
	m^3	cubic meter
	gal	gallon
	ft^3	cubic feet

Area	*Symbol*	*Name*
	ha	hectare (10,000 m^2)

Length	*Symbol*	*Name*
	m	meter
	km	kilometer (1E+03 m)
	cm	centimeter (1E-02 m)
	mm	millimeter (1E-03 m)
	µm	micrometer (1E-06 m)

Exposure	*Symbol*	*Name*
	µR	microroentgen
	mR	milliroentgen

Flow Rate or Speed	*Symbol*	*Name*
	mgd	million gallons per day
	cfm	cubic feet per minute
	Lpm	liters per minute
	gpd	gallons per day
	m/sec	meters per second

Unit Prefixes

centi	$1/100 = 1 \times 10^{-2} = 0.01 = E\text{-}02$
milli	$1/1{,}000 = 1 \times 10^{-3} = 0.001 = E\text{-}03$
micro	$1/1{,}000{,}000 = 1 \times 10^{-6} = 0.000001 = E\text{-}06$
nano	$1/1{,}000{,}000{,}000 = 1 \times 10^{-9} = 0.000000001 = E\text{-}09$
pico	$1/1{,}000{,}000{,}000{,}000 = 1 \times 10^{-12} = 0.000000000001 = E\text{-}12$

Scientific Notation

Scientific notation may be used to express very large or very small numbers. A number smaller than 1 is expressed with a negative exponent (e.g., 1.3×10^{-6}). To convert this number to decimal form, the decimal point is moved left by the number of places equal to the exponent. Thus, 1.3×10^{-6} becomes 0.0000013.

A number larger than 10 is expressed with a positive exponent (e.g., 1.3×10^{6}). To convert this number to decimal form, the decimal point is moved right by the number of places equal to the exponent. Thus, 1.3×10^{6} becomes 1,300,000.

The power of 10 also is expressed as E. For example, 1.3×10^{-6} also can be written as 1.3E-06. The chart below shows equivalent exponential and decimal values.

1.0×10^{2}	=	1E+02	= 100	
1.0×10^{1}	=	1E+01	= 10	
1.0×10^{0}	=	1E+00	= 1	
1.0×10^{-1}	=	1E-01	= 0.1	
1.0×10^{-2}	=	1E-02	= 0.01	
1.0×10^{-3}	=	1E-03	= 0.001	
1.0×10^{-4}	=	1E-04	= 0.0001	
1.0×10^{-5}	=	1E-05	= 0.00001	
1.0×10^{-6}	=	1E-06	= 0.000001	One millionth
1.0×10^{-7}	=	1E-07	= 0.0000001	
1.0×10^{-8}	=	1E-08	= 0.00000001	

Conversion Chart

Both traditional radiological units (curie, roentgen, rad, rem) and the Systeme Internationale (S.I.) units (becquerel, gray, sievert) are used in this report. Nonradiological measurements are presented in both English and metric units. Frequently-used radioactivity and dose conversions are bolded.

1 centimeter (cm)	=	0.3937 inches (in)
1 meter (m)	=	39.37 inches (in) = 3.28 feet (ft)
1 kilometer (km)	=	0.62 miles (mi)
1 milliliter (mL)	=	0.0338 ounces (oz)
	=	0.061 cubic inches (in^3)
	=	1 cubic centimeter (cm^3)
1 liter (L)	=	1.057 quarts (qt)
	=	61.02 cubic inches (in^3)
1 gram (g)	=	0.0353 ounces (oz)
	=	0.0022 pounds (lbs)
1 kilogram (kg)	=	2.2 pounds (lbs)
1 curie (Ci)	=	3.7E+10 disintegrations per second (d/s)
1 becquerel (Bq)	**=**	**1 disintegration per second (d/s)**
	=	**27 picocuries (pCi)**
1 roentgen (R)	=	2.58E-04 coulombs per kilogram of air (C/kg)
1 rad	**=**	**0.01 gray (Gy)**
1 rem	**=**	**0.01 sievert (Sv)**
1 millirem (mrem)	=	0.001 rem
1 sievert (Sv)	**=**	**100 rem**