Bevington relates *erf* to the Gaussian distribution by

$$\mathrm{erf} Z = \frac{1}{\sqrt{\pi}} \int_{-Z}^{Z} e^{-z^2} dz \ = A_G(z\sqrt{2}, 0, 1)$$

where

$$A_G(x, \mu, \sigma) = \frac{1}{\sigma\sqrt{2\pi}} \int_{\mu-2\sigma}^{\mu+2\sigma} \exp\left[-\frac{1}{2}\left(\frac{x-\mu}{\sigma}\right)^2\right] \ dx$$

$$z = \frac{|x-\mu|}{\sigma}$$

From Arfken, the error function is also related to the incomplete gamma functions:

$$\mathrm{erf} z = \pi^{-1/2}\gamma(\frac{1}{2}, z^2)$$

$$\mathrm{erfc} z = \pi^{-1/2}, (\frac{1}{2}, z^2)$$

I haven't found any information on the valid domain as implemented in standard math libraries. Since $\lim_{x\to\pm\infty} = \pm 1$, I imagine that it gives reasonable results for all input.

That said, it's not a bad idea to double-check the results on one computer against those on another. Lesser used functions of the math library have been known to be wrong in the past.