



Linux Ubuntu 26.04 Manual Pages on command 'erfc.3'

\$ man erfc.3

erfc(3) Library Functions Manual erfc(3)

NAME

erfc, erfcf, erfcl - complementary error function

LIBRARY

Math library (libm, -lm)

SYNOPSIS

```
#include <math.h>
```

```
double erfc(double x);
```

```
float erfcf(float x);
```

```
long double erfcl(long double x);
```

Feature Test Macro Requirements for glibc (see feature_test_macros(7)):

erfc():

```
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L || _XOPEN_SOURCE
```

```
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
```

```
|| /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

erfcf(), erfcl():

```
_ISOC99_SOURCE || _POSIX_C_SOURCE >= 200112L
```

```
|| /* Since glibc 2.19: */ _DEFAULT_SOURCE
```

```
|| /* glibc <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

DESCRIPTION

These functions return the complementary error function of x, that is, $1.0 - \text{erf}(x)$.

RETURN VALUE

On success, these functions return the complementary error function of x, a value in the

range $[0,2]$.

If x is a NaN, a NaN is returned.

If x is +0 or -0, 1 is returned.

If x is positive infinity, +0 is returned.

If x is negative infinity, +2 is returned.

If the function result underflows and produces an unrepresentable value, the return value is 0.0.

If the function result underflows but produces a representable (i.e., subnormal) value, that value is returned, and a range error occurs.

ERRORS

See `math_error(7)` for information on how to determine whether an error has occurred when calling these functions.

The following errors can occur:

Range error: result underflow (result is subnormal)

An underflow floating-point exception (FE_UNDERFLOW) is raised.

These functions do not set errno.

ATTRIBUTES

For an explanation of the terms used in this section, see `attributes(7)`.

[illegible]

?	Interface	?	Attribute	?	Value	?
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[illegible]

? erfc(), erfcf(), erfcl()	? Thread safety ? MT-Safe ?
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[illegible]

STANDARDS

C11, POSIX.1-2008.

HISTORY

C99, POSIX.1-2001.

The variant returning double also conforms to SVr4, 4.3BSD.

NOTES

The `erfc()`, `erfcf()`, and `erfcl()` functions are provided to avoid the loss accuracy that would occur for the calculation $1-\text{erf}(x)$ for large values of x (for which the value of $\text{erf}(x)$ approaches 1).

SEE ALSO

cerf(3), erf(3), exp(3)

Linux man-pages 6.17

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