



Rocky Enterprise Linux 9.2 Manual Pages on command 'erfcf.3'

\$ man erfcf.3

ERFC(3) Linux Programmer's Manual ERFC(3)

NAME

erfc, erfcf, erfcl - complementary error function

SYNOPSIS

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

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

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

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

Link with -lm.

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

erfcf(), erfcl():

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

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

```
|| /* Glibc versions <= 2.19: */ _BSD_SOURCE || _SVID_SOURCE
```

DESCRIPTION

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

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)`.

??

?Interface ? Attribute ? Value ?

??

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

??

CONFORMING TO

C99, POSIX.1-2001, POSIX.1-2008.

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)`

COLOPHON

This page is part of release 5.10 of the Linux man-pages project. A description of the project, information about reporting bugs, and the latest version of this page, can be found at <https://www.kernel.org/doc/man-pages/>.

GNU

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