

NAME

Tsat – compute the saturation pressure

LIBRARY

iapws library (*libiapws*, *-liapws*)

SYNOPSIS

```

Fortran      pure subroutine Tsat(ps, Ts)
               real(dp), intent(in), contiguous :: ps(:)
               real(dp), intent(out), contiguous :: Ts(:)

C            void iapws_r797_Tsat(size_t N, double *ps, double * Ts)

Python      Tsat(ps:np.ndarray)->Union[np.ndarray,float]:

```

DESCRIPTION

Arguments:

ps(:) Saturation pressure in MPa.

Ts(:) Saturation temperature in K.

Validity range: 611.213 Pa <= *ps* <= 22.064 MPa

RETURN VALUE

Ts is filled with NaN if out of validity range.

EXAMPLES

Fortran:

```

use iapws
real(dp) :: T(1), p(1)
p(1) = 0.1_dp
call Tsat(p, T)

```

C:

```

#include "iapws.h"
double p = 0.1;
double T;
iapws_g704_Tsat(1, &p, &T);

```

Python:

```

import numpy as np
import pyiapws
p = np.asarray([0.1])
T = pyiapws.Tsat(p)
print(T)

```

SEE ALSO

iapws(1) **iapws_lib(3)** **iapws_psat(3)** **iapws_Tsat(3)** **iapws_kh(3)** **iapws_kd(3)** **iapws_kw(3)**
iapws_Tc(3) **iapws_pc(3)** **ciaaw(3)**, **codata(3)**,