Scientific IAPWS-95	Calculates at Specified	Calling Sequence Example
Saturated Vapor, Liquid, and Two-Phase Functions		
STPSAT	pressure *(P)*	STPSAT(pressure, quality, code, units)
STTSAT	temperature *(T)*	STTSAT(temperature, quality, code, *units*)
Superheated or Subcooled Functions		
STTP	temperature and pressure *(T-P)*	STTP(temperature, pressure, code, *units*)
STTV	temperature and volume *(T-V)*	STTV(temperature, volume, code, *units*)
STTH	temperature and enthalpy *(T-H)*	STTH(temperature, enthalpy, code, *units*)
STTS	temperature and entropy *(T-S)*	STTS(temperature, entropy, code, *units*)
STTU	temperature and internal energy *(T-U)*	STTU(temperature, internal, code, *units*)
STPV	pressure and volume *(P-V)*	STPV(pressure, volume, code, *units*)
STPH	pressure and enthalpy *(P-H)*	STPH(pressure, enthalpy, code, *units*)
STPS	pressure and entropy *(P-S)*	STPS(pressure, entropy, code, *units*)
STPU	pressure and internal energy *(P-U)*	STPU(pressure, internal, code, *units*)
Constant Properties Functions		
STWM	Molecular weight, 18.015 kg/kmol	STMW(*units*)
STTC	Critical temperature, 373.946ºC	STTC(*units*)
STPC	Critical pressure, 220.64 bar	STPC(*units*)
STVC	Critical specific volume, 0.003106 m^3/kg	STVC(*units*)
STRC	Critical specific density, 322 kg/m^3	STRC(*units*)
STZC	Critical compressibility factor, 0.229441	STZC(*units*)
STTPT	Triple point temperature, 0.01ºC	STTPT(*units*)
STTPP	Triple point pressure, 0.00611657 bar	STTPP(*units*)

Quality	
0	Saturated Liquid
1	Saturated Vapor
0 < Q < 1	Two-phase
-1*	Indeterminate*
-2*	Superheated vapor*
-3*	Subcooled liquid*
Units	
0 or none	Metric/SI
1	English

*Cannot be specified as a function argument. Only returned as a calculated value.

Code		Steam Property	Metric/SI Units	English Units
0	T	Temperature, T	°C	°F
1	P	Pressure, P	bar	psia
2	V	Volume, V	m^3/kg	ft^3/lb
3	D	Density, ρ	kg/m^3	lb/ft^3
4	Z	Compressibility factor, Z	dimensionless	dimensionless
5	A	Helmoltz free energy, A	kJ/kg	Btu/lb
6	S	Entropy, S	kJ/(kg·°C)	Btu/(lb·°F)
7	U	Internal energy, U	kJ/kg	Btu/lb
8	H	Enthalpy, H	kJ/kg	Btu/lb
9	G	Gibbs free energy, G	kJ/kg	Btu/lb
10	CV	Heat capacity at constant volume, C_v	kJ/(kg·°C)	Btu/(lb·°F)
11	CP	Heat capacity at constant pressure, C_p	kJ/(kg·°C)	Btu/(lb·°F)
12	W	Speed of sound, v	m/s	ft/s
13	ALPHA	Coefficient of thermal expansion, $\alpha = \rho(\partial V/\partial T)_P$	1/°C	1/°F
14	KAPPA	Isothermal compressibility, $\kappa = -\rho(\partial V/\partial P)_T$	1/bar	1/psia
15	DPDT	dpdt, $(\partial P/\partial T)_V$	bar/°C	psia/°F
16	DVDT	dvdt, $(\partial V/\partial T)_P$	$m^3/(kg·°C)$	$ft^3/(lb·°F)$
17	DVDP	dvdp, $(\partial V/\partial P)_T$	$m^3/(kg·bar)$	$ft^3/(lb·psi)$
18	MU	Viscosity (dynamic), μ	μPa·s	lb/(ft·hr)
19	KT	Thermal conductivity, K	W/(m·°C)	Btu/(hr·ft·°F)
20	ST	Surface tension, σ	N/m	N/m
21	PR	Prandtl number, N_{Pr}	dimensionless	dimensionless
22	DC	Static dielectric constant	dimensionless	dimensionless
23	IJT	Isothermal Joule-Thomson coefficient	kJ/(kg·bar)	Btu/(lb·psia)
24	JT	Joule-Thomson coefficient	°C/bar	°F/psia
25	Q	Quality (vapor mass fraction)	dimensionless	dimensionless
26	GAMMA	Isentropic exponent, $\gamma = -V / P(\partial P / \partial V)_S$	dimensionless	dimensionless
27	HV	Latent heat of vaporization	kJ/kg	Btu/lb