

AntEqn_3.2

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English is not my native language, so please excuse my errors.

AntEqn calculates saturation pressure for a given temperature or saturation temperature for a given pressure using Antoine's equation. There is a list of species from which you can choose yours so you don't have to type A,B,C constants.

Calculator: HP-49G
Version: 3.2
First Version: 31 gen 2002
Last update: 16 oct 2002
Library number: 1007
Size on hp: 3222

=====
INSTALLATION

=====
Download the library (number 1007) on the calculator and recall it into the stack. Enter the port number (0,1,2) where you want to store it and press STO. My suggestion is to select port 1 or 2 in order not to decelerate the processor speed. Perform a warmstart by pressing simultaneously [ON][C]. Since the library is now attached you can now delete the variable in Var menù.

=====
DESCRIPTION

=====
Press AntEq from lib menù to start the program.
Your HP will display what follows:

```
Calculate:
Psat
Tsat
```

CANCL OK

Choose to calculate Tsat or Psat.

```
RAD XYZ HEX C= 'X'          PROC
( HOME)
-----
Enter T
```

```
: T: *
ANTOI About
```

```
RAD XYZ HEX C= 'X'          PROC
( HOME)
-----
Enter P
```

```
: P:
ANTOI About
```

Enter T or P then choose the unit from the following list:

```
Temperature unit
-----
 C
 F
 K
 R
```

```
-----
CANCL OK
```

```
Pressure unit
-----
 mmHg
 atm
 bar
 psi
 Pa
```

```
-----
CANCL OK
```

The next screen is:

```
List of Species
Enter Constants
```

```
-----
CANCL OK
```

If you choose to set manually the constants you can also choose the Antoine's equation form. This is very usefull because makes the program more flexible.

```
Equation Form:
-----
 LN(P)=A-B/(T+C)
 LOG(P)=A-B/(T+C)
```

```
-----
CANCL OK
```

```
RAD XYZ HEX C= 'X'          PROC
( HOME)
-----
Enter A, B, C
```

```
: A:
: B:
: C:
ANTOI About
```

Please notice that since the output units depends on the form of the equation the result unit is unknown so you will get :

```

RAD XYZ HEX C= 'X'
{HOME}
-----
5:
4:
3:
2:
1:                               2.556_?
ANTOI About

```

The other option is to choose from a list of 22 species:

```

Choose the Specie
-----
Acetone      C3H6O
Acetylene   C2H2
Air
Ammonia     NH3
Benzene     C6H6
Butane      C4H10
-----
CANCL  OK

```

The available species are:

| | | | | |
|----------|--------------|-----------|------------|--------------|
| Acetone | Acetylene | Air | Ammonia | Benzene |
| Butane | Cyclobenzene | Ethane | Ethanol | Ethylbenzene |
| Etylene | Hexane | Isobutane | Isopentane | Methane |
| Methanol | Oxigen | Pentane | Propene | Phenol |
| Toluene | Water | | | |

Once you selected the specie you will get Tsat (°C) or Psat (atm)

```

RAD XYZ HEX C= 'X'
{HOME}
-----
5:
4:
3:
2:
1:                               54.316_°C
ANTOI About

```

```

RAD XYZ HEX C= 'X'
{HOME}
-----
5:
4:
3:
2:
1:                               1.26_atm
ANTOI About

```

=====

NOTICE

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Thank you for downloading this program.

Padova, 16/10/2002

For any suggestion or comment please contact me at franzcol@inwind.it .