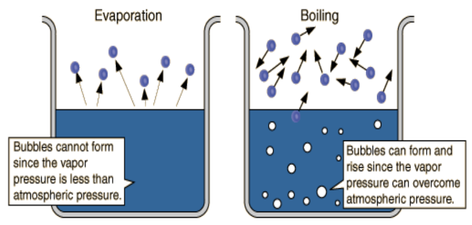
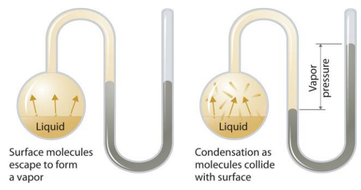
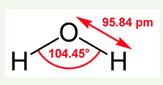
VAPOR PRESSURE OF WATER
ISOTENISCOPE METHOD

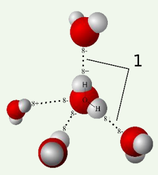




Water

Hydrogen bond

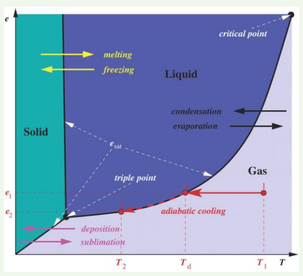


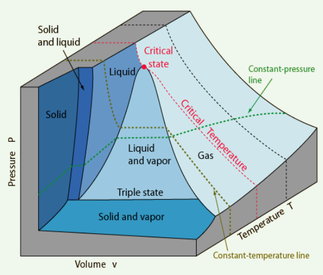


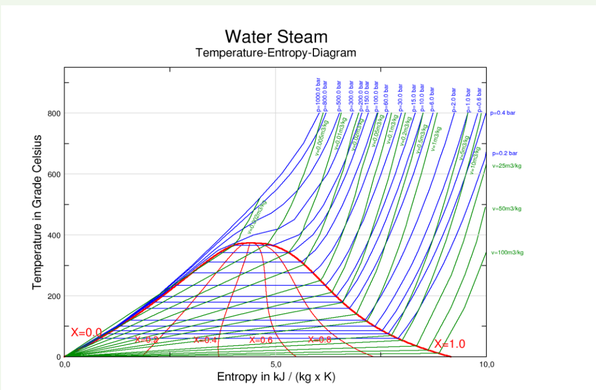
Vapour Pressure … Volatility …..

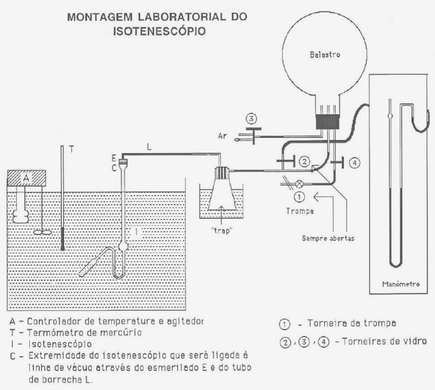
Impact on environment

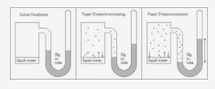
Phase Diagrams … Thermodynamics

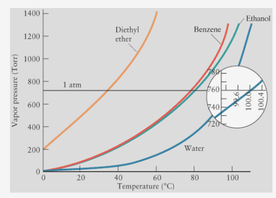






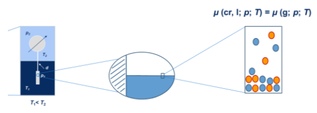






Vapour pressure of water (0–100 Celsius)[1]				
T(C)	T(F)	P(kPa)	P(torr)	P(atm)
0	32	0.6113	4.5851	0.0060
5	41	0.8726	6.5450	0.0086
10	50	1.2281	9.2115	0.0121
15	59	1.7056	12.7931	0.0168
20	68	2.3388	17.5424	0.0231
25	77	3.1690	23.7695	0.0313
30	86	4.2455	31.8439	0.0419
35	95	5.6267	42.2037	0.0555
40	104	7.3814	55.3651	0.0728
45	113	9.5898	71.9294	0.0946
50	122	12.3440	92.5876	0.1218
55	131	15.7520	118.1497	0.1555
60	140	19.9320	149.5023	0.1967
65	149	25.0220	187.6804	0.2469
70	158	31.1760	233.8392	0.3077
75	167	38.5630	289.2463	0.3806
80	176	47.3730	355.3267	0.4675
85	185	57.8150	433.6482	0.5706
90	194	70.1170	525.9208	0.6920
95	203	84.5290	634.0196	0.8342
100	212	101.3200	759.9625	1.0000

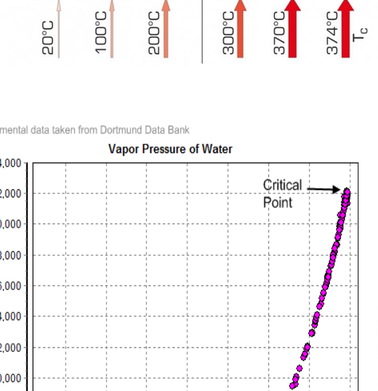
Vapor Pressure of Water



$$P = \exp\left(20.386 - \frac{5132}{T}\right)\ \text{mmHg}$$

$$\log_{10} P = A - \frac{B}{C+T}$$

	A	B	C	T_{min}, °C	T_{max}, °C
Water	8.07131	1730.63	233.426	1	99
Water	8.14019	1810.94	244.485	100	374



Heating up water in a closed tank: the pressure and temperature increase proportionally up to the critical point, at which fluid and vapour are no longer distinguishable from each other; critical point at Tc=374°C, pc=221bar, dotted line: temperature limit of the experimental unit

Experimental data taken from Dortmund Data Bank