

## Oxygen Saturation Table (in mg/l or ppm)

(assume elevation at sea level and 100% water saturation of air above sample)

Temp

Salinity (ppt)

(°C)	0	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	32	34
0	14.6	14.4	14.2	14.0	13.8	13.6	13.4	13.3	13.1	12.9	12.7	12.6	12.4	12.2	12.0	11.9	11.7	11.6
1	14.2	14.0	13.8	13.6	13.4	13.3	13.1	12.9	12.7	12.6	12.4	12.2	12.1	11.9	11.7	11.6	11.4	11.3
2	13.8	13.6	13.4	13.3	13.1	12.9	12.7	12.6	12.4	12.2	12.1	11.9	11.7	11.6	11.4	11.3	11.1	11.0
3	13.4	13.3	13.1	12.9	12.7	12.6	12.4	12.2	12.1	11.9	11.8	11.6	11.4	11.3	11.1	11.0	10.8	10.7
4	13.1	12.9	12.7	12.6	12.4	12.2	12.1	11.9	11.8	11.6	11.5	11.3	11.2	11.0	10.9	10.7	10.6	10.4
5	12.7	12.6	12.4	12.3	12.1	11.9	11.8	11.6	11.5	11.3	11.2	11.0	10.9	10.7	10.6	10.5	10.3	10.2
6	12.4	12.3	12.1	11.9	11.8	11.6	11.5	11.3	11.2	11.0	10.9	10.8	10.6	10.5	10.3	10.2	10.1	9.9
7	12.1	12.0	11.8	11.7	11.5	11.4	11.2	11.1	10.9	10.8	10.6	10.5	10.4	10.2	10.1	10.0	9.8	9.7
8	11.8	11.7	11.5	11.4	11.2	11.1	10.9	10.8	10.7	10.5	10.4	10.3	10.1	10.0	9.9	9.7	9.6	9.5
9	11.5	11.4	11.2	11.1	11.0	10.8	10.7	10.5	10.4	10.3	10.2	10.0	9.9	9.8	9.6	9.5	9.4	9.3
10	11.3	11.1	11.0	10.8	10.7	10.6	10.4	10.3	10.2	10.0	9.9	9.8	9.7	9.6	9.4	9.3	9.2	9.1
11	11.0	10.9	10.7	10.6	10.5	10.3	10.2	10.1	9.9	9.8	9.7	9.6	9.5	9.3	9.2	9.1	9.0	8.9
12	10.8	10.6	10.5	10.4	10.2	10.1	10.0	9.9	9.7	9.6	9.5	9.4	9.3	9.1	9.0	8.9	8.8	8.7
13	10.5	10.4	10.3	10.1	10.0	9.9	9.8	9.6	9.5	9.4	9.3	9.2	9.1	8.9	8.8	8.7	8.6	8.5
14	10.3	10.2	10.0	9.9	9.8	9.7	9.6	9.4	9.3	9.2	9.1	9.0	8.9	8.8	8.7	8.5	8.4	8.3
15	10.1	9.9	9.8	9.7	9.6	9.5	9.3	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2
16	9.8	9.7	9.6	9.5	9.4	9.3	9.2	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0
17	9.6	9.5	9.4	9.3	9.2	9.1	9.0	8.9	8.8	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.9
18	9.4	9.3	9.2	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7
19	9.3	9.1	9.0	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.6
20	9.1	9.0	8.9	8.8	8.6	8.5	8.4	8.3	8.2	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4
21	8.9	8.8	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.5	7.4	7.3
22	8.7	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.2	7.2
23	8.6	8.5	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.4	7.3	7.2	7.1	7.0
24	8.4	8.3	8.2	8.1	8.0	7.9	7.8	7.7	7.7	7.6	7.5	7.4	7.3	7.2	7.1	7.1	7.0	6.9
25	8.2	8.1	8.1	8.0	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.3	7.2	7.1	7.0	6.9	6.9	6.8
26	8.1	8.0	7.9	7.8	7.7	7.6	7.6	7.5	7.4	7.3	7.2	7.1	7.1	7.0	6.9	6.8	6.7	6.7
27	7.9	7.9	7.8	7.7	7.6	7.5	7.4	7.3	7.3	7.2	7.1	7.0	6.9	6.9	6.8	6.7	6.6	6.6
28	7.8	7.7	7.6	7.5	7.5	7.4	7.3	7.2	7.1	7.1	7.0	6.9	6.8	6.7	6.7	6.6	6.5	6.5
29	7.7	7.6	7.5	7.4	7.3	7.3	7.2	7.1	7.0	6.9	6.9	6.8	6.7	6.6	6.6	6.5	6.4	6.3
30	7.5	7.4	7.4	7.3	7.2	7.1	7.1	7.0	6.9	6.8	6.7	6.7	6.6	6.5	6.5	6.4	6.3	6.2

Table prepared by Dr. Joe Costa, Buzzards Bay National Estuary Program. Send comments to: [jcosta@buzzardsbay.org](mailto:jcosta@buzzardsbay.org)

This table uses the formula % saturation =

$$= \text{EXP}(-173.4292+249.6339*100/T+143.3483*\text{LN}(+T/100)-21.8492*T/100+S*(-0.033096+0.014259*T/100-0.0017*(T/100)^2))*1.4276$$

where S is salinity in ppt and T is degrees Kelvin (=C+273.15)

Formula from Grasshoff, K., et al. (1999), and is generally accurate to 0.1 ppm to empirical studies.

Saturation values are for 760 mm mercury (29.92"). During a high pressure system, saturation values may be 0.4 ppm higher.

During a low pressure system, saturation may be 0.5 ppm lower.

Note: Salinity is generally reported today at PSU (practical salinity units), rather than ppt (parts per thousand), but for the purposes of this table they can be considered equal.