Maximum allowable concentrations of impurities for compressed gases are quoted as values calculated at normal atmospheric pressure.

6 Requirements

6.1 General

Compressed gas for breathing shall not contain contaminants at a concentration which can cause toxic or harmful effects. In any event, all contaminants shall be kept to as low a level as possible and shall be less than one tenth of a national 8 h exposure limit. For breathing air only the limit shall be less than one sixth of a national 8 h exposure limit. For breathing at hyperbaric pressures greater than 10 bar or exposure times greater than 8 h the levels shall be revised to take into account the effects of pressure and exposure times.

In the absence of more stringent national regulations, the values in Table 1 to Table 10 shall be applied.

6.2 Breathing air

Typical composition of natural air is given in Annex A.

Table 1 — Composition of breathing air

Component	Concentration at 1 013 mbar and 20 °C
Oxygen	(21 ± 1) %
Carbon dioxide	≤ 500 ml m^{-3} (ppm)
Carbon monoxide	≤ 5 ml m^{-3} (ppm)
Oil	≤ 0,5 mg m^{-3}

Compressed breathing air shall have a dew point sufficiently low to prevent condensation and freezing. Where the apparatus is used and stored at a known temperature the pressure dew point shall be at least 5 °C below the likely lowest temperature.

Where the conditions of usage and storage of any compressed air supply is not known the pressure dew point shall not exceed −11 °C.

Table 2 — Water content of high pressure breathing air

Nominal maximum supply pressure bar	Maximum water content of air at atmospheric pressure and 20 °C mg m^{-3}
40 to 200	≤ 50
> 200	≤ 35

The water content of the air supplied by the compressor for filling 200 bar or 300 bar cylinders should not exceed 25 mg m^{-3}.