

composition of pure air

in atmospheric chemistry

The composition of air is variable with respect to several of its components (e.g. CH₄, CO₂, H₂O) so 'pure' air has no precise meaning; it is commonly considered to be air which is free of dust, aerosols and reactive gaseous contaminants of anthropogenic origin. The composition of the major components in dry air is relatively constant (percent by volume given): nitrogen, 78.084; oxygen, 20.946; argon, 0.934; carbon dioxide, 0.033; neon, 0.0018; helium, 0.000524; methane, 0.00016; krypton, 0.000114; hydrogen 0.00005; nitrous oxide, 0.00003; xenon, 0.0000087. The concentrations of carbon dioxide, methane, nitrous oxide, the chlorofluorocarbons and some other species of anthropogenic origin are increasing measurably with time. Relative clean air which is free of most reactive anthropogenic pollution (NO, NO₂, SO₂, non-methane hydrocarbons, etc.), often used as a reference sample in the calibration and operation of instruments, is purchased under the designation of zero air.

Source:

PAC, 1990, 62, 2167 (*Glossary of atmospheric chemistry terms (Recommendations 1990)*) on page 2172