

Gas name	Chemical formula	Molecular weight [g/mol]	Density 15°C, 1 atm. [kg/m ³]	Rel. Density air = 1 [15°C, 1 bar]	Comments
Air	-	28,960	1,210	1,000	Atmospheric air consists of the following gases (vol.%): Nitrogen 78.084, oxygen 20.946, argon 0.934, carbon dioxide 0.035-0,1, and small amounts of neon, helium etc. as well as humidity. Technical air is filtered atmospheric air where moisture is removed. Synthetic air is a mixture of 79 vol.% Nitrogen and 21 vol.% Oxygen. See note 1)
Acetylen	C ₂ H ₂	26,040	1,090	0,908	Colourless, flammable with a faintly ethereal and slightly sweet odour. Used for gas welding and cutting firing. Ignition temperature in air: 305°C Explosion limits in air: 2,5-80 vol.% C ₂ H ₂ .
Argon	Ar	39,948	1,691	1,380	Argon is element 18 in the Periodic Table and is a noble gas in main group 7. Colourless and odourless, non-flammable and non-toxic. Does not react with other substances.
Carbon dioxide	CO ₂	44,010	1,872	1,530	Colourless, non-toxic, has a slightly pungent sour taste and odour. High concentrations paralyze the respiratory function, the hygienic limit value is 5000 ppm.
Carbon monoxide	CO	28,010	1,185	0,970	Colourless, toxic and flammable without odour or taste. The hygienic limit value is 35 ppm (40 mg / m ³). Ignition temperature in air: 620 ° C Explosion limits in air: 12.5-74 vol.% CO.

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Dinitrogenoxid	N ₂ O	44,010	1,530	1,850	Colourless, non-flammable and non-toxic with a faintly sweet odour. Works anesthetically in large concentrations. Nourishes combustion processes.
Helium	He	4,003	0,169	0,140	Helium is element 2 in the periodic table and is a noble gas in main group 7. Colourless and odourless, non-flammable and non-toxic. Does not react with other substances.
Hydrogen	H ₂	2,016	0,085	0,070	Hydrogen is element 2 of the Periodic Table and is a noble gas in main group 7. Colourless and odourless and non-toxic. Is flammable, explosive and highly reducing. Ignition temperature in air: 570 ° C. Explosion limits in air: 4.0-74.5 vol.% H ₂ . Does not react with other substances.
Krypton	Kr	83,800	3,552	2,900	Krypton is an element no. 36 in the periodic table and is a noble gas in main group 7. Colourless and odourless, non-flammable and non-toxic. Does not react with other substances.
Metan	CH ₄	16,040	0,671	0,555	Colourless and non-toxic. Is a fuel gas that is lighter than air. Occurs naturally as the main constituent of natural gas. Ignition temperature in air: 580 ° C Explosion limits in air: 5-15 vol.% CH ₄ .

Data and info for gases used under industrial and laboratory conditions

Gas mixer

Gas name	Chemical formula	Molecular weight [g/mol]	Density 15°C, 1 atm. [kg/m ³]	Rel. Density air = 1 [15°C, 1 bar]	Comments
Neon	Ne	20,180	0,853	0,700	Neon is element no. 10 in the periodic table and is a noble gas in main group 7. Colourless and odourless, non-flammable and non-toxic. Does not react with other substances.
Nitrogen	N ₂	28,014	1,185	0,970	Colourless, odourless, non-flammable and non-toxic. Relates to most other gases as an inert gas.
Oxygen	O ₂	31,999	1,354	1,110	Colourless and odourless. Combustion reactions proceed more rapidly already with a modest increase in the oxygen content compared to the 20.946% which is in atmospheric air.
Propan	C ₃ H ₈	42,08	1,88	1.480	Colourless and non-toxic. Is a fuel gas that is heavier than air. Ignition temperature in air: 480 ° C Explosion limits in air: 2.2-9.5 vol.% C ₃ H ₈ .
Xenon	Xe	131,29	5,586	4,560	Xenon is element 54 of the Periodic Table and is a noble gas in main group 7. Colourless and odourless, non-flammable and non-toxic. Does not react with other substances.

Note 1): Nitrogen (N₂) does not belong to the group of noble gases, which constitute the seventh main group in the periodic table of the elements: Helium (He), neon (Ne), argon (Ar), krypton (Kr), xenon (Xe) and radon (Rn), but N₂ is inactive against most gases and substances. However, N₂ reacts at high temperatures with O₂ to form nitrous gases (NO and NO₂). However, at temperatures below 800°C the formation of NO and NO₂ is minimal.