World Health Organization Ambient (Outdoor) Air Pollution Guidelines.

See direct link https://www.who.int/en/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health

Particulate matter (PM)	
Fine particulate matter ($PM_{2.5}$)	10 µg/m^3 annual mean 25 µg/m^3 24-hour mean
Coarse particulate matter (PM_{10})	20 µg/m^3 annual mean 50 µg/m^3 24-hour mean
Ozone	
Guideline	100 µg/m^3 8-hour mean
Definition and Principal Sources	Ozone at ground level – not to be confused with the ozone layer in the upper atmosphere – is one of the major constituents of photochemical smog. It is formed by the reaction with sunlight (photochemical reaction) of pollutants such as nitrogen oxides (NO_x) from vehicle and industry emissions and volatile organic compounds (VOCs) emitted by vehicles, solvents and industry. As a result, the highest levels of ozone pollution occur during periods of sunny weather.

World Health Organization Ambient (Outdoor) Air Pollution Guidelines.

See direct link https://www.who.int/en/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health

Health Effects	Excessive ozone in the air can have a marked effect on human health. It can cause breathing problems, trigger asthma, reduce lung function and cause lung diseases.
Nitrogen dioxide	
Guideline	40 µg/m^3 annual mean 200 µg/m^3 1-hour mean
Definition and Principal Sources	As an air pollutant, NO_2 has several correlated activities. At short-term, concentrations exceeding 200 µg/m^3, it is a toxic gas which causes significant inflammation of the airways. NO_2 is the main source of nitrate aerosols, which form an important fraction of $PM_{2.5}$ and, in the presence of ultraviolet light, of ozone. The major sources of anthropogenic emissions of NO_2 are combustion processes (heating, power generation, and engines in vehicles and ships).
Health Effects	Epidemiological studies have shown that symptoms of bronchitis in asthmatic

World Health Organization Ambient (Outdoor) Air Pollution Guidelines.

See direct link https://www.who.int/en/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health

	children increase in association with long-term exposure to NO_2. Reduced lung function growth is also linked to NO_2 at concentrations currently measured (or observed) in cities of Europe and North America.
Sulfur dioxide	
Guideline vales	20 µg/m^3 24-hour mean 500 µg/m^3 10-minute mean
Definition and principal Sources	SO_2 is a colourless gas with a sharp odour. It is produced from the burning of fossil fuels (coal and oil) and the smelting of mineral ores that contain sulfur. The main anthropogenic source of SO_2 is the burning of sulfur-containing fossil fuels for domestic heating, power generation and motor vehicles.
Health effects	SO_2 can affect the respiratory system and the functions of the lungs, and causes irritation of the eyes. Inflammation of the respiratory tract causes coughing, mucus secretion, aggravation of asthma and chronic bronchitis and makes people more prone to infections of the respiratory tract. Hospital admissions for cardiac

World Health Organization Ambient (Outdoor) Air Pollution Guidelines.

See direct link https://www.who.int/en/news-room/fact-sheets/detail/ambient-(outdoor)-air-quality-and-health

	disease and mortality increase on days with higher SO_2 levels. When SO_2 combines with water, it forms sulfuric acid; this is the main component of acid rain which is a cause of deforestation.