Air Quality Pollutant Fact Sheet

What is it and where does it come from?

ALASKA NATIVE TRIBAL HEALTH CONSORTIUM

Carbon Dioxide (CO_2)

- CO_2 is a gas that is produced when we breathe. Although it is typically not dangerous, high levels of CO_2 might mean that there is not enough ventilation in your home.

Carbon Monoxide (CO)

- CO is a poisonous gas that is produced by the incomplete burning of various fuels (e.g. Cars, Snow Machines, Boilers, Toyo Stoves, etc.). CO can be deadly, so a detector should be in every home.

Lead (Pb)

- Pb is a heavy metal that is commonly found in lead-acid batteries, ammunition, fishing tackle, and lead paint dust. Elevated blood lead levels can cause severe and irreversible harm, especially in kids.

Nitrogen Oxide (NO_x)

- NO_x are gases that are commonly produced by the burning of fossil fuels (e.g. coal, oil and gas). Although some NO_x occurs naturally, too high of levels can irritate the respiratory system.

Ozone (O_3)

- O_3 is most commonly created by chemical reactions between NO_x and VOCs in the presence of sunlight. O_3 can harm lung function and irritate the respiratory system.

Particulate Matter (PM)

- Particulate matter is made of tiny particles that when inhaled, can damage the heart, lungs, and other organs. The fine particles are found in road dust, diesel emissions, solid waste burning, wood smoke, and tobacco smoke.

Sulfur Dioxide (SO_x)

- SO_x is a toxic gas that is commonly produced by malfunctioning appliances, tobacco smoke, wood stoves, and even volcanic eruptions. Short term exposure to high levels of SO_x can be life threatening.

Volatile Organic Compounds (VOCs)

- VOCs are airborne chemicals that when inhaled may cause short- and long-term health effects. VOCs are emitted by variety of products, including paints, cleaning supplies, stored fuels and engine parts.

Air Quality Indicators

Outdoor Air Quality

Pollutant	Max Level	Exposure Time
CO	35 ppm	1-hour
NO_x	100 ppb	1-hour
SO_x	75 ppb	1-hour
PM2.5	35 µg/m3	24-hour
PM10	150 µg/m3	24-hour
Pb	0.15 µg/m3	3-mo.
O_3	0.070 ppm	8-hour

The table on the left shows the National Ambient Air Quality Standards (NAAQS) for outdoor air pollutants. To protect public health and the environment, pollutant levels should not exceed the maximum concentration when averaged over the exposure time. If levels are exceeded, the EPA, Sate and Tribe must partner to ensure air quality is safe for public health and the environment.

Indoor Air Quality

Indicator	Desirable Range
CO	Less than 3 ppm
Temperature	70°F
% Relative humidity	30% - 50%
CO2	800 ppm – 1,000 ppm
Mold Growth	Moisture less than 20% in building materials
Wood for burning	Less than 20% moisture
$PM_{2.5}$ *(24 hr. avg.)*	Less than 0.025 mg/m3

The table on the left lists 7 common indicators that are used to determine indoor air quality. Beside each indicator are their desired ranges that when met, can improve indoor air quality.

For more information, contact ANTHC-Community Environment and Health at 907-729-4043.

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