

Automobile Carbon Monoxide Emissions and their Effects on the Environment and Human Health

Ozioma Adaku *

Department of Mechanical and Vehicle Engineering, Chongqing University, Chongqing, China

DESCRIPTION

Carbon monoxide (CO) is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline, diesel, and natural gas. While Carbon dioxide is a naturally occurring byproduct of combustion, large quantities of CO, especially from vehicle sources, represent a serious risk to human health. We examine the risks posed by vehicular emissions of carbon monoxide and how they significantly affect human health in this investigation.

Sources of carbon monoxide emissions

Carbon monoxide emissions from automobiles make up a sizable amount of all CO emissions produced globally. Internal combustion engines, especially those running on petrol or diesel, release carbon dioxide when the fuel burns. Particularly in older or badly maintained automobiles, inefficient combustion, engine problems, and exhaust system leaks can all lead to increased carbon emissions from moving cars. Power plants, wildfires, household heating systems, and industrial activities are some more sources of CO emissions besides autos. Yet, especially in heavily populated places with considerable traffic congestion, vehicles continue to be one of the major sources of urban air pollution.

Health effects of carbon monoxide exposure

Carbon monoxide is highly toxic to humans and animals due to its ability to interfere with the body's ability to transport oxygen in the bloodstream. When CO is breathed, it binds to hemoglobin in red blood cells to create Carboxy Hemoglobin (COHb), which lowers the blood's ability to transport oxygen. This may result in a variety of harmful health consequences, from minor symptoms to serious disease and even death. High carbon monoxide levels can cause short-term symptoms such as headache, nausea, fatigue, dizziness, and disorientation. It may be difficult to distinguish CO poisoning from food poisoning or the flu from these symptoms without the appropriate tests. Prolonged exposure to high CO levels can cause more serious symptoms like unconsciousness, convulsions, and respiratory

failure. In addition, exposure to carbon monoxide can aggravate pre-existing medical diseases such respiratory problems, neurological disorders, and cardiovascular disease. The negative consequences of CO poisoning are more common in pregnant women, newborns, and those with weakened immune systems. Moreover, long-term health effects from prolonged exposure to low carbon monoxide levels might include memory loss, cognitive decline, and an elevated risk of heart disease.

Car emissions of carbon monoxide have an adverse effect on human health in addition to contributing to pollution in the environment and climate change. Ground-level ozone, or smog, and fine particulate matter (PM_{2.5}), two significant air pollutants that have a negative impact on both the environment and human health are formed before carbon dioxide. Additionally, by trapping heat in the Earth's atmosphere, CO emissions contribute to the greenhouse effect and global warming. Despite having a shorter half-life than other greenhouse gases like Carbon dioxide, carbon monoxide nonetheless adds to the total amount of greenhouse gas emissions and climate change. Therefore, lowering car emissions of carbon dioxide is crucial to reducing climate change effects and enhancing air quality.

Internal combustion engines may operate more efficiently, resulting in lower CO emissions and fuel consumption, thanks to advancements in engine design, fuel injection systems, and combustion technology. Before dangerous pollutants are discharged into the environment, they can be changed into less harmful compounds through the use of Exhaust Gas Recirculation (EGR) systems and catalytic converters. Frequent tune-ups and maintenance may assist guarantee that cars are running smoothly and aren't leaking exhaust or having mechanical issues that cause them to release too much CO into the atmosphere. Mitigating the environmental effect of automobiles by switching to cleaner-burning fuels like electricity, natural gas, or hydrogen can lower CO emissions from such vehicles. Increasing the usage of bicycles, walking, and public transit can help cut down on the number of cars on the road and the total amount of CO₂ that comes from automobiles.

Correspondence to: Ozioma Adaku, cDepartmentc ofc Mechanical and Vehicle Engineering, Chongqing University, Chongqing, China, E-mail: jinfan@cu.cn

Received: 29-Jan-2024, Manuscript No. AAE-24-29523; **Editor assigned:** 01-Feb-2024, PreQC No. AAE-24-29523 (PQ); **Reviewed:** 15-Feb-2024, QC No. AAE-24-29523; **Revised:** 22-Feb-2024, Manuscript No. AAE-24-29523 (R); **Published:** 29-Feb-2024, DOI: 10.35248/2167-7670.24.13.268

Citation: Adaku O(2024) Automobile Carbon Monoxide Emissions and their Effects on the Environment and Human Health. Adv Automob Eng. 13:268.

Copyright: © 2024 Adaku O. This is an open-access article distributed under the terms of the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original author and source are credited.

CONCLUSION

The environment and human health are seriously threatened by carbon monoxide emissions from autos. CO is sometimes called the silent killer because it is an odourless, colourless gas that can strike at any time, causing disease or even death. In order to reduce the negative effects of carbon emissions, governments,

businesses, and individuals must work together to adopt efficient emission control strategies, support environmentally friendly transportation options, and increase public knowledge of the risks associated with CO poisoning. We can save future generations' health, enhance air quality, and lessen the effects of climate change by tackling the issue of vehicular emissions of carbon monoxide.