

Health Issues of Traffic Emissions

The word emission comes from the Latin word e-mitte, which is broadcast, bear or emitting. Nowadays it is used in many fields and can have many meanings. In the field of hygiene and environmental emissions word expresses the release of pollutants into the air. For clarity we distinguish even the terms primary and secondary emissions.

Primary and Secondary Emission

Primary and secondary emission can be seen strictly as a completely separate group, because very few pollutants to the atmosphere after the entry retain its original structure and its concerned especially about air pollution. Word of air pollutants refers to the emissions (pollutants) that have already been in contact with the environment and are accumulated in such water, or soil organisms.

Primary Emissions

Primary emissions are excluded substances directly from the source into the atmosphere. This emission refers specifically substances that were released and had not yet undergone any chemical or other reactions, which would mean it is not altered.

Secondary Emissions

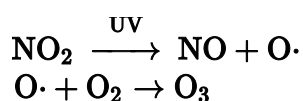
The term refers to a group of secondary emission of substances generated in atmospheric reactions. These reactions take place either by photoactivation (mainly UV) or without it - reactions between primary pollutants. Harmfulness of these substances can be not less harmful than their initial products or may be even more harmful substances than the default. The speed at which primary pollutants react together, is influenced by its concentration in the atmosphere, the of photo activation, as well as particle size and meteorological factors (scattering and humidity).

Sulphur Dioxide

- Source : domestic heating system, coal burning
- Effects :
 1. direct effect – irritation of upper respiratory tracts, eyes or even chronic bronchitis
 2. indirect effect – acid rain : damaging trees and plants, bleaching of toxic trace metals from soil and rock, acidification of water (lakes) and soil, lead plumbing brings about lead to enter drinking water
 3. London smog/ winter smog/ reduction smog – when there is high concentration of SO₂ and air humidity.
 4. require atmospheric inversion to occur (e.g in river or mountain valley)

Nitrogen Dioxide

- Sources : mainly car exhaust and combustion of nitrogen compounds
- 1. about summer smog/photochemical/Los Angeles type of smog
- 2. requirement : NO₂, Temp. 25° C, UV rays, inversion like above mention
- other concerns of NO₂
- 3rd type of smog (air pollution smoke)
- condition – high[NO₂] and high level of PM
- where – urban areas, any seasons
- health effects – elderly with lung disease develop cardiorespiratory disease and increase in mortality and morbidity
- ozone is scavenged by NO₂ especially during the night and in city centre, therefore [O₃] in city centre is lower than suburbs



Links

Related articles

- Emergency Situations in Environmental Pollution

Bibliography

- BENCKO, Vladimir, et al. *Hygiene and epidemiology : selected chapters*. 2. edition. Prague. 2008. ISBN 80-246-0793-X.