MINISTRY OF LABOUR, HEALTH AND SOCIAL AFFAIRS OF GEORGIA

THE NATADZE INSTITUTE OF SCIENTIFIC RESEARCH IN SANITATION AND HYGIENE

380002, Tbilisi. D. Uznadze str. 78; ph: 961485; 96 1679

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To Ivane Jugeli and Avtandil Tsulukiani

Citizens residing at 4 Uznadze Street, Tbilisi

In response to your application let me explain that according to the scientific literature, certain substances in the air, proceeding from their chemical character, concentration and the length of exposition may damage a human health. The substances, which you are interested in, are well investigated, namely SO_2, NO_2, CO, fume, soot, evaporated organic compounds.

The fume and soot existed in the air cause the reduction of administration of oxygen and lung ventilation; they irritate the mucus of upper respiratory tracts and may cause the chronic disease of upper respiratory tracts and of bronchial tubes. The soot and other products of incomplete combustion consist of so called resinous carcinogen. The gases contaminating the air have negative impact to the human body. For example, inhalation of even a small concentration of sulfuric anhydride and other sulfuric compounds may cause a severe irritation of mucus and inflammatory processes, chronic bronchitis, bronchopneumonia, allergy, other hart and lung problems.

Exceeded inhalation of carbonic acid creates a solid substance with hemoglobin – carboxyhemoglobin, reducing the number of free hemoglobin in the blood and decreasing the administration of oxygen (anoxemia), as well as overall changes in the body.

While making the hygienic assessment of the air contamination the increased sensitivity of children, elders and sick people should be taken into account as they have restricted capacity to the functional adaptation.

Contamination of the air in the housing facilities is posing the threat not only to the living organisms (people, animals, plants), but also to the construction materials, metal items (corrosion) etc. It makes dirty furniture, linen, windows, thus deteriorating the sanitary situation of the living condition. Therefore, it is not enough just to make evident the fact of air contamination, nature and concentration. It is also vital important to determine overdose concentration of contaminant. For example: a daily admitted concentration of

nitrogen dioxide is 0.085 mg/m^3, for SO_2 – 0.05 mg/m^3, for hydrocarbon – 1 mg/m^3, for soot - 0.05 mg/m3.

Humidity is a very important factor in assessing the hygienic condition of the living and working environment of people. The house should be warm, dry and light, with a low level of underground waters. Damp housing has an impact on the thermoregulation of human's body, increasing endurance of bacterial flora and worms. According to the norm a temperature in a house should be 18-20^0, and relative humidity – 30-45%. If the fecal waters are drained in the basements (due to the damage of the system), or the level of ground water is high, in such situations there is a high probability of infections. It should be determined why the water is found in the basement and the relevant sanitary-technical measures should be carried out.

I. Paghava
Chairman of the Steering Council
Institute of Scientific Research
in Sanitation and Hygiene