TABLE 2-14 AEGL-1 Values for Carbon Monoxide

Classification	10 min	30 min	1 h	4 h	8 h
AEGL-1	N.R.[a]	N.R.	N.R.	N.R.	N.R.

[a]N.R., not recommended because susceptible persons may experience more serious effects (equivalent to AEGL-2) at concentrations that do not yet cause AEGL-1 effects in the general population.

6. DATA ANALYSIS FOR AEGL-2

6.1. Human Data Relevant to AEGL-2

In patients with coronary artery disease, COHb of 2 or 4% significantly reduced the time to angina and the time to 1-mm change in the ST segment of the electrocardiogram during physical exercise; at 4% the total exercise time and the heart-rate-blood-pressure product were also significantly reduced (Allred et al. 1989a,b, 1991). A reduced time to onset of exercise-induced chest pain at a COHb between 2.5% and 4.5% was also reported by several other studies (Aronow et al. 1972; Anderson et al. 1973; Sheps et al. 1987; Kleinman et al. 1989, 1998).

Sheps et al. (1990, 1991) reported that, in patients with coronary artery disease, the frequency of ventricular premature depolarizations was significantly increased at a COHb of 5.3%, but not at 3.7%, compared with room air exposure. Dahms et al. (1993) found no increased frequency of ventricular ectopic beats at a COHb of 3% or 5%.

Klasner et al. (1998) analyzed a mass poisoning of 504 school children. In 147 of 155 children who showed symptoms, the mean COHb measured about 1 h (up to 2 h) after removal from the CO atmosphere was 7.0%COHb. Of all children that were examined in the hospital (177) (mean age 8.7 years), the following symptoms were observed: headache (139), nausea (69), dizziness (30), dyspnea (19), vomiting (13), abdominal pain (11), and drowsiness (9).

In an analysis of CO poisonings in 16 children (up to 14 years of age) with a COHb of 15% or higher, Crocker and Walker (1985) reported thresholds for effects, such as nausea, vomiting, headache, and lethargy of 16.7% to 19.8% COHb (average concentrations in children displaying these symptoms were 25.9-29.4%). Visual symptoms and syncopes occurred at a threshold of 24.5% COHb (average 31.6-32.5%). All nine children with a COHb of 24.5% or higher experienced at least one syncope.

In an investigation on the long-term effects of CO poisoning in children, who were evaluated 2-11 years after the poisoning, Klees et al. (1985) reported that 6 of the 14 children exhibited serious disorders (spatial organization problems, constructive apraxia, and deterioration of lexical activity, as well as spelling and arithmetic). Compared with the other seven children who exhibited only slight impairment of visual memory and concentration, the first group of more severely affected children were younger (mean age 7.8 years; range 2.8-12.1 years) than the latter group (mean age 9.8 years; range 3.5-14.5). There was no