1, 4, and 8 h. An intraspecies uncertainty factor of 3 was used. The derived values (corresponding to a COHb value of about 15%) are supported by information on effects, such as myocardial infarction and stillbirths, reported in more susceptible subpopulations.

All inhalation data are summarized in Figure 2-3. The data were classified into severity categories chosen to fit into definitions of the AEGL health effects. The category severity definitions are no effect, discomfort, disabling, some lethality, lethal, and AEGL. In the figure depicting the COHb levels, the AEGL lines are drawn at the COHb levels for adults. The gray boxes above the lines indicate the range of COHb levels in neonates, children, and smokers (with 8% COHb from smoking).

The single exposure animal data point in the AEGL-2 COHb box represents the study by Aronow et al. (1979) using dogs with electrically damaged hearts. The two single exposure human data points in the box represent the study by Sheps et al. (1990; 1991) reporting increase arrhythmia in heart patients and the study by Klasner et al. (1998) reporting moderate neurotoxic effects in children.

8.2. Comparison with Other Standards and Criteria

Other standards and guidance levels for workplace and community exposures are listed in Table 2-18. The German BAT (Biologischer Arbeitsstoff-Toleranz-Wert; biologic exposure index) is 5% COHb, equivalent to a concentration of 30 ppm CO (Henschler and Lehnert 1994). The ACGIH Biological Exposure Index (BEI) is 3.5% COHb at the end of shift, equivalent to a CO concentration in end exhaled air of 20 ppm (ACGIH 2001).

TABLE 2-16 AEGL-3 Values for Carbon Monoxide

Classification	10 min	30 min	1 h	4 h	8 h
AEGL-3	1,700 ppm (1,900 mg/m^3)	600 ppm (690 mg/m^3)	330 ppm (380 mg/m^3)	150 ppm (170 mg/m^3)	130 ppm (150 mg/m^3)

TABLE 2-17 Summary of AEGL Values for Carbon Monoxide

Classification	10 min	30 min	1 h	4 h	8 h
AEGL-1 (Nondisabling)	N.R.[a]	N.R.	N.R.	N.R.	N.R.
AEGL-2 (Disabling)	420 ppm (480 mg/m^3)	150 ppm (170 mg/m^3)	83 ppm (95 mg/m^3)	33 ppm (38 mg/m^3)	27 ppm (31 mg/m^3)
AEGL-3 (Lethal)	1,700 ppm (1,900 mg/m^3)	600 ppm (690 mg/m^3)	330 ppm (380 mg/m^3)	150 ppm (170 mg/m^3)	130 ppm (150 mg/m^3)

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