

## 8.4 Legal rules

The legal rules with regard to noise protection in a plant may be different for various countries and/or industries. The most important rules of the Federal Republic of Germany are as follows:

- Accident prevention regulation (UVV noise) of Trade Cooperative Associations.
- Place of work regulation of the Federal Ministry for Work and Social Affairs.

While the UVV noise deals mainly with the avoidance of noise and conditional hearing damage, the place of work regulation goes beyond and covers also molestation of psychological and physiological kind. Another important aspect in the case of an approval for a new plant is sound nuisance in the neighborhood i.e. in a residential area. A characteristic figure of the noise emitted from the acoustic source is the measured sound pressure level at a distance of 0.5 m before the open window of a private house. The nuisance standard value depends on the kind of area as shown in the Table 8.4.-1 below.

Area description	Permissible sound pressure level in dB(A)
Pure industrial area	permanent 70
Area with overwhelming industrial plants	during the day 65, at night 50
Area with overwhelming apartments or living houses	during the day 55, at night 40
Pure residential area	during the day 50, at night 35
Care and hospital area	during the day 45, at night 35

*Table 8.4.-1: Permissible sound pressure levels in different environmental areas*

An approval for erecting new plants can only be given if (1) corresponding measures are taken to keep the noise emission within limits and (2) the allowable sound pressure levels in the entire area of impact outside of the plant is met. Since applications for erecting new plants require a precise estimate of the noise emission to be expected, a recognized noise calculation procedure based on actual process data and specific characteristics of control valves and pipelines is absolutely necessary.