INTRODUCTION
Not only within the context of animal experiments, but also for other reasons many laboratory animals-especially mice-have to be sacrificed. Carbon dioxide (CO₂) is the mostly used method for the euthanasia of laboratory mice. Nevertheless, it is not indispensible: While nearly all guidelines and many authors approve of the use of CO₂, other authors are convinced that this gas has aversive effects (Conlee et al. 2005). The aim of this study was to investigate the method of carbon dioxide euthanasia of laboratory mice considering animal welfare aspects.

ANIMALS, MATERIAL AND METHOD
100 male mice from the strain BALB/cByJClco were killed with CO₂ at the age of 9 weeks in their home cages, in which they were housed in pairs. The cages were charged with carbon dioxide via a special lid. In each case 10 mice were killed with flow rates of 0l/min, 2l/min, 5l/min, 10l/min, 15l/min and 20l/min in Makrolon®-cages type III. For control the same procedure was performed the day before the euthanasia in the same way but without turning on the gas. The animal behaviour was recorded on video tape and analysed. For behaviour listed in Tab. 1 the observation period of the control group was 30 seconds from placing the lid on top of the cage. With CO₂ the period lasted from placing the lid until the animal was laying down for the first time. Additionally five different phases of CO₂-impact were recorded only in the CO₂-treated group from placing the lid upon the cage until death occurred.

RESULTS
Phases 1-5 shorten clearly with raising flow rates except phase 4 (Fig. 3). Separated according to the flow rates the behaviour data show a high variance both in the CO₂-exposed groups. Additionally the amount of time spent with stress indicating or stress excluding behaviour is very little. This leads only to sporadical significant differences between single flow rates. However no flow rate dependent tendencies can be found. For that reason the behaviour data presented here is not split up by flow rates (Fig. 4 & 5). Comparing the behaviour without referring to the flow rates shows that stress excluding behaviour (SEB) and directed exploring behaviour (uEXB) decrease significantly (p<0,05). The stress indicating behaviour (SIB) is decreasing tendencially, while undirected exploring behaviour (dEXB) and locomotion (LOC) are increasing significantly (p<0,001).

CONCLUSION
The decrease of the SIB in both cage types allows the conclusion that the animals were not experiencing any pain or heavy stress. But it can not give a statement about whether the animals were feeling unpleasant. The increased locomotion can be a sign of an unpleasant feeling, but could also be traced back to an increased brain excitability caused by CO₂ (Gellhorn and Spiesman 1935; Woodbury et al. 1958). CO₂ causes an unpleasant, but not intolerable feeling in humans at a concentration of 50%, which gets worse with raising concentration (Danneman et al. 1997).

The author feels like this method of CO₂-euthanasia in a Makrolon®-cage type III is recommended for CO₂ euthanasia in a Makrolon®-cage type III.