

# Focus on IFA's work

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## Formaldehyde in preclinical medical training

### Problem

Formaldehyde is one of the most important basic chemicals in industry and medicine. Owing to its property of denaturing proteins rapidly and hardening tissue evenly, among other reasons, formaldehyde is used in medical disciplines such as pathology, human anatomy and veterinary anatomy for fixation, preservation and storage of human and animal tissue and of body donations.

In November 2014, the AGS Committee for Hazardous Substances of the German Federal Ministry of Labour and Social Affairs (BMAS) adopted an occupational exposure limit (OEL) for formaldehyde. This limit must also be observed at workplaces at the anatomical institutes of German universities. Formaldehyde is further classified as a carcinogen (Category 1B) and germ cell mutagen (Category 2) by the 6<sup>th</sup> Adaptation to Technical Progress (ATP) to the CLP Regulation. The new classification takes effect on 1 January 2016.

### Activities

Studies conducted at a number of anatomical institutes showed formaldehyde exposure to be above the OEL in some cases. The OEL was exceeded both during fixation of body donations and during students' practical anatomy training.

Technical exposure-reduction measures are absolutely essential for reducing the formaldehyde concentration in these working areas.



Scene from an anatomical preparation laboratory during practical training

The large number of persons in the vicinity of the preparation benches generate thermal loads that disrupt the ventilation flows in the preparation laboratories and lead to undesired dilution ventilation. To counter this, technical systems must be installed for both room ventilation and collection of hazardous substance emissions at the benches, and the two systems made properly compatible.

Together with the German Social Accident Insurance Institutions for the public sector, the IFA has launched a project to obtain suitable parameters for the engineering of the room ventilation and air collection at the benches.

Proposed solutions are to be developed in conjunction with a project partner with a number of years' experience in buildings and installation technology.

### Results and Application

Preliminary flow tests are currently being conducted in the project partner's flow laboratory. These will be followed by tests for comparison with existing bench systems. The first results are anticipated for late autumn 2015.

### Area of Application

Universities maintaining preparation laboratories in anatomical institutes; employees in anatomical institutes; students; German Social Accident Insurance Institutions for the public sector

### Additional Information

- Thullner, I.; Stockmann, R.; Hohenberger, L.: Formaldehyd in der vorklinischen medizinischen Ausbildung (Anatomie). Gefahrstoffe – Reinhalt. Luft 75 (2015) Nr. 6, S. 219-228
- TRGS 900: Arbeitsplatzgrenzwerte. BArbBl. (2006) Nr. 1, S. 41-55, last amended and supplemented: GMBI. (2015) Nr. 7, S. 139-140
- Commission Regulation (EU) No 605/2014 of 5 June 2014 amending, for the purposes of introducing hazard and precautionary statements in the Croatian language and its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures. OJ EU (2014) No L 167, pp. 36-49

- Commission Regulation (EU) 2015/491 of 23 March 2015 amending Regulation (EU) No 605/2014 amending, for the purposes of introducing hazard and precautionary statements in the Croatian language and its adaptation to technical and scientific progress, Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures. OJ EU (2015) No L 78, pp. 12-13

### Expert Assistance

IFA, Division 3: Hazardous substances: handling – protective measures

German Social Accident Insurance Institution for the public sector in Hesse (UKH), Prevention department

### Literature Requests

IFA, Central Division