

Focus on IFA's work

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Toluene in publication gravure

Problem

The publication gravure process is used to produce catalogues, magazines, brochures, and similar print products with the use of printing ink containing toluene. In certain working areas of publication gravure businesses, such as in the printing area or during further processing, employees are therefore exposed to toluene vapours. Under unfavourable workplace conditions, the atmospheric limit value for toluene may be exceeded in such areas.

Measurements conducted for the purpose of workplace monitoring generally employ analytical chemistry measurements. The disadvantage of such methods is that they are comparatively complex and that the measurement results are not available immediately for the triggering of protective measures. Suitable direct-reading instruments do not have these drawbacks.

Activities

In response to an initiative by and in conjunction with the then Institution for Statutory Accident Insurance and Prevention in the Printing and Paper Processing Industry, comparative measurements were performed in a number of different working areas of publication gravure processes. The results formed the basis for Recommendations for Hazard Identification of the Accident Insurers (EGU). The recommendations also considered approximately 1,600 exposure measurements which had been performed by the institution during



Exposure measurement in a publication gravure process

the field study of toluene in gravure printing processes.

Results and Application

The EGU recommendations propose that measurements must not be performed in the areas of printing block manufacture, further processing, storage, offices or workshop etc. In these areas, it may be assumed that the limit value for toluene is consistently observed. Conversely, observance of the limit value cannot be assured in the printing area, including press proofing and the cleaning area. Simplified measurement methods involving direct-reading photoionization detectors are therefore recommended in these working areas. The EGU recommendations are also to be revised and incorporated into the restructured body of regulations.

Area of Application

Publication gravure printshops

Additional Information

- BG/BGIA-Empfehlungen für die Gefährdungsbeurteilung nach der Gefahrstoffverordnung – Tätigkeiten mit Toluol im Illustrationstiefdruck (DGUV Information 213-717, bisher: BGI 790-017) (10.07). Hrsg.: Deutsche Gesetzliche Unfallversicherung, Berlin 2007
www.dguv.de/ifa/egu
- Forschungsbericht „Toluol in Tiefdruckereien“. Hrsg.: Hauptverband der gewerblichen Berufsgenossenschaften (HVBG), Sankt Augustin 2002, www.dguv.de/webcode/d6524

Expert Assistance

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

German Social Accident Insurance Institution for the energy, textile, electrical and media products sector, Wiesbaden

Literature Requests

IFA, Central Division