

# Stoffenmanager



A validated internet tool for occupational exposure assessment and risk control

[www.stoffenmanager.nl](http://www.stoffenmanager.nl)



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## STOFFENMANAGER

"Stoffenmanager" is a web-based occupational exposure assessment and risk control tool for small and medium sized enterprises (SMEs) as well as large companies. In 2003, a consortium of TNO, Arbo Unie and the BECO group developed the first version, sponsored by the Dutch Ministry of Social Affairs and Employment. The tool currently has more than 11,000 users worldwide and has been translated into English. A German version will be introduced for the German market in the second half of 2010. Nine sector-specific Dutch versions, including versions for the paint and printing ink industry and the construction industry, have been developed.

## APPLICATION

### 1. Control banding module<sup>1</sup>

This module helps the user to prioritise health risks of dangerous substances to workers and to determine effective control measures. It is a semi-quantitative module for estimating inhalation exposure to vapours, aerosols of low volatility liquids, and inhalable dusts (including comminuting activities such as grinding and sawing - see applicability domain). When the risks

are suspected, the effects of control measures can be examined and the user provided with an action plan showing an overview of the risk assessment and the measures.

### 2. A quantitative inhalation exposure module

This module contains a quantified and validated exposure model for estimating inhalation exposure to both inhalable dust and vapour. It calculates a time-weighted daily average concentration which can be compared with a suitable threshold value. The effect of control measures can be calculated and put into an action plan in an iterative way.

### 3. A REACH Tier-one quantitative inhalation exposure module

This module contains an estimation that can be compared to the DNEL of the substance concerned.

## VALIDATION

The rationale of the underlying exposure algorithm is based on work of Cherrie and Schneider (1999). An exposure database containing around 1000 measurements with all relevant Stoffenmanager parameters was used to further underpin and validate the model. Based on this validation the Dutch Labour Inspectorate accepts Stoffenmanager estimates of exposure results as an alternative to measurements while Chapter R.14 of the REACH Technical Guidance document recommends Stoffenmanager as a tier-one model. In other words, the European Commission officially recognises Stoffenmanager as a REACH instrument.

## LATEST DEVELOPMENTS

A new version (4.5 Dutch and English) will be released by the end of 2010 and includes a separate Stoffenmanager Nano-module, an upgrade of the REACH-user route and CLP (EU-GHS) compatibility. Stoffenmanager Nano creates the opportunity to estimate a qualitative risk when working with nanomaterials. With respect to the REACH-user route, the handling categories of Stoffenmanager will be linked to the so-called Process Categories or



Ministry of Social Affairs and  
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Arbo Unie



	Gas	Volatile liquids	Non-volatile liquids	Powders	Fibers
Moving and agitating	■	■	■	■	■
Gravitational transfer	■	■	■	■	■
Spreading and immersion	■	■	■	■	■
Air dispersive techniques	■	■	■	■	■
Hot work techniques	■	■	■	■	■

■ Falls within the applicability domain  
 ■ Falls outside the applicability domain

PROCs of the Use Descriptor System. The output of the REACH module will be adapted to the requirements for exposure scenarios and, furthermore, the CLP ( EU Globally Harmonised System) will be incorporated into Stoffenmanager.

**ACCESS**

The Stoffenmanager tool is freely available online in both Dutch and English on [www.stoffenmanager.nl](http://www.stoffenmanager.nl). Each new user is requested to sign in and will receive a login code to protect the confidentiality of each user’s data.

**KEY REFERENCES**

- • Cherrie, J, Schneider T. (1999) Validation of a new method for structured subjective assessment of past concentrations. Ann Occup Hyg; 43: 235-45.
- • Marquart, H, Heussen H, le Feber, M, Noy, D, Tielemans, E, Schinkel, J, West, J, Schaaf, D. (2008) ‘Stoffenmanager’, a web-based control banding tool using an exposure process model. Ann Occ Hyg; 52: 429-441.
- • Tielemans, E, Noy, D, Schinkel, J, Heussen, H, van der Schaaf, D, West, J, Fransman, W. (2008) Stoffenmanager exposure model: development of a quantitative algorithm. Ann Occ Hyg; 52: 443-454.

1 The Dutch version also supports the generation of workplace instruction cards, the registration of hazardous substances (including CRM substances), good practices shown in video films via PIMEX, and the assessment of workplace explosion safety in accordance with the European ATEX guidelines.



**Stoffenmanager**

Working safely with hazardous substances