

# MEGA evaluations for the preparation of REACH exposure scenarios for dimethyl sulfate

## 1 Introduction

The measured data for workplace exposure evaluated in the following have been gathered and documented in accordance with the principles of the measurement system of the German social accident insurance institutions for exposure assessment (MGU<sup>1</sup>, formerly BGMG). The quality of the MGU is upheld by a quality management system that in essence satisfies the requirements of DIN EN ISO 9001. The test laboratories are operated in accordance with DIN EN ISO 17025 “General requirements for the competence of testing and calibration laboratories”.

To measure dimethyl sulfate exposure at the workplace, a defined volume of air is sucked by a suitable pump through a thermodesorption tube filled with Tenax. The dimethyl sulfate contained in the air is adsorbed by the Tenax TA. For analysis, the Tenax is thermally desorbed. The evaluation is performed with the aid of calibration curves according to the method of the internal standard. The quantification limit is 0.001 mg/m<sup>3</sup> with a sample air volume of 24 L. Source: Dimethyl sulfate (ref. no. [7230](#)). In: IFA-Arbeitsmappe Messung von Gefahrstoffen. 36. Lfg. V/2006. Ed.: Deutsche Gesetzliche Unfallversicherung (DGUV), Berlin. Erich Schmidt, Berlin 2011 – loose-leaf edition.

All the surveyed data in the MGU are brought together in the MEGA exposure database (measured data on exposure to hazardous substances at the workplace). The MEGA<sup>Pro</sup> software developed by the IFA makes it possible to statistically analyse the data of the MEGA exposure database on the basis of various selection criteria and evaluation strategies.

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<sup>1</sup> Gabriel, S.; Koppisch, D.; Range, D.: The MGU – a monitoring system for the collection and documentation of valid workplace exposure data. Gefahrstoffe – Reinhalt. Luft 70 (2010) No. 1/2, pp. 43-49  
<http://www.dguv.de/ifa>, Webcode [m200066](#)

## 2 Data situation and evaluation strategy

### 2.1 Overview of the measured values collected in the MGU, data period 2000 to 2009

Dimethyl sulfide

Information on the sampling systems can be found in the IFA work folder (IFA-Arbeitsmappe, in German).

General description	Number of measured values (%)
Total	12
Type of sampling: Stationary	2 (16.7 %)
Type of sampling: Personal	10 (83.3 %)
Sampling time $\geq$ 1 h and exposure time $\geq$ 6 h (comparable to shift measurements)	6 (50 %)
Number of data < quantification limit (Values < quantification limit were adopted in calculations with half their values)	8 (66.6 %)

### 2.2 Criteria for inclusion of measured data in the evaluation

- Measured data relating to exposure

### 2.3 Evaluation strategy

The evaluation takes the form of overview of industries and work areas (Chapter 7).

## 3 Abbreviations and indices

There is no list, as no statistical evaluation has been performed.

## 4 Statistic evaluations for industry groups

No statistical evaluation has been performed.

## 5 Statistical evaluations for work area groups

No statistical evaluation has been performed.

## 6 Statistical evaluations for the assignment of work area and industry groups

No statistical evaluation has been performed.

## 7 Overview of the documented industries and work areas

Dimethyl sulfate, sampling time  $\geq 1$  h and exposure time  $\geq 6$  h

Industry group	Work area	Number of measured values
Chemical industry	Reaction container, general	2
Processing and treatment of metals	Surface treatment, general	4