

## Focus on IFA's work

Issue: 12/2024

# Update of the report on quartz exposure at the workplace

### Problem

Activities or processes in which workers are exposed to respirable crystalline silica dusts in the form of quartz and cristobalite are classified by the German TRGS 906 Technical Rules for Hazardous Substances as carcinogenic activities. It is therefore imperative that workplaces associated with elevated silica dust exposure be identified and suitable measures taken to protect workers.

To perform adequate risk assessments and in turn determine preventive measures from them, companies must have access to comprehensive data on exposure to silica dust in the individual sectors and working areas, which can be compared with the applicable assessment criterion in the TRGS 556 technical rules. However, BGIA Report 8/2006, *Exposure to quartz at the workplace* ("the Quartz Report"), which was last updated for this purpose in 2006, provides this data only for the period from 1972 to 2004.

### Activities

In cooperation with the individual German Social Accident Insurance Institutions, the IFA has now updated the previous Quartz Report and republished it as IFA Report 03/2022.

Exposure data on silica dusts for the period from 2005 to 2016, which is documented in the IFA's MEGA exposure database (measurement data on exposure to hazardous substances at the workplace), was evaluated for the new report. The evaluation is based on workplace measurements from the German Social Accident Insurance Institutions' MGU Measurement system for exposure assessment. Data from 15,104 analyses of silica in the respirable dust fraction was available for the statistical evaluation.



Cover image of the current Quartz Report showing various work situations in which silica dust may occur.

(The selected data period enables the silica data to be compared with the dust data documented in IFA Report 6/2020 (the Dust Report).)

The results of the measurements are broken down in the Quartz Report by sector and working area. Further differentiation is made according to the duration of sampling and the measurement strategy (on-person measurement vs. stationary measurement systems set up in the working areas). Experts from the German Social Accident Insurance Institutions supplemented the exposure data with images and explanations of the work process, activities associated with exposure and protective measures.

## Results and use

With the updated Quartz Report, the IFA presents a summarized overview of work-related exposure to respirable silica dusts in Germany. The report is intended in the first instance as a reference source of exposure data. It serves as a register of working areas for the management of preventive measures and monitoring of exposure. It also can be used for retrospective analysis during investigations of past dust exposure in relation to reported suspected cases of occupational diseases. For users in companies, the Quartz Report provides support in risk assessment of activities or processes in which workers may be exposed to respirable silica dusts, and guidance in the assessment of silica exposure. In addition to its use for occupational safety and health purposes, the report serves as a general source of information on silica.

## User group

The Quartz Report is useful to anyone tasked with assessing hazards presented by silica dusts at workplaces, or with assessing such hazards retrospectively during investigations of individual cases of occupational diseases. It also serves as a reference resource for anyone seeking information on the subject of silica at the workplace.

## Technical enquiries

- IFA, Department “Exposure and Risk Assessment”

## Literature enquiries

- IFA, Department “Interdisciplinary Services”

### Further information

- Arnone, M.; Mattenklott, M.; Steinhausen, M. et al.: Exposure to quartz at the workplace ([IFA Report 03/2022e](#)). Published by: Deutsche Gesetzliche Unfallversicherung e. V. (DGUV), Berlin 2022
- Arnone, M.; Fendler, D.; Fröhlich, H.-P.; Guldner, K.; Koob, M.; Poppe M. et al.: Occupational exposure to inhalable and respirable dust fractions ([IFA Report 6/2020e](#)). Published by: Deutsche Gesetzliche Unfallversicherung e. V. (DGUV), Berlin 2020

### Published by:

Deutsche Gesetzliche Unfallversicherung e. V. (DGUV)  
Glinkastrasse 40 · 10117 Berlin  
ISSN (Internet): 2190-006X

### Subscription:

[www.dguv.de/publikationen](http://www.dguv.de/publikationen) Webcode: p022702

### Edited by:

Dr Mario Arnone  
Institute for Occupational Safety and Health  
of the German Social Accident Insurance (IFA)  
Alte Heerstrasse 111, 53757 Sankt Augustin, Germany  
Tel. +49 30 13001-0 · Fax: -38001  
Email: [ifa@dguv.de](mailto:ifa@dguv.de)  
Internet: [www.dguv.de/ifa](http://www.dguv.de/ifa)