

# How to improve risk communication along the supply chain of chemicals?

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Hazardous Substances Management  
Unit 4.6

# Risk communication

REACH aims at a better and more reliable information for safe use of chemical substances in their life-cycle

- communication of risk management measures (RMM) for worker exposure is very **generic**
  - information is passed via (extended) safety data sheets (**eSDS**)
    - often not directly applicable to the actual workplace situation
    - only for substances required not for mixtures or articles
  - **challenge** for downstream users / employers to identify the relevant information for workplace risk assessment
- **still improvement necessary**

# Risk assessment

## INHALATIVE RISK



## DERMAL RISK



## PHYSICAL RISKS FROM CHEMICALS



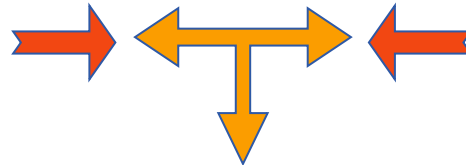
# BAuA-tool for chemical control banding

- Easy-to-use workplace control scheme for hazardous substances → **EMKG**
- EMKG developed by BAuA in 2005
  - practical guideline for risk management involving hazardous substances**
    - considering inhalative and dermal exposure
    - module for fire & explosion risks
    - implementing GHS/CLP
    - new module for storage
- translate information from SDSs and workplaces into practical risk reducing measures



# Using EMKG for risk assessment

**Hazardous properties**  
OEL or labelling

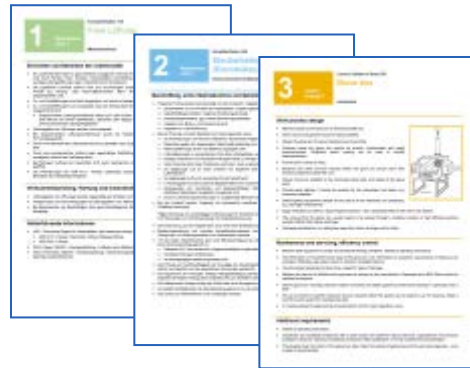


**RISK**



**MEASURES**

4 Control strategy levels



**Control Guidance Sheets (CSG)**

**Exposure results from the activities**

- Quantity and Release
- Skin area and Duration



# Control strategy and Control Guidance Sheets (CGS)

- EMKG covers four different levels of control strategies
  - from general baseline of occupational hygiene to closed systems and expert advice
- CGS describe model solutions for the most frequent activities with hazardous substances for the first three control strategies

**Control Strategy Level 1:** measures of CGS 1xx → minimum standards as basis for control strategy level 2 or level 3

CGS 100 General ventilation

CGS 110 Organizational and hygienic measures "inhalation"

CGS 170 General fire prevention measures

**Control Strategy Level 2:** measures of CGS 2xx, engineering control

**Control Strategy Level 3:** measures of CGS 3xx, containment

**Expert Advice**

# EMKG-products



EMKG 2.2 compact

**EMKG 2.2 compact app**

**baua: EMKG**  
 Good to know  
 EMKG 2.2 compact  
 control guidance sheets

The EMKG 2.2 compact app allows a quick evaluation of risks directly on-site, e.g. during an inspection. It gives you an overview of hazards by inhalation and by skin contact. This is a compact version of the "Easy-to-use workplace control scheme for hazardous substances - EMKG" and it is established to be used in standard situations. With EMKG 2.2 compact app you can derive a control strategy represented by control guidance sheets that describe measures for typical working activities.

Google play  
 Apple iTunes

(Information: the EMKG 2.2 compact app is available in German and English. The language depends on the setting of your mobile device.)

Website [www.baua.de/emkg-en](http://www.baua.de/emkg-en)

**EMKG – Easy-to-use workplace control scheme for hazardous substances**

**baua:**  
 Federal Institute for Occupational Safety and Health

The experience with the control scheme for hazardous substances (EMKG) by the German Federal Institute for Occupational Safety and Health (baua) shows that it is a practical guideline for risk management involving activities with hazardous substances. The EMKG is intended to help regional, local and specialised organisations (ZMIs) to transfer information from safety data sheets and employees into practical risk reducing measures to be taken in working conditions.

The EMKG is divided into eight steps:

- Step 1: Hazard Group (HG) Assessment**
- Step 2: Hazard Group (HG) Assessment**
- Step 3: Hazard Group (HG) Assessment**
- Step 4: Hazard Group (HG) Assessment**
- Step 5: Hazard Group (HG) Assessment**
- Step 6: Hazard Group (HG) Assessment**
- Step 7: Hazard Group (HG) Assessment**
- Step 8: Hazard Group (HG) Assessment**

Research on health and safety at work [www.baua.de](http://www.baua.de)

**baua: EMKG**  
 Easy-to-use workplace control scheme for hazardous substances

Willkommen zum EMKG-Webportal

Das EMKG ist eine Handlungsanleitung und unterstützt Sie bei der Gefährdungsbeurteilung für Tätigkeiten mit Gefahrstoffen. Das EMKG version 2.2 enthält alle Anforderungen der Gefahrstoff-Verordnung (Stoffmengen) in Kombination mit den Schutzmaßnahmen gemäß Form des EMKG 2.2 eine abgabefähige Gefährdungsbeurteilung und die Qualitätskriterien für die Gefährdungsbeurteilung nach TRGS 402, Gefährdungsbeurteilung für Tätigkeiten mit Gefahrstoffen.

Was ist das EMKG?  
 Das EMKG umfasst die Beurteilung von Gefährdungen durch Einatmen (Inhalation) und durch Hautkontakt (Dermat).  
 Das EMKG umfasst die Durchführung der Gefährdungsbeurteilung

- Durch ein systematisches Vorgehen
- Durch Festlegung von Risikostufen, bewertet durch Kontrollmaßnahmen
- Wahrscheinlichkeit der Durchführung von Schutzmaßnahmen und eigene Datenwerte festlegen werden können (z. B. ZSM, Messwertbereich)
- Wahrscheinlichkeit der Durchführung von Schutzmaßnahmen
- Durch eine Risikostufenbeurteilung für ungeschützte Tätigkeiten

**baua: EMKG**  
 Good to know ...  
 EMKG 2.2 compact  
 control guidance sheets

EMKG 2.2 compact app

Deskbased software

Poster describing the 8 steps

# EMKG example pocket disc



- Substance / mixture: **Calcium hydroxide**
- R-phrases / H-statements/ OEL: **R37, R38, R41**  
→ **Hazard Group:** B
- Liquid / solid and release behaviour: **fine powder**  
→ **Release Group:** high
- Used quantity: **4 x 25kg**  
→ **Quantity Group:** medium
- Control strategy “Inhalation”: Level 2 - Engineering control  
→ choose appropriate measures → CGS 2xx



# Conclusion

## The EMKG

- helps employers to make risk management at their workplaces simple and fast
  - will support a high level of safety and health at workplaces in the EU and beyond
- EMKG products provide transparent risk communication
- leading to safer working conditions

# Contact

Further information and subscription to the EMKG-Newsletter

[www.baua.de/emkg-en](http://www.baua.de/emkg-en)

Questions to the EMKG-Team

E-Mail: [emkg-info@baua.bund.de](mailto:emkg-info@baua.bund.de)

Federal Institute for Occupational Safety and Health (BAuA)

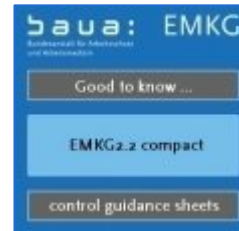
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Germany


# Visit us at the exhibition!

# BAuA stand no. 14



## Thank you very much for your attention!

**EMKG 2.2 compact app**



The EMKG 2.2 compact app allows a quick evaluation of risks directly on-site, e.g. during an inspection. It gives you an overview of hazards by inhalation and by skin contact. This is a compact version of the "Easy-to-use workplace control scheme for hazardous substances - EMKG" and it is established to be used in standard situations. With EMKG 2.2 compact app you can derive a control strategy represented by control guidance sheets that describe measures for typical working activities.

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**EMKG – Easy-to-use workplace control scheme for hazardous substances**



The infographic illustrates the EMKG process: 1. Identification of hazardous substances and their properties. 2. Assessment of exposure and risk. 3. Derivation of control measures based on risk levels. 4. Implementation of control measures (e.g., ventilation, PPE). 5. Monitoring and documentation. 6. Control guidance sheets (CGS) that provide specific instructions for different tasks.