

ICOH CIST IC&H CANCUN, MEXICO
 8th International Congress on Occupational Health March 10-14, 2012
 Occupational health for all: From research to practice
 Health on wheels: From the workplace to the paradigm

Chemical Control Banding: REACH offers new perspectives to strengthen occupational safety and health in SME

Dr. Rolf Packroff
 BAuA - Federal Institute for Occupational Safety and Health
 Dortmund (Germany)
 Head of Scientific Management
 Division 4: Hazardous Substances and Biological Agents
packroff.rolf@baua.bund.de

Rolf Packroff
 Chemical Control Banding
 ICOH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

baua:

Chemical safety in the 21st century

Chemical control banding

... is a **qualitative** or **semi-quantitative** risk assessment and management approach to promoting occupational health and safety,

... is intended to **minimize worker exposures** to hazardous chemicals in the workplace,

... is intended to help **small businesses** by providing an **easy-to-understand**, practical approach to controlling hazardous exposures at work.

http://en.wikipedia.org/wiki/Control_banding

Rolf Packroff
 Chemical Control Banding
 ICOH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

baua:

Chemical safety in the 21st century

Features of control banding

control guidance sheets for risk management

easy-to-use tools for risk assessment

Rolf Packroff
 Chemical Control Banding
 ICOH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

baua:

Chemical safety in the 21st century

Two pillars of chemical safety

Classification
Labelling
Packaging

based on GHS

Registration
Evaluation
Authorisation of CHemicals

Hazard

Risk

picture: ECHA

Rolf Packroff
 Chemical Control Banding
 ICOH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

baua:

Chemical safety in the 21st century

A program for generations ...

Rolf Packroff
 Chemical Control Banding
 ICOH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

baua:

Chemical safety in the 21st century

What's to do for a REACH registration ?

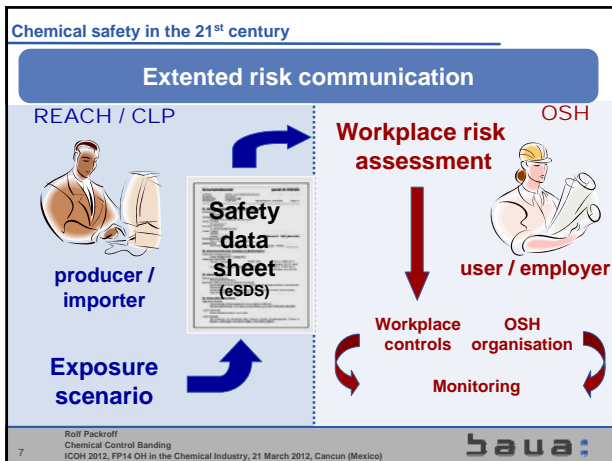
hazard assessment
 testing, classification, DNEL(s)

exposure assessment
 calculated from models and/or monitoring results

risk management
 exposure scenario (to keep exposure below DNEL)

Rolf Packroff
 Chemical Control Banding
 ICOH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

baua:



REACH and Control Banding

REACH goes control banding

COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

ANNEX II

REQUIREMENTS FOR THE COMPILATION OF SAFETY DATA SHEETS

PART A

8. SECTION 8: Exposure controls/personal protection

8.1.5. Where a control banding approach is used to decide on risk management measures in relation to specific uses, sufficient detail shall be given to enable effective management of the risk. The context and limitations of the specific control banding recommendation shall be made clear.

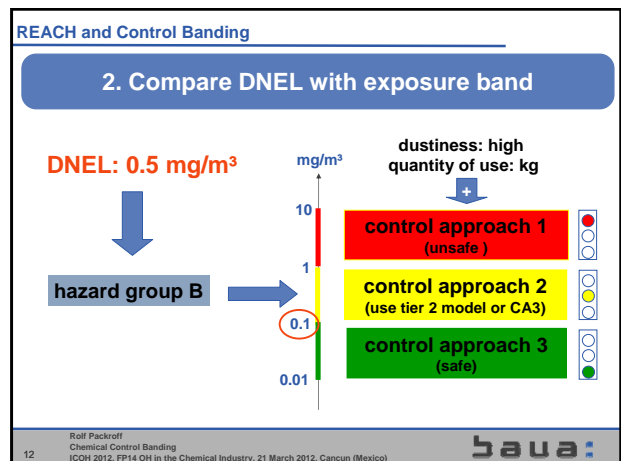
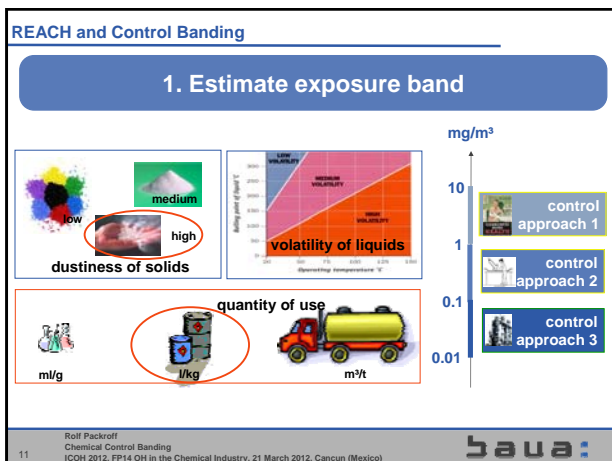
Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

- REACH and Control Banding
- Control banding can support ...**
- ... chemical safety assessment (CSA)
 - exposure assessment (workers)
 - exposure scenarios (workers)
 - ... safety data sheets (SDS)
 - exposure controls (sec. 8)
-
- Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

REACH and Control Banding

The EMKG Expo tool

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)



REACH and Control Banding

3. Select adequate control guidance sheets and use them for exposure scenarios

www.einfaches-massnahmenkonzept-gefahrstoffe.de http://www.coshh-essentials.org.uk/ http://www.ilo.org/legacy/english/protection/safework/crtf_banding/lookit/index.htm

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

REACH and Control Banding

4. Add exposure scenario to chemical safety report

task	control guidance sheet (control approach 3)	duration of task	quantity of use	exposure band (estimated)
mixing (solids)		>15 min	medium (kg)	0,01 – 0,1 mg/m ³ DNEL 0,5 mg/m ³

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

REACH and Control Banding

5. Add exposure scenario to Safety Data Sheet

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

task	hazard band	quantity of use	dustiness	control approach	ICCT control guidance sheets
laboratory, sampling	B	small	high	100	101
filling and emptying sacks	B	medium	high	200	205, 206, R101
filling and emptying tankers	B	large	high	300	310, R 101
.....

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

REACH and Control Banding

BAuA project: E-TEAM

Validation of models for the initial estimation of occupational exposure (Tier 1) in the chemical safety assessment under REACH

contractors
Institute of Occupational Medicine (Edinburgh/UK)
Fraunhofer ITEM (Hannover/Germany)

Goals
• comparison and validation with help of exposure data
• provide advice and guidance to users (and developers) on **validity, applicability and reliability**

CB / Exposure assessment tools
• ECETOC TRA
• Stoffenmanager
• EMKG-Expo-Tool
• RISKOFDERM
• MEASE Version
• EASE

Project advisory board
• BAuA, IFA (DE)
• TNO, Arbo Unie (NL)
• HSE (UK)
• AUVA (AU)
• ECETOC (EU Industry)
• EBRC
• ECHA (EU)
• NIOSH (US)

Dissimination (2013)
• Final report / publications
• Conference/ seminars
• Training courses

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

REACH and Control Banding

Developing a standardized set of EU Control Guidance Sheets for REACH

BAuA contractor: Qualisis GmbH (Langenfeld/Germany)

European standard phrases catalogue for EU safety data sheets (EUPHRAC) <http://reach.bdi.info/390.htm>

standardized format → EU Control Guidance Sheets (CAD based) ← standardized phrases

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

REACH and Control Banding

BAuA field study: control guidance sheets validation program (started: 2011)

method: field study (workplace evaluation and measurements)

1. series: transfer of liquids

210	charging reactors and mixers
211	308 IBC filling and emptying
212	305 drum filling
213	306 drum emptying using a drum pump
	310 tanker filling and emptying
	311 filling kegs
	312 transferring liquid by pump
	314 bottle filling

We want to compare exposure predicted by EMKG / COSHH Essentials / ICCT to the results from task-related exposure measurements

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)

REACH and Control Banding

Perspectives of Control Banding

EU conference, 21 - 22 June 2011, BAuA, Dortmund/Germany

Workshops

- I. Control Banding and REACH
- II. Scientific basis of CB and new developments
- III. CB implementation: communication, training, education



Helmut Klein
(BMAS, DE)

Christine Northage
(HSE, UK)

Andreas Ahrends
(ECHA, EU)

Maikel Niftrik
(TNO, NL)

Dave Zalk
(LLNL, US)

Proceedings

<http://www.baua.de/en/Topics-from-A-to-Z/Hazardous-Substances/Workshops/Control-Banding-2011/Control-Banding-2011.html>

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)



19

My vision ...

The Future of Chemical Safety

GHS / CLP ...

... will harmonize hazard communication for chemicals all over the world

REACH ...

... will provide better risk-related information along chemicals' supply chains

Control Banding ...

... will help to put this information into OSH practice and help to protect workers from chemical-related diseases

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)



20

Research, Development, Policy, Transfer-to-practice



The Federal Institute for Occupational Safety and Health (BAuA) as governmental research institution holds a key position in creating a safe and healthy work environment.



<http://www.grikgomaps.com/>

Rolf Packroff
Chemical Control Banding
ICDH 2012, FP14 OH in the Chemical Industry, 21 March 2012, Cancun (Mexico)



21