

Suggestions for Harmonisation of Reference Values

Dr. Sabine Darschnik

2006-04-03

Convincing idea

exposure < **reference value** no concern
exposure > **reference value** concern

concern : exposure ↓

2006-04-03

A large family

Health based
reference value

exposure
differences

AOEL

biocides,
plant protection

- acute
- short term
- long term

OEL

occupational
safety and Health
(SCOEL, DECOS ...)

- shift average
- ceiling value

DNEL

other regulations
(Existing chemicals,
REACH...)

- acute
- short term
- long term

2006-04-03

Reality

	biocides		workers
	AOEL	AOEC	DECOS, MAK, SCOEL
Sulfuryl fluoride (SE)	0.04 mg/kg/d	1 ppm	3 ppm
Aluminium phosphide (PH ₃) (DE)	0.011 mg/kg/d	0.05 ppm	0.1 ppm

2006-04-03

Further irritation

NOAEL rat oral



absorption rat oral

NOAEL rat internal



safety factors

NOAEL human internal



absorption human dermal

NOAEL human skin

10 mg/kg/d

Clothianidin

100 %

10 mg/kg/d

100

0.1 mg/kg/d

100 %

default

0.1 mg/kg/d

2006-04-03

Further irritation

NOAEL rat oral



absorption rat oral

NOAEL rat internal



safety factors

NOAEL human internal



absorption human dermal

NOAEL human skin

10 mg/kg/d		Clothianidin
	100 %	
10 mg/kg/d		
	100	
0.1 mg/kg/d		
	100 %	default
0.1 mg/kg/d		



Comparison

Faktor 10,000

NOAEL rat skin

1000 mg/kg/day

dermal test rat

2006-04-03

Further irritation

NOAEL rat oral



absorption rat oral

NOAEL rat internal



safety factors

NOAEL human internal



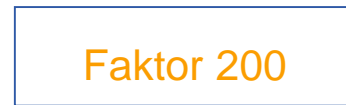
absorption human dermal

NOAEL human skin

10 mg/kg/d		Clothianidin
	100 %	
10 mg/kg/d	100	
0.1 mg/kg/d	2 %	data
5 mg/kg/d		



Comparison



Faktor 200

NOAEL rat skin

1000 mg/kg/day

dermal test rat

2006-04-03

At the workplace

Information (e.g. by safety data sheet)

- reference values
- instructions on use
- instructions on protection measures
-

monitoring

- use conditions
- protection measures
- rarely: measurements of air concentration
- never: measurement of dermal exposure
-

2006-04-03

Harmonisation of reference values



2006-04-03

Coexistence

Different tasks → different values

Biocides

(if AOEL/ OEL)

AOEL

decision instrument for member states

OEL

monitoring instrument at the workplace

Common understanding of AOEL

Dr. Sabine Darschnik

Federal Institute for Occupational Safety and Health
Friedrich-Henkel-Weg 1-25
44149 Dortmund
Germany

Tel. +49 (0) 231/9071-2581

Fax +49 (0) 231/9071-2611

darschnik.sabine@buaa.bund.de

www.buaa.de

2006-04-03