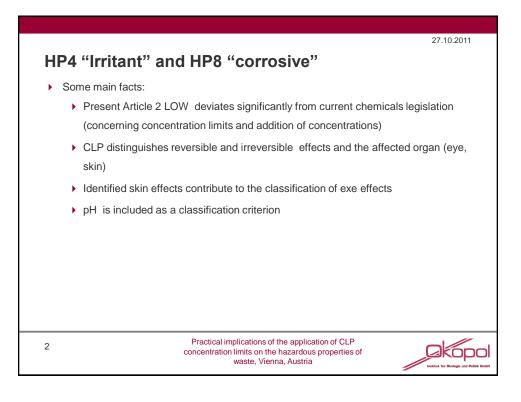
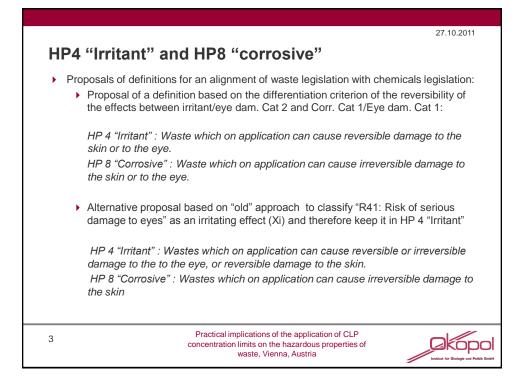
**Revision of the List of Waste** 

Practical implications of the application of CLP concentration limits on the hazardous properties of waste

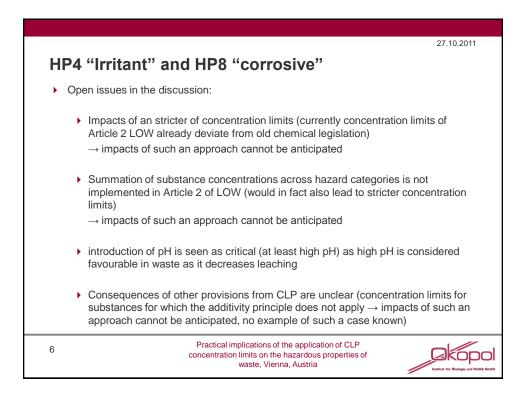
**Dr. Olaf Wirth, Knut Sander – Ökopol GmbH** 25. October 2011, Vienna, Austria

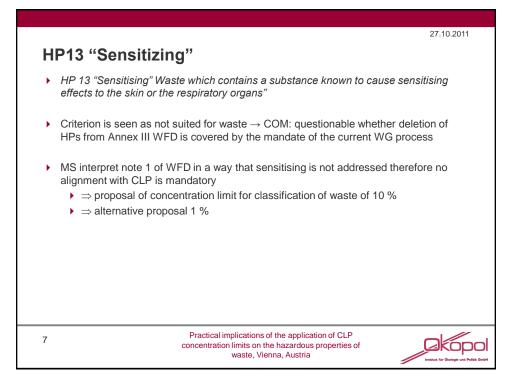




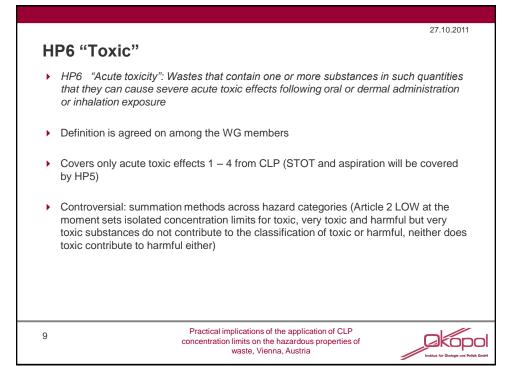
HP 4 "Irrita	int"			icle 2):	
CLP Category	CLP H- statements (other criteria)	Concentration limit	Cut off Limits	Further comments	
Skin Irrit. 2	H 315	10%	1.0 %		
Eye Irrit. 2	H 319		1.0 %		
Skin Corr. 1A Skin Corr. 1B Skin Corr. 1C	Н 314		1.0 %	$10 x (\sum cH314 + \sum cH318) + \sum cH319$ 10% (Note: substances classified H315 w be considered H319 by definition)	
Eye Dam. 1	H 318		1.0 %		

CLP Category	CLP H- statements (other criteria)	Concentration limit	Cut off Limits	Further comments
Skin Corr. 1A Skin Corr. 1B Skin Corr. 1C	H 314	3%	1%	$(\sum c H314 + \sum c H318) \ge 3\%$
Eye Dam. 1	H 318	]	1%	
Acid pH $\leq 2$	-	1%	1%	-
Base pH $\geq$ 11.5	-	1%	1%	-

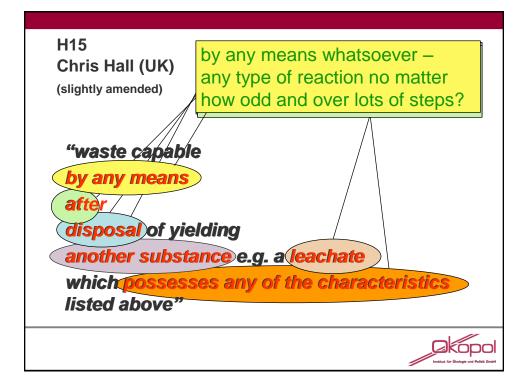




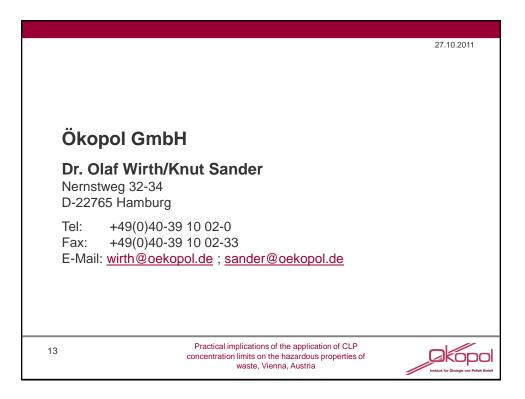
	27.10.2011
Η	P14 "Ecotoxic",
•	HP14 "Ecotoxic": Wastes which present or may present immediate or delayed risks for one or more sectors of the environment.
•	Adaption to CLP intended:
	<ul> <li>Ozone depleting substances will be covered by a concentration limit of 0.1 %</li> <li>Toxicity via the aquatic environment is intended to be covered by using calculation methods of the CLP</li> <li>(M × 100 × Chronic 1) + (10 × Chronic 2) + Chronic 3 ≥ 25 %</li> <li>Chronic 1 + Chronic 2 + Chronic 3 + Chronic 4 ≥ 25 %</li> </ul>
	Controversial: application of the M-factor principle
•	Toxicity according to a fixed test battery (including test on terrestrial organisms) are intended to be included → Aim: overruling the result from calculation (negative testing would lead to no classification) <ul> <li>Not CLP!</li> </ul>
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	CLP H-		1	Further comments		
CLP Category	statements (other	Cut off Limits	Concentration limit			
Acute Tox. 1.	<i>criteria)</i> H 300,			Additivity needs to be considered by one of th		
Acute Tox. 1, Acute Tox. 2	H 310.	0.1%		following formulae for the various pathways:		
	H 330			Acute Tox. Oral = $\sum c$ cat 1 x 1000 + $\sum c$ cat 2		
Acute Tox. 3	H 301,			$100 + \sum c \text{ cat } 3 \text{ x } 5 + \sum c \text{ cat } 4 \text{ x } 1 \le 25.0\%$		
	H 311, H 331	0.1%		Acute Tox. Dermal = $\sum c$ cat 1 x 220 + $\sum c$ cat		
Acute Tox, 4	H 331		25% (oral)	$x 22 + \sum c cat 3 x 3.67 + \sum c cat 4 x 1 \le 55.0\%$		
Tiouco Toxa T			55% (dermal) 22.5% (inhalation gas)	Acute Tox. Gases = $\sum c \operatorname{cat} 1 \times 450 + \sum c \operatorname{cat} 2$		
			55% (inhalation, vapor)	$45 + \sum c \text{ cat } 3 \ge 6.43 + \sum c \text{ cat } 4 \ge 1 \le 22.5\%$		
	H 302, H 312,	1%	30% (inhalation, dust/mist)	Acute Tox. Vapour = $\sum c \text{ cat } 1 \ge 220 + \sum c \text{ cat } 22 + \sum c \text{ cat } 3 \ge 3.67 + \sum c \text{ cat } 4 \ge 1.55.0\%$		
	H 332			Acute Tox. Dust/Mist = $\sum c \operatorname{cat} 1 \times 300 + \sum c \operatorname{cat} 2 \times 30 + \sum c \operatorname{cat} 3 \times 3 + \sum c \operatorname{cat} 4 \times 1 \le 30.0\%$		



	2	27.10.2011								
H15										
High dear	ee of uncertainty									
	interpretation in Member States									
Implement	Implemented and actively applied in 7 Member States									
HP15										
Proposal										
during sto	<ul> <li>"waste capable of exhibiting a hazardous property listed above [during storage or treatment] not directly displayed by the original waste"</li> </ul>									
	f LoW link to substances with specified EUHXXX tements only.									
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							27.	10.2011
Bacl	k UP –	deriva	tion of	equat	ion	s for H	P 6 assessm	ent
<ul> <li>ATE estimates are different categories could serve as factors for the classification of wastes. ATE estimate for oral toxicity are</li> </ul>					Exposure routes Oral (mg/kg bodyweight)	Classification category or experimentally obtained acute toxicity range estimate $0 < Category 1 \le 5$	Converted acute toxicity point estima (see Note 1) 0.5	
Factor						(mg/kg oodywergin)	$5 \le Category \ 2 \le 50$ $50 \le Category \ 3 \le 300$	5 100
	0-14 (0.5)	-		0-14/50	2)		300 < Category 4 ≤ 2000	500
0 ( ( 0 5)	Cat 1 (0.5)	Cat 2 (5)	Cat 3 (100)	Cat 4 (500	J)	Dermal (mg/kg bodyweight)	0 < Category 1 < 50	
Cat 1 (0.5)	1	-	-	-	•		50 < Category 2 ≤ 200 200 < Category 3 ≤ 1000	50 300
Cat 2 (5)	10	1	-	-			1000 < Category 4 ≤ 2000	1100
Cat 3 (100)	200	20	1	-		Gases	0 < Category 1 ≤ 100	10
Cat 4 (500)	1000	100	5	1		(ppmV)	$100 \le Category \ 2 \le 500$	100
			-				500 < Category 3 ≤ 2500	700
These	would res	sult in the f	ollowing eq	uations (C	Dral	Vapours (mg/l)	2500 < Category 4 ≤ 20000 0 < Category 1 ≤ 0.5	4500
pathw	av):		• •				$0 < Category 1 \le 0.5$ $0.5 < Category 2 \le 2$	0.05
	Σc cat 1 x 1 ≤	0.1%					0.5 < Category 2 ≤ 2 2.0 < Category 3 ≤ 10.0	3
Cat $2 = \sum c$ cat $1 \times 10 + \sum c$ cat $2 \times 1 \le 0.25\%$							10.0 < Category 4 ≤ 20.0	11
	-	-	20 + ∑c cat 3 x	1 < 5%		Dust/mist (mg/l)	0< Category 1 ≤ 0.05	0.005
	_	_	x 100 + Σc cat 3		at 4		$0.05 < Category 2 \le 0.5$	0.05
x 1 ≤ 25			x 100 · 20 cat	0 x 0 · 20 08	at <del>4</del>		$0.5 < Category 3 \le 1.0$	0.5
A similar	r to this oc	loulationa	have to be a	onnlind to			$1.0 \le Category \ 4 \le 5.0$	1.5
			iysical state				ned to be used in the calculation of the ATE for s and do not represent test results.	classification of a mixt
14 Practical implications of the application of CLP concentration limits on the hazardous properties of waste, Vienna, Austria							kopo ur Okologie und Politik Genb	