



SWEDISH ENVIRONMENTAL
PROTECTION AGENCY

PCE, TCE LEAD, ARSENIC - NEW TOX DATA

Barcelona
4 October

Åsa Valley

”New” toxicity data

PCE, TCE – USEPA (2011)

Pb - EFSA (2010)

As – EFSA 2009 and JECFA 2011

Should the new data be considered
in revised generic guideline/screening
values for soil?

Toxicological data

- EFSA:s BMDL₀₁ is 0,5 µg/kg,d – lowered from 3,5 Corresponds to a blood concentration of 12 µg/l.

Table 3: Recent Pb concentrations in air, water and soil.

Soil	
Current levels	<10 to >70 mg/kg (median 23 mg/kg)
Vicinity of smelters, etc	up to 60,000 mg/kg
Surface soil in cont. areas	from 100 to >1,000 mg/kg

- An average child may ingest up 100 mg soil/day (WHO 2007) – at soil concentration 23 mg/kg this means a dose of 0.23 µg/kg/d for a child of 10 kg body weight.

USEPA, 2011 – TCE and PCE:

Updated inhalation reference doses based on experimental data

Revision of generic values 2016

Provisional values for chlorinated & lead

	Sensitive land use		Less sensitive land use	
	Current	Proposed	Current	Proposed
Lead	50 mg/kg	20*	400	180
Arsenic				
PCE	0,4	0,4	1,2	1,2
TCE	0,2	0,1	0,6	0,6

Survey within the Common Forum

- Have you reviewed tox data for these substances?
- Have you revised?
- What reactions did you get?
- What was the outcome?

Responses for lead/arsenic

Have you revised?

8 responding countries - 1 published revised values

Reasoning and reactions

Levels very near background values

Large areas, diffuse contamination – liability issues

Encumbers reuse of excavated materials

Strategies

Mixed risk based and management approach / limiting exposure

Screening of population at trigger value



Responses for chlorinated solvents

Several countries are updating or reviewing

A few have reviewed and not updated

”No - We should follow EU methods and not US”

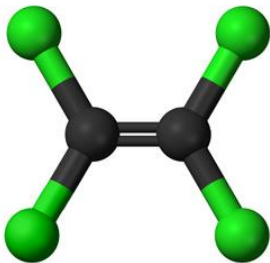
”No- No priority given to HH risk assessment for chlorinated solvents”

”Yes – for groundwater”

”Still in the process”

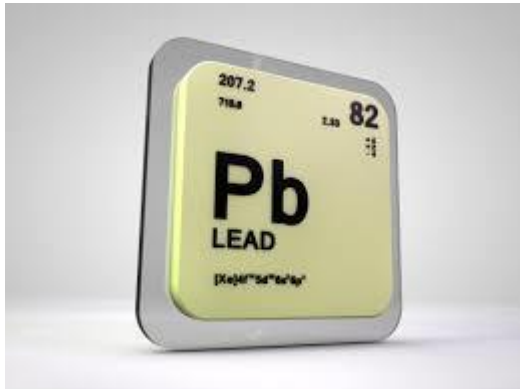
Sweden's approach - chlorinated

- Limited effect on soil screening values. We currently have no screening values for groundwater or pore gas – likely to be revised
- Socio-economic cost/benefit analysis



Sweden's approach - Lead

- Socio-economic cost/benefit analysis
- Mixed risk based/management approach?



Discussion points

- Lowered guideline values have major consequences
 - For sensitive land use below background
- Uncertainties in how to evaluate risks
 - Pb small effects on individual levels but large effects on an exposed population
 - How account for this when calculating screening values?