



Global Pressures on Chemical Users

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**“Global Pressures on Chemical Users,” Daryl Ditz, CIEL
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Outline

- **Reflections on substitution**
- **Global pressures on chemical users**
- **Priority substances lists**
- **Conclusions**

The Substitution Dilemma

How to react to
priority chemicals,
without jumping
from the frying pan
into the fire?



Global Pressure: Suppliers

- Try to defend existing substances, uses?
- Supply chain interruption?
- Increasing SVHC costs?
- Possible competitor or source of safer solutions?



Global Pressure: Customers



- Professional users
- Household consumers
- Duty to inform (art. 33)
- Notification for SVHCs in articles (art. 7)

Customers (cont.): Retail

WAL★MART

World's largest retailer
US\$375 billion sales
7,250 stores

“Provide to our customers affordable and effective products where all chemical ingredients are preferred for Mother, Child and the Environment”

Global Pressures: Investors



- Shareholder resolutions on chemicals (2006-08):
 - 2: Chemical makers
 - 10: Product makers
 - 16: Retailers
 - 28: Total
- Competitive advantage: who wins, who loses?

Investors (cont.): Innovest Report

Innovest
STRATEGIC VALUE ADVISORS

REACH: Risks and Strategic Opportunities

September 2008

Report prepared by: Norm Ed, Senior Analyst, Email: ned@innovestgroup.com; Andre Dennis, Research Associate

KEY ISSUES FOR STRATEGIC INVESTORS

- Analysis of the financial implications of REACH for 73 chemical companies. Innovest has made use of specific data allowing us to identify risks to the chemical sector related to European Chemicals Regulation (REACH). Our analysis indicates that for about 15% of these companies, the potential impact of the regulation would be greater than 2% of annual sales, assuming that the ChemSec SIN list is adopted in its entirety. Affected companies include Lanxess and Ciba. Company specific details are located on page 13.
- Inks and dyes, polymer manufacturers, and agrochem sector to see higher costs. We anticipate that companies with operations in these sectors may face value deterioration due to higher costs. Plastics manufacturers could see a -1.5% to 3% impact on value.
- Qualitative analysis benchmarks REACH-readiness in the chemicals sector, innovest benchmarked REACH management strategies, risk exposure, and strategic profit opportunities for 73 chemical companies highlighting prospects to curb risk through preemptive strategy and market potential for viable alternatives.

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- Assess financial risks, opportunities for SVHCs
- Comparative rating of 73 global chemical companies
- Information for analysts, institutional investors



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Global Pressures: Policy?

- Most policy pressures national/EU, not global
 - Canadian environmental protection act
 - Kid-safe products act (Maine)
 - Green chemistry legislation? (California)
 - Kid-safe chemicals act? (US proposal)
- Result: a patchwork of different approaches, all searching for priority chemicals

RoHS Directive

Lead

Mercury

Cadmium

Hexavalent chromium (Cr6+)

Polybrominated biphenyls (PBB)

Polybrominated diphenyl ether (PBDE)

6+?

Stockholm POPs Convention

The “Dirty Dozen”

Eliminated/Under review

~~Chlordane~~

~~Dieldrin~~

~~DDT~~

~~Endosulfan~~

~~Heptachlor epoxide~~

~~Hexachlorobenzene (HCB)~~

~~Mirex~~

~~Polychlorinated biphenyls (PCBs)~~

~~Polychlorinated dibenzodioxins (PCDDs)~~

~~Polychlorinated dibenzofurans (PCDFs)~~

~~Toxaphene~~

12+



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OSPAR List

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[1,1'-bianthracene]-9,9',10,10'-tetrone, 4,4'-diamino-
[1,1'-biphenyl]-2,2'-diol, 5,5'-dichloro
[1,1'-biphenyl]-4,4'-diamine, 3,3'-dichloro-
[1,1'-biphenyl]-4,4'-diamine, N,N'-bis(2,4-dinitrophenyl)-3,3'-dimethoxy-
[1,1'-biphenyl]-4-ol, 3,5-bis(1,1-dimethylethyl)-
1,1'-biphenyl, 2,2',3,3',4,4',5,5',6,6'-decabromo-
1,1'-biphenyl, 2,2',3,3',4,4',5,5',6,6'-decachloro-
1,1'-biphenyl, 2,2',4,4',6,6'-hexachloro-
1,1'-biphenyl, 2,2',4,4'-tetrachloro-
1,1'-biphenyl, 2,4,4'-trichloro-
1,1'-biphenyl, 4-bromo-2-fluoro-
1,1'-biphenyl, chlorinated
1,1'-biphenyl, hexabromo-
1,1'-biphenyl, nonachloro-
1,2,3-trichlorobenzene
1,2,4-trichlorobenzene
1,2-benzenedicarboxylic acid, bis(2-ethylhexyl) ester
1,2-benzenedicarboxylic acid, bis(2-methylpropyl) ester
1,2-benzenedicarboxylic acid, butyl phenylmethyl ester
1,2-benzenedicarboxylic acid, dibutyl ester
1,2-benzenedicarboxylic acid, diisooctyl ester
1,2-benzenedicarboxylic acid, dioctyl ester
1,2-Ethanedisulfonic acid, compd. with 2-chloro-10-[3-(4-methyl-1-piperazinyl)propyl]-10H-phenothiazine (1:1)
1,3,4-metheno-1H-cyclobuta[cd]pentalene, 1,1a,2,2,3,3a,4,5,5,5a,5b,6-dodecachlorooctahydro-
1,3,4-metheno-2H-cyclobuta(cd)pentalen-2-one, 1,1a,3,3a,4,5,5,5a,5b,6-decachlorooctahydro-
1,3,5-triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2,3-dibromopropyl)-
1,3,5-triazine-2,4,6(1H,3H,5H)-trione, 1,3,5-tris(2-isocyanatomethylphenyl)-



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Priority Lists for better or worse?

- The value of priority lists: focusing attention
- The danger of priority: red but no green?



Looking for direction



Needed: REACH Candidate List

- Prompt listing of chemicals that meet REACH criteria
- Market signal for safer alternatives
- Robust implementation of disclosure, authorisation requirements

- An input to a global list of SVHCs

Steering clear of hazards



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Conclusions

- Pressures are global, so are solutions
- Priority lists can focus attention, align conflicting demands
- Info urgently needed on alternative chemicals, other solutions
- Knowledge essential to markets for green chemistry, products
- Substitute the worst, but not blindly