

*Enforcement of green chemicals in products  
to minimize toxic and hazardous waste  
~ Swedish Experience*

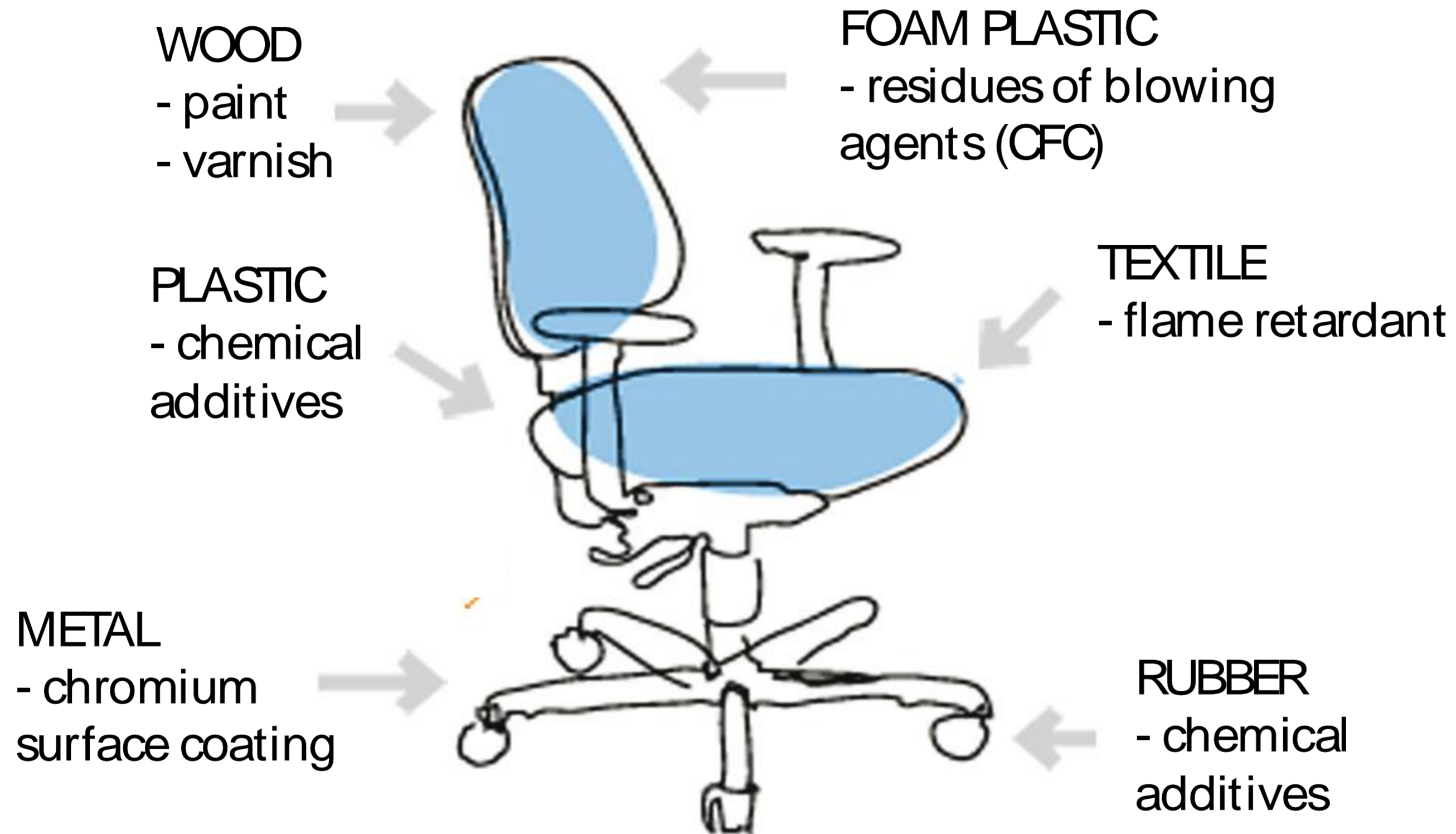


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Enforcement of chemicals in products

# Examples of chemicals in a product



# Information on chemicals in products is a key to sustainability



# Current situation – gaps in information exchange



## The CiP-project

- A guide to companies **about information on chemicals in products** in the supply chain and throughout the product life cycle
- **Focus areas:**
  - toys and products for children
  - textiles
  - electrical and electronic products
  - building products
- [Link to CiP](#)

# Degree of control

High

Low



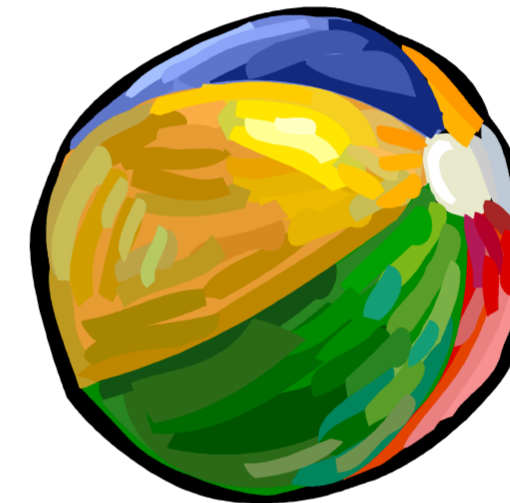
## Pesticides

- Approval
- Registration
- Labelling/SDS



## Chemical products

- Restrictions
- Registration
- Labelling/SDS



## Chemicals in products

- Restrictions
- Reach Article 33 (info duty)

# EU legislation – chemicals in products

## RoHS-directive (2011/65/EC)

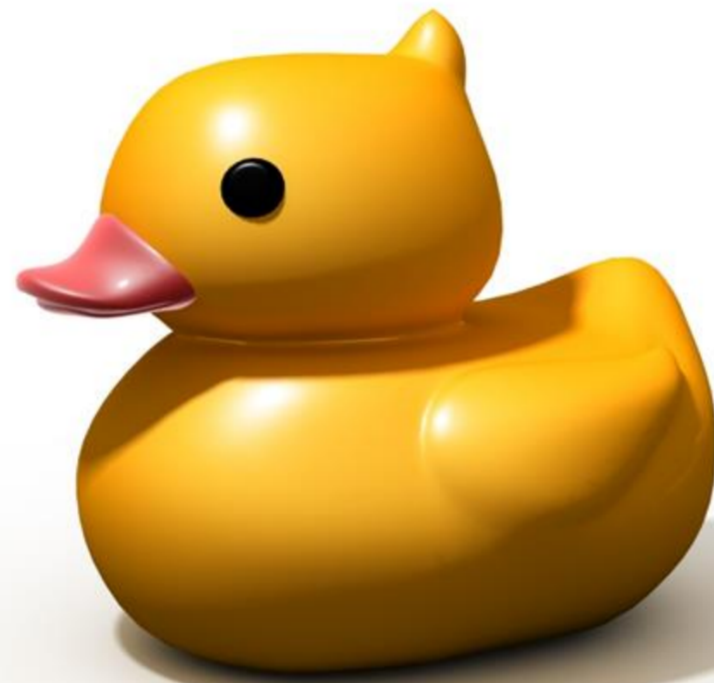
- brominated flameretardents
- Pb, Cd, Hg, Cr<sup>VI</sup>
- Phtalates 2019

## POPs-regulation (EC 850/2004)

- Flame retardents
- SCCP
- PFOS

## Toys safety directive (2009/48/EC)

- 20 metals: Pb, Cd, Ni, Hg
- 6 Phtalates
- CMR substances
- Perfume substances



## Reach-regulation (EC 1907/2006)

- Azodyes
- Pb, Cd, Ni
- Hg
- SVHC – article 33:
  - Phtalates

## Biocide regulation (EU 528/2012)

- Article 58: Biocide treated products

# Restrictions in Annex XVII - Reach

## Restricted substances – 63 entries

### Examples:

- Hg entry 18
- Cd entry 23
- Ni entry 27
- Azo dyes entry 43
- PAH entry 50
- Phthalates entry 51,52
- Pb entry 63





# New standard in China

## Phthalates

### Standard GB6675-2014

Substance	CAS	Scope	Requirement	Date of entry into force
Dibutyl phthalate (DBP)	84-74-2	Plasticised material on toy	$\leq 0.1\%$ (sum)	1 January 2016
Butyl benzyl phthalate (BBP)	85-68-7			
Bis-(2-ethylhexyl) phthalate (DEHP)	117-81-7			
Di-n-octyl phthalate (DNOP)	117-84-0	Plasticised material on toy that can be placed in the mouth	$\leq 0.1\%$ (sum)	
Diisononyl phthalate (DINP)	68515-48-0, 28553-12-0			
Diisodecyl phthalate (DIDP)	26761-40-0, 68515-49-1			

# Enforcement in Sweden on chemicals in products



EEE



Toys



Construction  
articles,  
Interior design  
products



Clothes,  
shoes,  
assecories

# Enforcement



## Analyses

- XRF for screening
- Sent to an external accredited laboratory

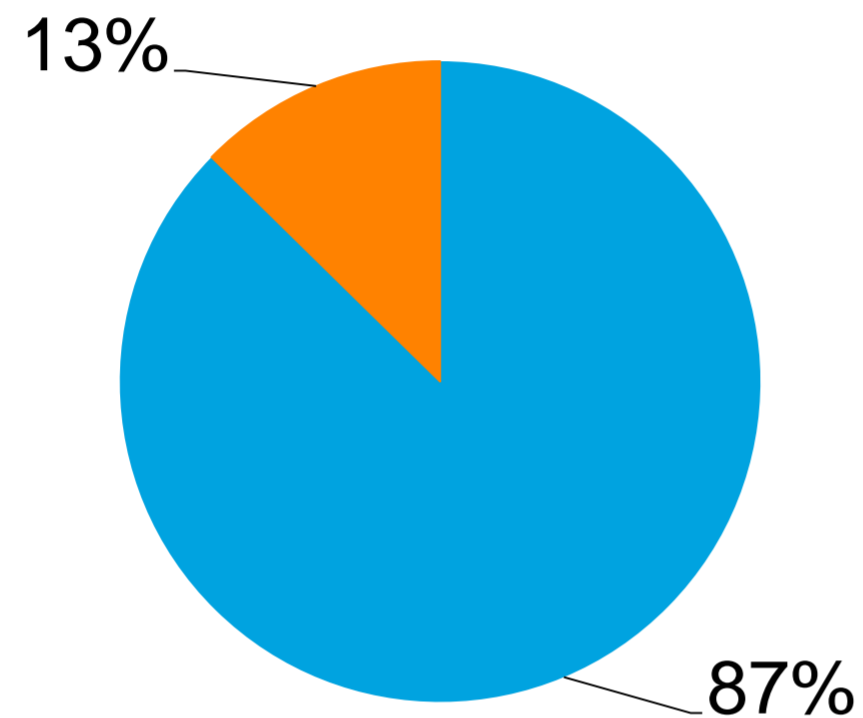
## Documentation (toys and electronic products)

- DoC – EU Declaration of Conformity
- CE-label and company information label
- Sometimes technical documentation

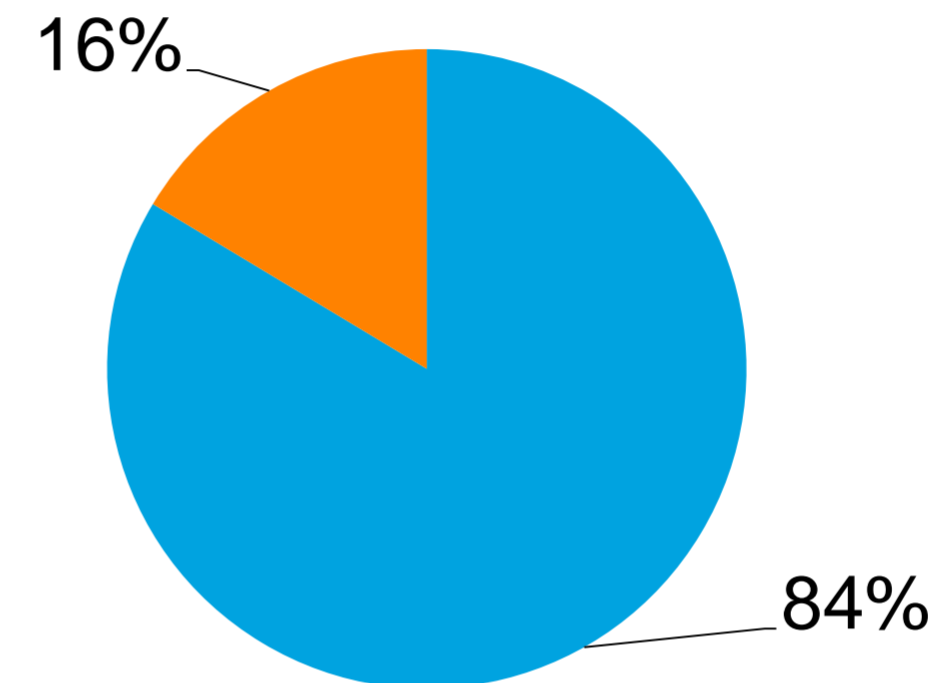
# Results enforcement 2008-2013

chemicals in products

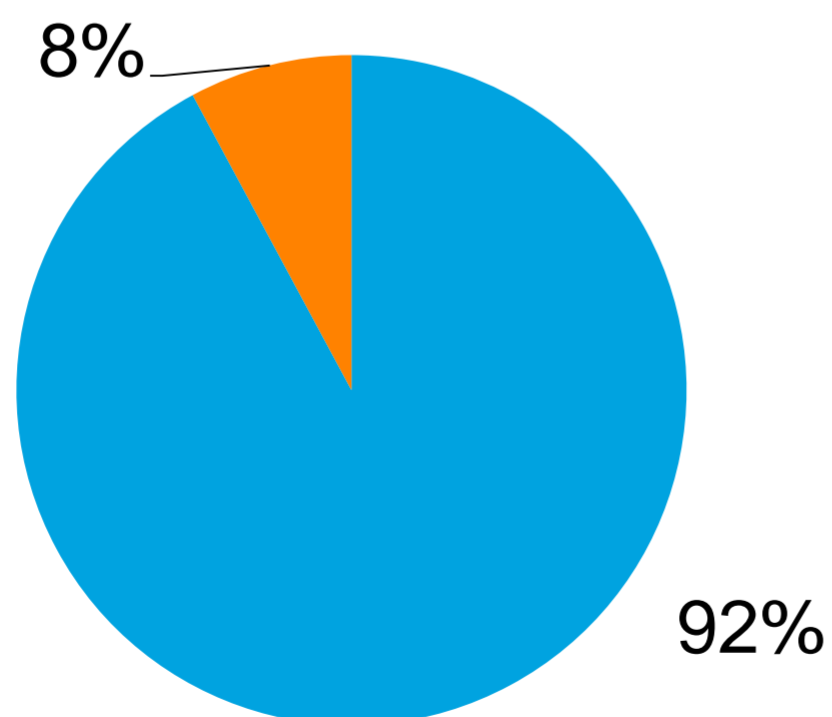
### Electronics



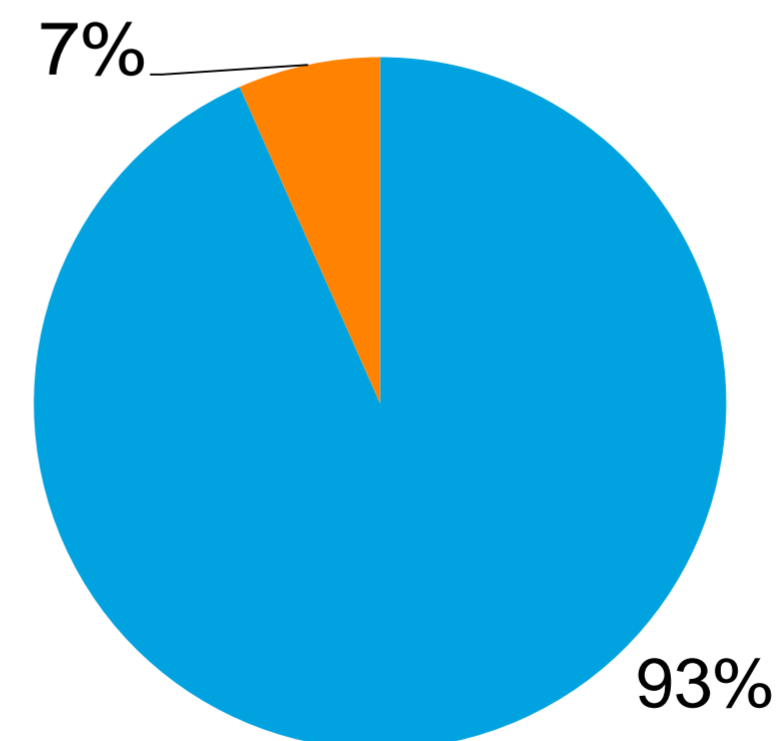
### Toys and other childcare articles



### Construction articles, interior design articles

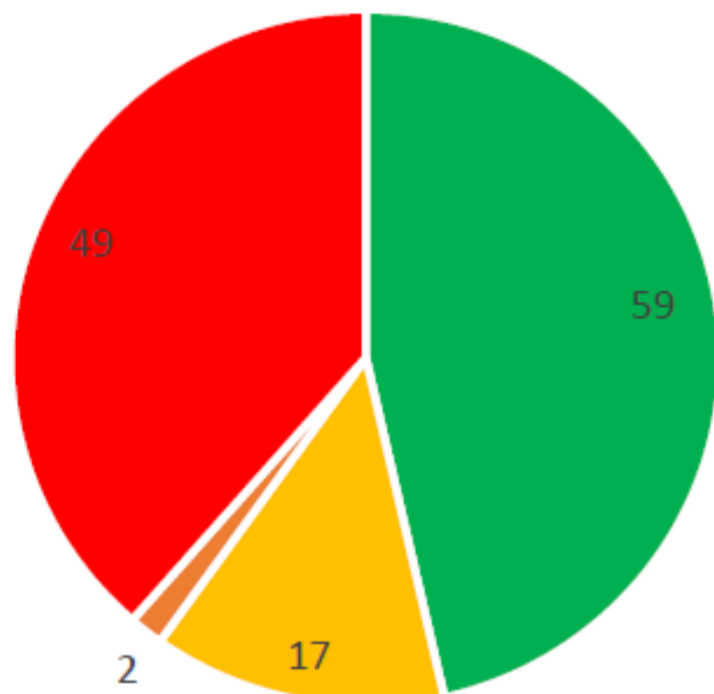


### Clothes, shoes and accessories

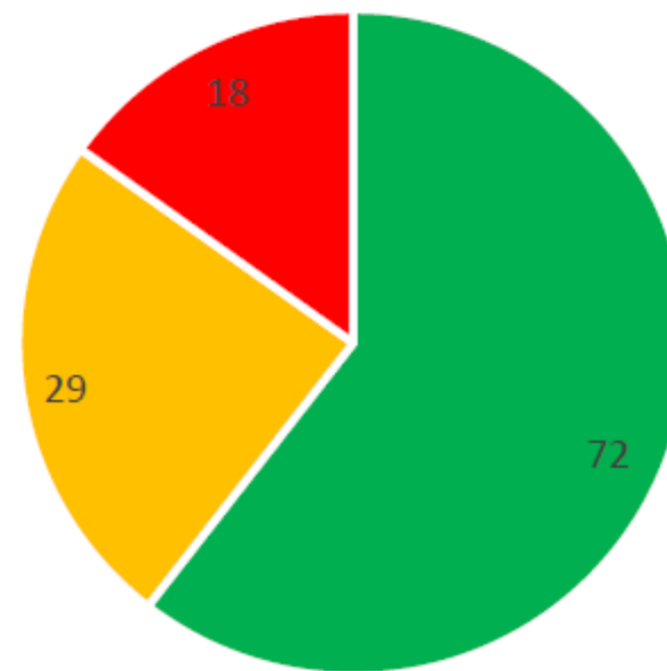



# ... 2014-2015


## Electronics





## Toys



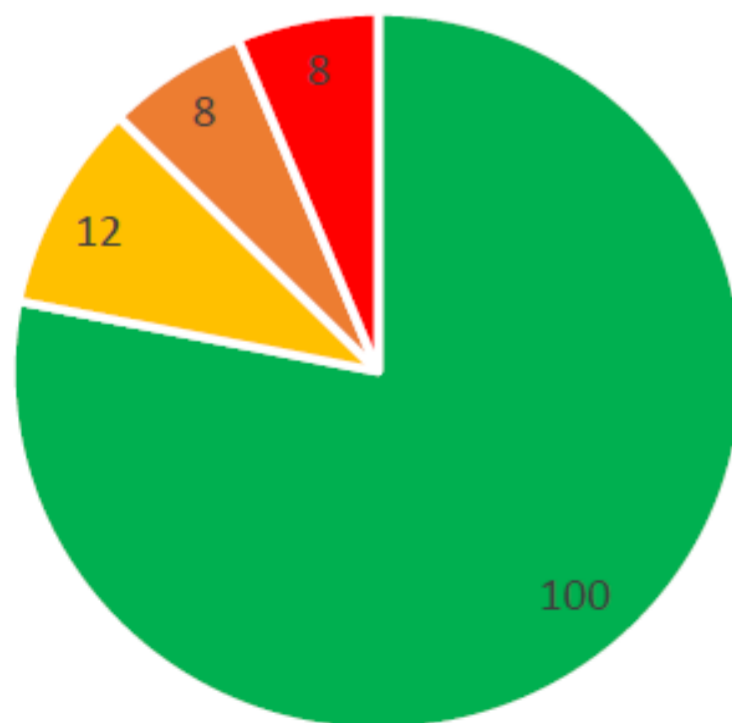
 = contains prohibited substances in concentrations in excess of the limit values

 = contains substances on the Candidate List in concentrations over 0.1 %

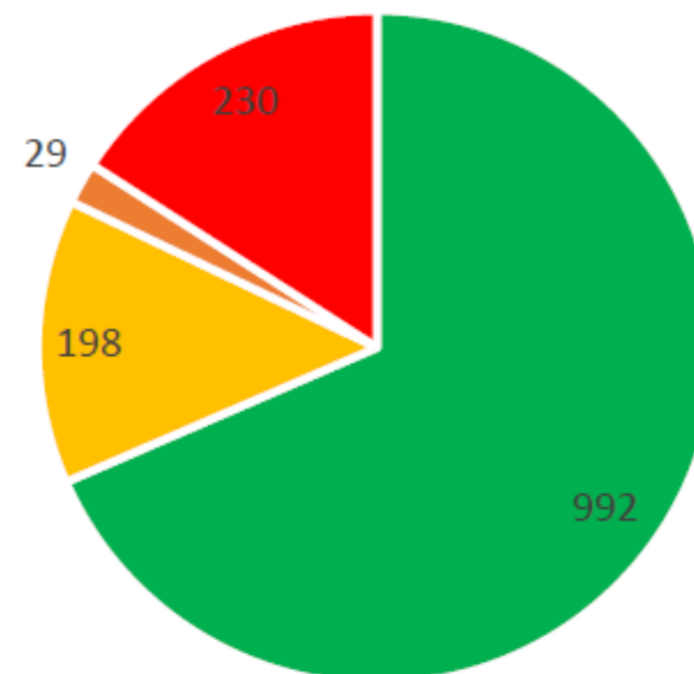
 = contains prohibited substances in concentrations below the limit values or unregulated hazardous substances

 = contains none of the sought substances

## Building and interior material



## Clothes, shoes and accessories





# Examples



## Findings

- Soft plastic material: Phtalates  
SCCP
- Electronic products: Pb in solders  
SCCP
- Textiles: azodyes  
NP/NPEO
- Others: Pb and Cd in jewerly  
Cd i PVC package material



# Fail – Measures



If the product contain exceeded levels of a restricted substances:

1. The company has to stop selling the product
2. The company has to pay for the analytical costs
3. Report to the prosecutors office
4. Environmental sanction fee
5. Rapex registration



# Advice to companies

- Keep track on restricted substances
- Written agreements with supplier
  - Specify legislation and restricted substances: not enough with "Reach compliance"
- Do your own analyses on samples



# Way forward?

- What could be done to phase out dangerous substances in products to be able to get cleaner recycled products?
- How can we find ways of getting the information flow of dangerous substances throughout the supply chain to work?

# Way forward?

Swedish report on waste and recycling:

“A more efficient and long-term risk reduction measures compared to tighten regulations for recycling are:

- to expand the regulated substances, such as RoHS, and Reach
- to increase enforcement of these regulations”

# Thank you!



More information can be found on [www.kemi.se](http://www.kemi.se)

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