

## 7.39 Solvent content in products 2: Domestic uses of solvent (other than paints)

### 7.39.1 Coverage

This source category covers the domestic application of glues, use of car care products, cleaning agents, leather and furniture care products, pesticides, and cosmetics and pharmaceuticals.

### 7.39.2 Technologies

VOC emissions are due to the solvents contained in the products. All solvents used are considered to be 100% emitted into the atmosphere.

### 7.39.3 Available techniques, Achievable Solvent Concentrations

For the domestic use of organic solvents, emission reduction options are given only in terms of substitution by zero or low organic solvent containing products (mainly water-based products), by non-organic propellants, and the reduction of the packaging volume.

The BIPRO study aiming at identifying reductions in VOC emissions from the use of product [1] defines maximum VOC content which could be mandatory in a list of products. 3 types of products are considered: propellants, cosmetics (besides aerosols) and adhesives used outside installations (which are already covered by the Directive 99/13/EC [2]). Maximum allowed VOC content are presented in the table below.

The most important emission sources from the use of products containing VOC in the EU are [1] :

- Aerosol in cosmetics (propellants) 180 kton/a
- Solvents in cleaning products 110 kton/a
- Solvents in adhesives 100 kton/a

Table 1: Maximum allowed VOC content for each type of domestic products

Emission source	Maximum allowed VOC content [%]	ELV from the Californian regulation [1], [3]
<b>Propellants</b>		
Hair sprays	75	55
Deodorants	20	10
Antiperspirants	75	10 (MVOC), 40 (HVOC)
Cleaning Agents	10	4
<b>Cosmetics (besides aerosols)</b>		
Skin care products	20	
Shampoos, soap and bath products	3	
Shaving products	3	
Flagrances	80	75
Deodorants	20	10
<b>Adhesives used in building and construction</b>		
Roofing	Solvent free <sup>a/</sup>	
Insulation	Solvent free <sup>a/</sup>	
Ceiling tiles	30	
Plywood paneling	Solvent free <sup>a/</sup>	
Floor covering	8 <sup>a/</sup>	
<b>Adhesives in woodworking and joinery</b>		

Emission source	Maximum allowed VOC content [%]	ELV from the Californian regulation [1], [3]
Wood	Solvent free <sup>a/</sup>	
Varnished surfaces	No limitation <sup>b/</sup>	
Leather, textiles, felt	8 <sup>a/</sup>	
Rubber, plastics, PVC	70 <sup>b/</sup>	
Cushions and foams	8 <sup>a/</sup>	
<b>Adhesives for footwear and leather</b>		
Shoe upper assembly	10 <sup>a/</sup>	
Sole assembly	55	
Sole fitting	No limitation	
<b>Adhesives used by consumers, DIY</b>		
Wood	Solvent free	
Paper and board	Solvent free	
Multipurpose and contact adhesives	No limitation <sup>b/</sup>	
Modelling and plastics	70 <sup>b/</sup>	

a/ exceptions for specific applications

b/ use of alternatives dependant on material and technical conditions

#### 7.39.4 Cost data

No data is available.

#### 7.39.5 Emerging techniques

No data is available.

#### 7.39.6 References used for chapter 7.39

- [1] Screening study to identify reductions in VOC emissions due to the restrictions in the VOC content of products
- [2] Directive 1999/13/EC of 11 March 1999. on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain activities and installations
- [3] Regulation for reducing VOC emissions from consumer products, Title 17, California Code of Regulations, Division 3, Chapter 1, Subchapter 8.5, Article 2, Consumer Products, Sections 94507-94517 (dec. 2007).