

**Final Background Document  
on the sector**

**Non industrial use of adhesives**

**Prepared in the framework of EGTEI**

**Prepared by CITEPA, Paris**

## Summary

### 1. Aim of the document (p.3)

This document is developed to take into account VOC emissions from the non industrial use of adhesives as well as the forecasts.

### 2. Definition of Reference Installation (p.3)

*No reference installation is defined in this chapter. This sector is described by the total consumption of adhesives in each country (see paragraph 3).*

### 3. Data to be provided by national experts for the completion of the database for their own country (p.3)

**Table 3.1:** Consumption of adhesives and cleaning solvents [t of products / y]

*Product consumptions (t / y) have to be estimated from 2000 to 2020.*

**Table 3.2:** Average solvent content (weight %) of the products for 2000 to 2020

### 4. Derivation of emission factors (p.4)

### 5. References (p.4)

## Non industrial use of adhesives

**SNAP:** 06 04 05 or NFR 3 A Paint Application

This document concerns adhesive applications in the construction industry and the do-it-yourself sector which are not regulated by the Directive 99/13/EC [1].

Adhesive application in the construction industry is carried out predominantly by handicraft enterprises at the construction site [2].

*Cement and mortar adhesives which do not contain any solvents are not considered in this document.*

**ACTIVITY:** total consumption of adhesives (tonnes of adhesives consumed / year)

**POLLUTANT CONSIDERED:** VOC

### 1 Aim of the document

Contrary to the sector “Use of decorative paints”, no Directive is under preparation for the moment to regulate this sector. No information is available on costs and means to reduce VOC emissions. However, consumptions of solvent based adhesives are believed to decrease with time in parallel with the development of water based and solvent free adhesives.

This is important to study this sector because the non industrial use of adhesives represents an important share of the whole adhesive consumption (i.e. 34% in Germany [2]).

### 2 Definition of Reference Installations

*No reference installation is defined in this chapter. This sector is described by the total consumption of adhesives in each country (see Chapter 3).*

### 3 Data to be provided by national experts for the completion of the database for their own country

To be filled in by national experts

- Consumptions (t products consumed / y) in 2000, 2005, 2010, 2015, 2020. Some default values for the confidence interval are given. They can be used by the Party if no data are available.

*Total activity corresponds to the consumption of adhesives only (t of adhesives / y).*

**Table 3.1:** Consumption of adhesives and cleaning/diluting solvents [t of products / y]

Products	2000	CI%	2005	CI%	2010	CI%	2015	CI%	2020	CI%
Adhesives										
Cleaning/diluting solvents										
Default values		10		20		50		100		100

*Product consumptions (t products consumed / y) have to be estimated from 2000 to 2020.*

**Table 3.2:** Average solvent content of the products (weight %)

This information depends on the types of adhesive used at a country level. These concentrations might evolve in the future so the possibility is given to national experts to modify this parameter.

Cleaning/diluting products are considered to be pure solvents (100%). The solvent content is not assumed to differ in the future but their consumption should evolve with the consumption of paints.

Products	2000	CI%	2005	CI%	2010	CI%	2015	CI%	2020	CI%
Adhesives										
Diluting/cleaning solvents	100		100		100		100		100	

#### 4 Derivation of Emission Factors

Emission factors at a country level (t VOC / t adhesives consumed) depend on the shares of use of the different products (solvent based, water-based and solvent free adhesives).

Emission factors will be higher where solvent based product sales are more important.

*Country specific emission factors will be calculated by the tool for the years 2000 to 2020 (from inputs of tables 3.1 and 3.2).*

**Table 4.1:** Emission factor calculations

Emission factor [t VOC / t paints]
$\frac{(\text{consumption of adhesives [t / y]} \times \% \text{ of solvents} + \text{consumption of cleaning/diluting solvents})}{\text{Total activity [t of adhesives / y]}}$

Basic assumption:

- Application and drying processes are not enclosed and all solvents used are emitted into the air.

#### 5 Reference

- [1] Council 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.
- [2] N. PETERS, S. NUNGE, J. GELDERMANN, O. RENTZ. Best Available Techniques (BAT) for the Adhesive Application in Germany. Volume Adhesive Application. DFIU/TH. Karlsruhe. August 2002.  
<http://www.umweltdaten.de/nfp-bat-e/vol2adhe.pdf>