



## Commission follows up on workers' protection from cancer-causing chemicals: frequently asked questions

Brussels, 10 January 2017

### Commission follows up on workers' protection from cancer-causing chemicals: frequently asked questions.

#### How are workers currently protected under EU legislation?

The EU principles of worker protection from carcinogens are laid out in the over-arching Occupational Safety and Health (OSH) Framework Directive 89/391/EEC and those Directives specifically dealing with chemical risks – notably the Chemical Agents Directive and the Carcinogens and Mutagens Directive (CMD).

Under the OSH framework, risks to the safety and health of workers must be eliminated or reduced to a minimum. The Carcinogens and Mutagens Directive sets a number of concrete provisions specific to chemical carcinogens.

Employers must identify and assess risks to workers associated with exposure to specific carcinogens and mutagens, and must prevent exposure where risks occur. Where possible, the carcinogenic substance should be substituted with a less-hazardous alternative – otherwise carcinogens must, so far as is technically possible, be manufactured and used in a closed system to prevent exposure of workers. Where this is not possible either, worker exposure must otherwise be reduced as much as can be.

A lack of national Occupational Exposure Limits (OELs) for some carcinogens, and the high levels of others, not only leads to inadequate protection for EU workers but can also have negative consequences for the internal market. It leads to situations, where businesses located in Member States with less stringent levels (where there are no set occupational exposure limit values, or where they are set at a high level, allowing for greater worker exposure) may benefit from an undue competitive advantage. Varied national OELs can create uncertainty regarding appropriate risk management standards.

From a more general perspective, therefore, OELs promote consistency by defining a 'level playing field' for all users and a common objective for employers, workers and enforcement authorities. The proposal therefore leads to a more efficient system of workers' health protection in the single market.

Under the Carcinogens and Mutagens Directive, Member States can adopt a lower (i.e. stricter) national limit than the EU value, consistent with the ultimate objective of the Directive, which is to minimise exposure.

#### What changes does the Commission propose to the Carcinogens and Mutagens Directive?

Based on input from scientists, employers, workers, Member States' representatives and labour inspectors, the Commission has proposed changes to address exposure to a further seven priority chemical agents identified through the consultation process – 13 more were subject to an [earlier proposal in May 2016](#).

**Table 1. Sectors, types of cancer caused and estimated exposure levels for the seven cancer-causing chemicals under consideration**

Carcinogen	Examples of sectors concerned	Types of cancer caused / other adverse health effects	No. of exposed workers <a href="#">[1]</a>	Epichlorohydrin 106-89-8  (1-Chloro-2,3-epoxypropane)
- Chemical industry (production of resins)	- Lung cancer.  Also:	40,000		

<p>- Paper production</p>	<ul style="list-style-type: none"> <li>- toxic if inhaled</li> <li>- toxic in contact with skin</li> <li>- toxic if swallowed</li> <li>- causes severe skin burns</li> <li>- causes eye damage</li> <li>- may cause an allergic skin reaction.</li> </ul>			
<p>Ethylene dibromide (EDB) 106-93-4  (Dibromoethane)</p>	<ul style="list-style-type: none"> <li>- Chemical industry</li> <li>- Preparation of dyes and pharmaceuticals</li> </ul>	<ul style="list-style-type: none"> <li>- Caused tumours in animal studies</li> </ul> <p>Also:</p> <ul style="list-style-type: none"> <li>- toxic if swallowed</li> <li>- toxic in contact with skin</li> <li>- toxic if inhaled</li> <li>- causes serious eye irritation</li> <li>- causes skin irritation</li> <li>- may cause respiratory irritation.</li> </ul>	<p>7,600</p>	
<p>Ethylene dichloride (EDC) 107-06-2  (1,2--Dichloroethane)</p>	<ul style="list-style-type: none"> <li>- Production of plastic and vinyl products</li> <li>- Also used as a solvent and added to leaded gasoline to remove lead.</li> </ul>	<p>Caused tumours in animal studies (*)</p> <p>Also:</p> <ul style="list-style-type: none"> <li>- harmful if swallowed</li> <li>- causes serious eye irritation</li> <li>- causes skin irritation</li> <li>- may cause respiratory irritation.</li> </ul>	<p>&lt;3,000</p>	
<p>4,4'-Methylenedianiline (MDA) 101-77-9</p>	<p>Production of polyurethane foams</p>	<ul style="list-style-type: none"> <li>- Liver and thyroid cancer in animal studies</li> </ul> <p>Also:</p> <ul style="list-style-type: none"> <li>- suspected of causing genetic defects</li> <li>- causes damages to organs (Specific Target organ toxicity after single exposure)</li> </ul>	<p>390,000 - 3,900,000</p>	

		<ul style="list-style-type: none"> <li>- may cause damage to organs through prolonged or repeated exposure</li> <li>- may cause an allergic skin reaction</li> </ul>		
Trichloroethylene (TCE) 79-01-6	<ul style="list-style-type: none"> <li>- Degreasing and cleaning of metal parts</li> <li>- Used in adhesives,</li> <li>- Used as a solvent and for synthesis in the chemical industry.</li> </ul>	<p>Liver cancer (*) Kidney cancer (*)</p> <p>Also:</p> <ul style="list-style-type: none"> <li>- suspected of causing genetic defects</li> <li>- causes serious eye irritation</li> <li>- causes skin irritation</li> <li>- May cause drowsiness or dizziness</li> </ul>	74,000	
Complex PAH mixtures with benzo[a]pyrene as an indicator 50-32-8 (for benzo[a]pyrene)	<ul style="list-style-type: none"> <li>- Coal liquefaction, coal gasification, coke production and coke ovens, coal-tar distillation</li> <li>- Roofing and paving (involving coal-tar pitch)</li> <li>- Wood impregnation and preservation</li> <li>- Aluminium production</li> <li>- Carbon-electrode manufacture</li> <li>- Chimney sweeping</li> <li>- Power plants</li> </ul>	<p>Tumours in animal studies) (*)</p> <p>Also:</p> <ul style="list-style-type: none"> <li>- may cause an allergic skin reaction</li> <li>- may cause genetic defects</li> <li>- may damage fertility</li> <li>- may damage the unborn child.</li> </ul>	7,000,000	
Used engine oils (UEOs)	Used in automobile and motorcycle engines, diesel rail engines, marine engines, aeroengines, and in portable machinery including chain saws and lawn mowers.	<ul style="list-style-type: none"> <li>- Skin cancer</li> </ul>	1,000,000	

Introducing these measures will provide employers, workers and enforcement bodies with legal duties and guidance help ensure that the general principles of the Directive are complied with. This should contribute to a reduction in exposure to these priority carcinogens with a consequential reduction of workers affected by occupational cancer.

#### **What are the benefits of the proposal?**

Assessing health and monetary benefits of action against carcinogenic chemicals is challenging – in particular quantified benefits are difficult to establish. Of the seven carcinogens in this proposal, the greatest benefits are expected in relation to 'used engine oils' and 'trichloroethylene', where the

following estimates are made for benefits up until 2069:

- Used engine oils: 880 saved lives, 90,000 less cancer cases and a monetised health benefit of between €0.3 billion and 1.6 billion related to avoidance of health costs.
- Trichloroethylene: 390 saved lives and a monetised health benefit of €118-430 million related to avoidance of health costs.

However, the time between exposure to a carcinogen and the onset of the disease can be up to 50 years. These estimations are therefore based on a number of assumptions regarding exposure projections, production methods, and medical knowledge.

### **What benefits will the proposal bring for workers?**

First of all, for workers and their families, suffering and lowered quality of life caused by cancer – and other ill health – will be reduced. The proposal also helps avoiding health care costs, lost earnings, and other costs both for the person affected and for the carers. In addition, the introduction of proposed limit values would improve legal protection for exposed workers.

### **What benefits will the proposal bring for businesses?**

For businesses, the proposal will reduce costs caused by occupational cancer in terms of productivity, as they avoid losing workers and spend on search and training of new workers.

Identifying used engine oils as process-generated carcinogens will improve clarity for employees and workers, and establishes the legal requirement to eliminate worker exposure wherever possible, across Europe.

In addition, the EU limit values provide a compliance benchmark, contribute to a 'level playing field' in the form of EU-wide minimum standards of protection and improve clarity regarding how exposure should be controlled in different Member States. This is key when striving towards a deeper and fairer single market.

### **What benefits will the proposal bring for Member States?**

For Member States, the proposal will reduce healthcare costs related to treatment and rehabilitation, as well as decrease expenditure on associated inactivity and early retirement and compensation for recognised occupational diseases. It also reduces administrative and legal costs related to the handling of requests for benefits and dealing with recognized cases.

### **How have the social partners been consulted?**

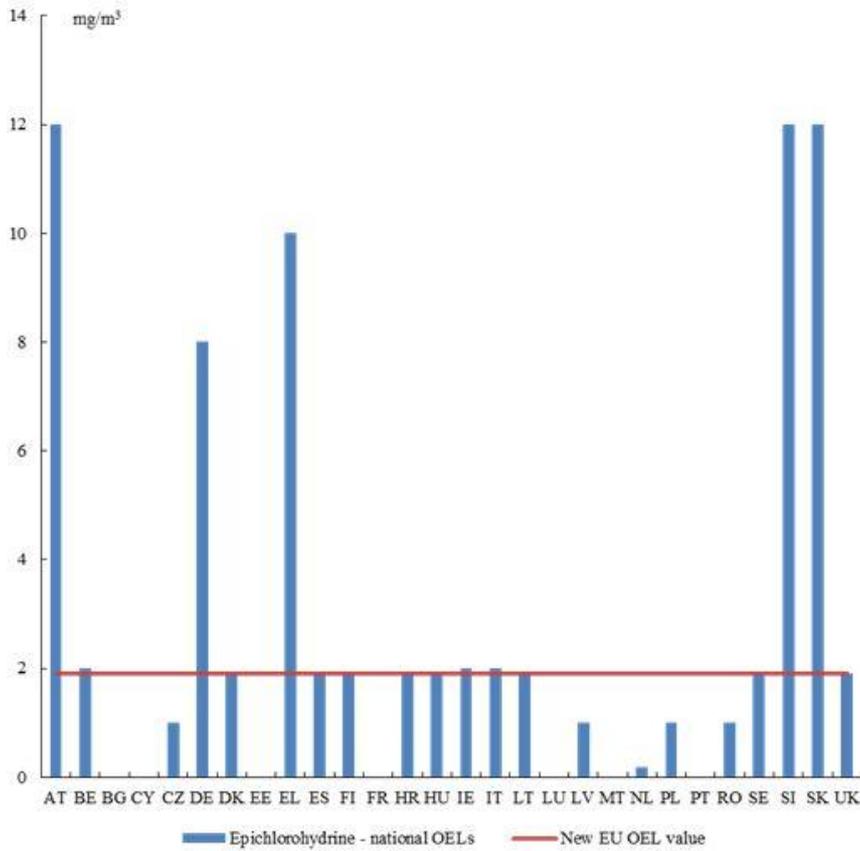
Social partners have been consulted through a statutory 'two-stage consultation'. The results of their consultation have fed into the Commission's preparatory work. This included the input provided by the tripartite Advisory Committee on Safety and Health (ACSH), where the social partners and Member States have given their opinion on the limit values proposed in the current initiative.

Social partners supported including further so-called 'process generated substances' (PGSs, substances created by work processes) under the scope of the Directive and revising existing and establishing new OELs in the light of available scientific data.

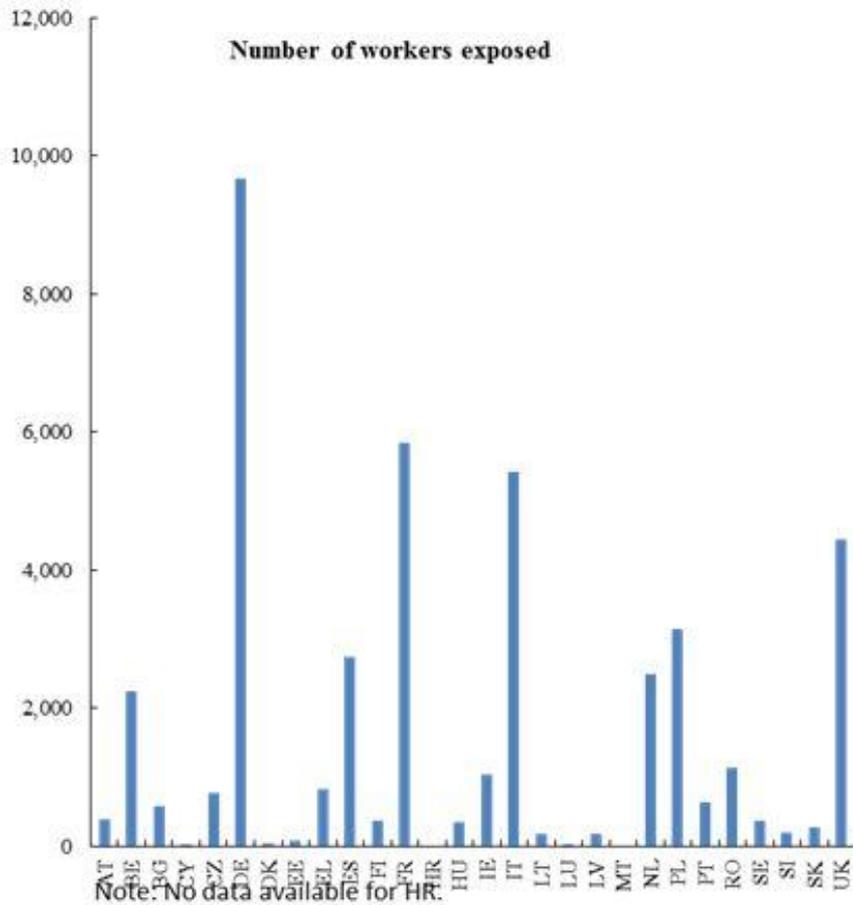
## **ANNEX – Existing national OELs and number of workers exposed per MS for each carcinogen, where available<sup>[2]</sup>**

### **Epichlorohydrine**

#### **Current national OELs vs. New EU OEL value**

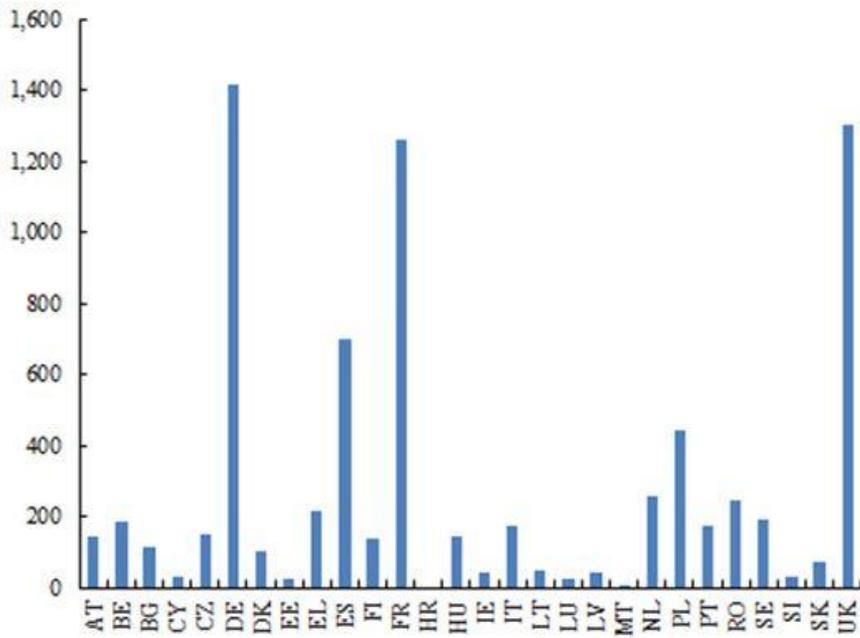


**Number of exposed workers**



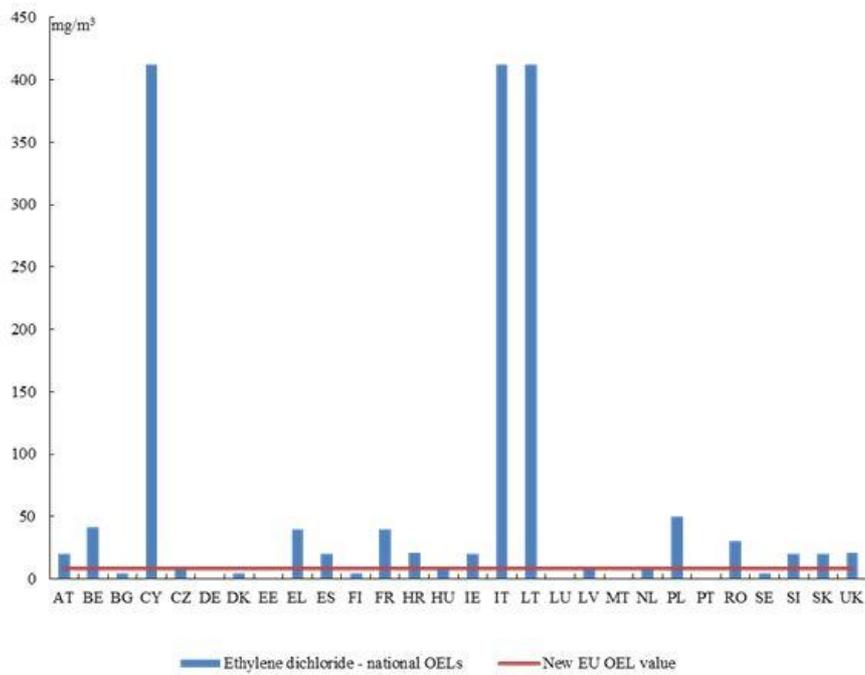
**Ethylene dibromide**  
**Current national OELs vs. New EU OEL value**

**Number of exposed workers**

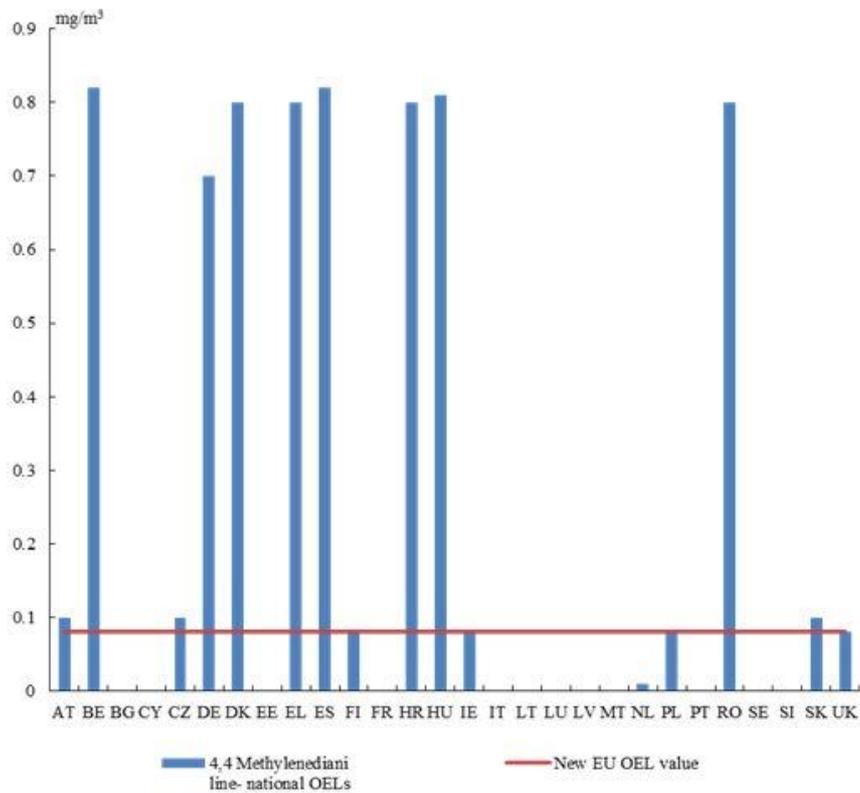


Note: No data available for HR.

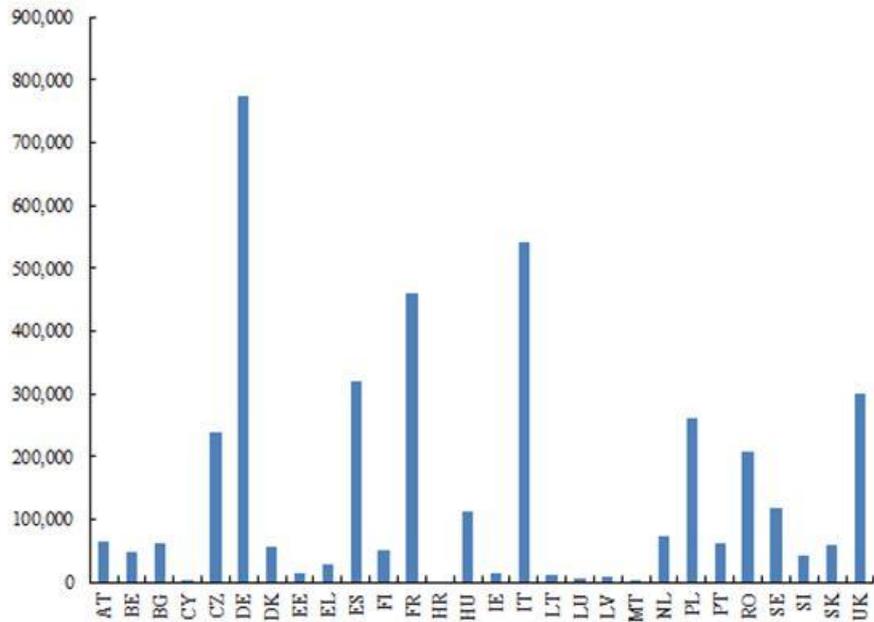
### Ethylene dichloride Current national OELs vs. New EU OEL value



### 4,4'-Methylenedianiline Current national OELs vs. New EU OEL value

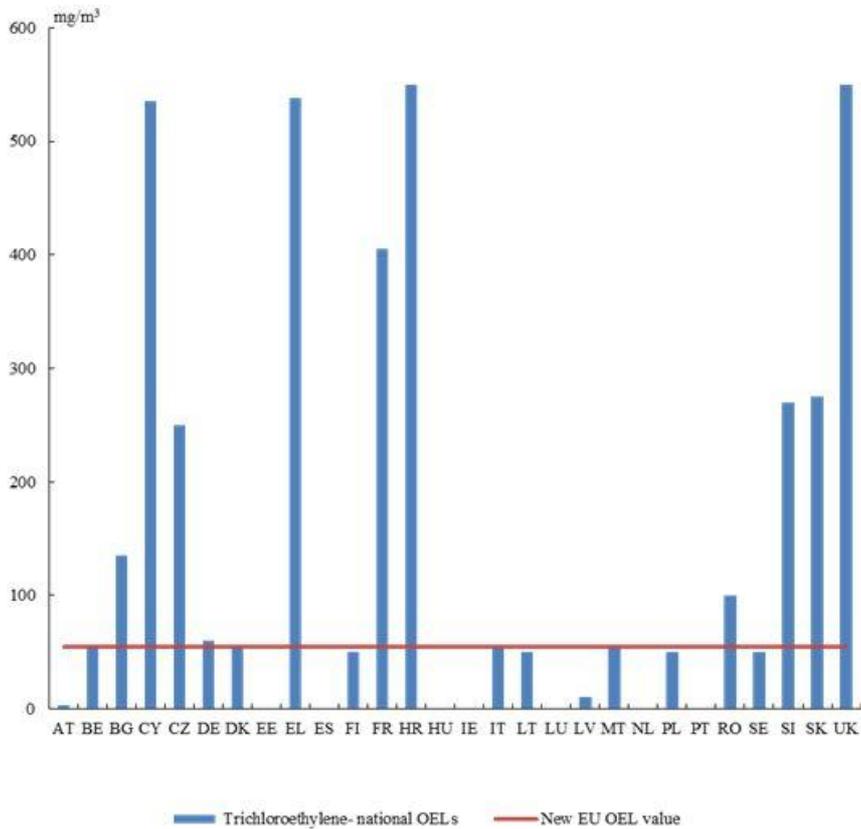


**Number of exposed workers**

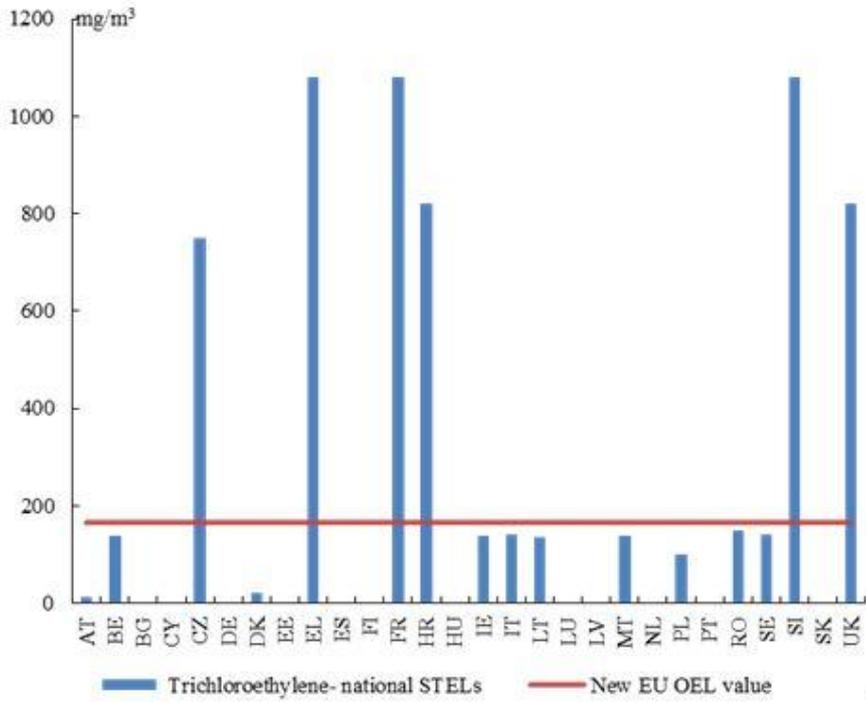


Note: No data available for HR.

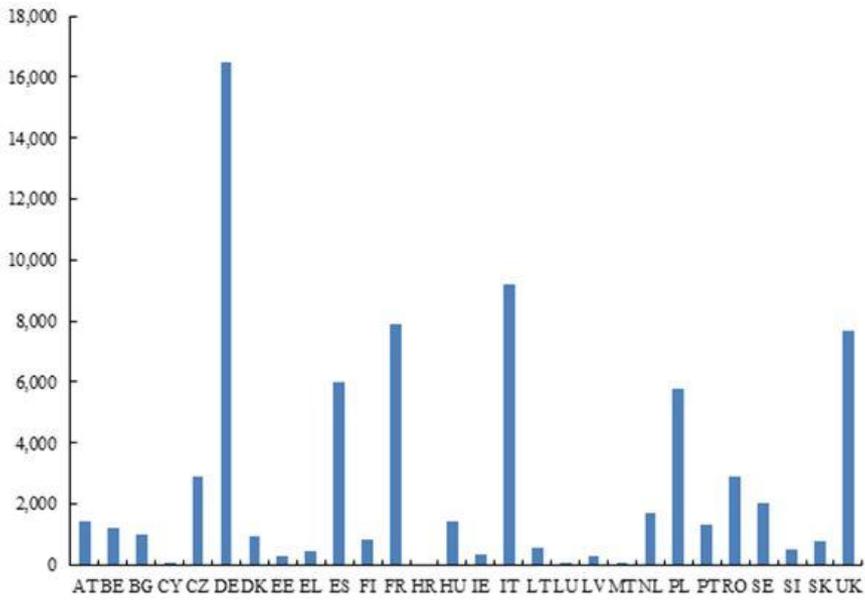
**Trichloroethylene  
Current national OELs vs. New EU OEL value (8 hr TWA)**



**Current national OELs vs New EU OEL value (STEL)**

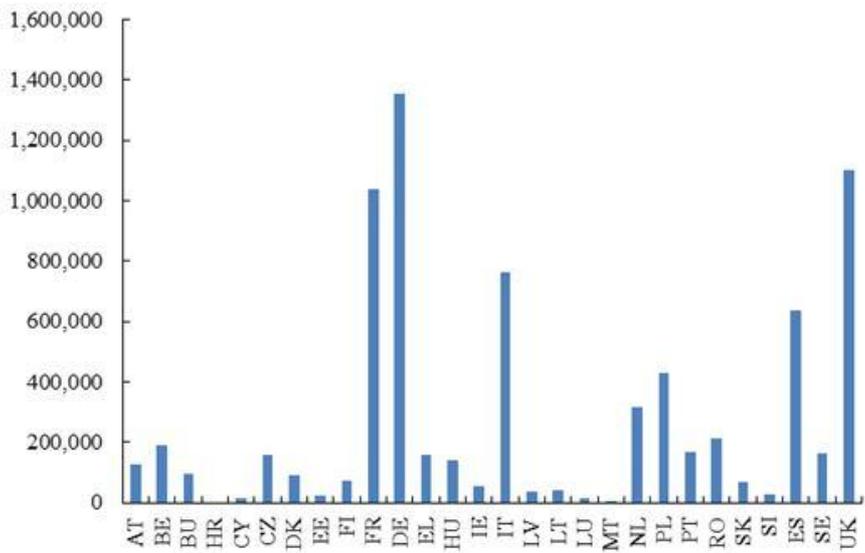


**Number of exposed workers**



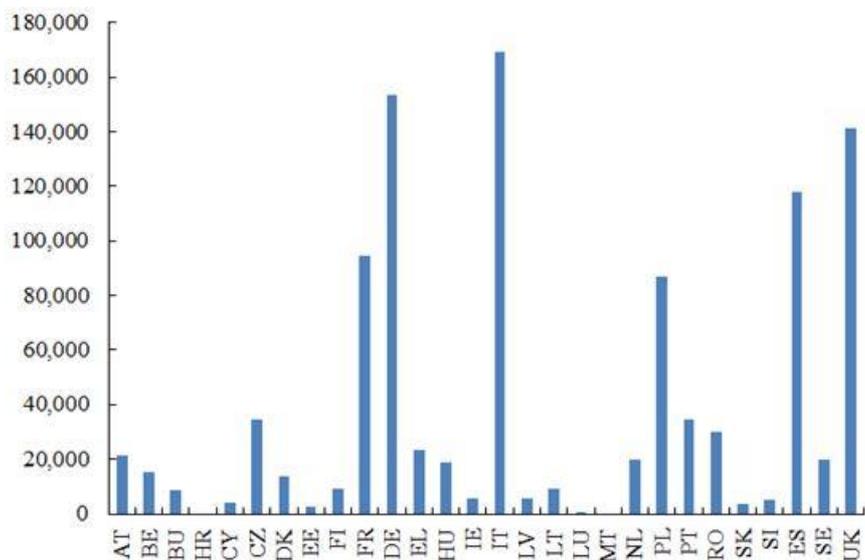
Note: No data available for HR.

### Complex PAH mixtures with benzo[a]pyrene as an indicator Number of exposed workers



Note: No data available for HR.

### Mineral Oils as Used Engine Oils Number of exposed workers



Note: No data available for HR.

[1] Estimates, rounded.

[2] These are only available for a limited number of substances.

(\*): updated 12/01/2017 - 11.15

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