

# Brass Rod: End-of-Life Vehicle Directive

## Frequently Asked Questions

### What is the End-of-Life Vehicle Directive?

The End-of-Life Vehicle (ELV) Directive is a European regulation that aims to facilitate the reuse, recycling and recovery of vehicles and their components and to prevent the disposal of hazardous waste. The Directive restricts the use of certain substances in vehicles to prevent their release into the environment.

### When did the ELV Directive take effect?

The Directive was enacted in the European Union on October 21, 2000 under EU Directive 2000/53/EC. Restrictions for certain substances used in the production of new vehicles came into force on July 1, 2003.



### Do copper alloys contain any of these substances?

Most copper alloys (e.g. brass and bronze) do not contain mercury, cadmium or hexavalent chromium. Many copper alloys used to manufacture vehicle components do contain small amounts of lead varying from 0 to 3.5% by weight.



### Which substances are restricted by the ELV Directive?

Article 4(2)(a) requires Member States of the European Union to insure that materials and components of vehicles put on the market since July 1, 2003 do not contain excess levels of lead, mercury, hexavalent chromium and cadmium. Annex II grants exemptions for certain materials in which the use of these substances cannot be avoided.

### What are the permissible limits for restricted substances?

A maximum concentration value of 0.1% by weight for homogeneous materials is permitted for lead, hexavalent chromium and mercury. The limit for cadmium is 0.01%.

### Why is lead added to copper alloys?

Amongst other benefits, lead acts as a chip breaker and lubricant which provides manufacturing and performance benefits. Advantages include superior machinability required to achieve precise tolerances in tiny components and excellent sliding characteristics which play a vital role in vehicle safety features.

### How are copper alloys that contain lead affected by the ELV directive?

Copper alloys containing up to 4% lead by weight are exempt from the lead restrictions outlined in Article 4(2)(a) of the ELV directive under Exemption 3 in Annex II.

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### What types of vehicle components are made from copper alloys?

The European Automobile Manufacturers' Association estimates that approximately 500 mostly tiny components made from lead-containing copper alloys are present in a fully equipped vehicle. Typical applications include: pinions, shift forks, valve stems, connector pins, battery clamps, door locks, bearings, fittings for fuel injection systems and more.



### How long will the exemption be granted for copper alloys containing lead?

Under Article 4(2)(b), exemptions covered by Annex II are subject to review on a regular basis to determine if they are still justified. Since the directive was implemented, the European Commission and industry stakeholders have acknowledged that there are no suitable alternative materials that can satisfy the diverse performance requirements of such a wide array of vehicle components. Thus, the use of lead-containing copper alloys cannot be avoided and the exemption is justified. Exemption 3 was last renewed in 2010 with the next review scheduled for 2015.

### The exemption for copper alloys was up for review in 2015. What is the current status?

The European Commission contracts a consortium of independent consultants to provide technical assistance for the evaluation of exemptions. The consortium solicits input from relevant stakeholders during the review and issues a formal recommendation to the Commission to extend, amend or reject the exemption.

In February 2016, the consortium issued its recommendation to the Commission to extend Exemption 3 covering copper alloys containing up to 4% lead by weight for 5 years with the current scope and wording. The next review is recommended in 2020. The Commission has yet to issue a formal ruling as of July 2016 and is expected to follow the guidance of the consortium.



### Who should I contact for more information?

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