

## elma Co-serve

### Description

**elma Co-serve** inhibits the cobalt leaching from metals by amine-containing aqueous alkaline solutions for their cleaning and surface treatment as well as prevents the tarnishing of copper alloys after cleaning.

**elma Co-serve** is suitable as an additive to amine-containing aqueous pH-neutral or alkaline cleaning bathes or to aqueous cooling liquids for mechanical surface treatments.

**elma Co-serve** is also suitable as an additive for tarnish protection for copper alloys in rinsing bathes.

### Application and Dosage

#### **Leaching inhibitor for cobalt:**

- Dosage to aqueous cleaning bathes: ~1.0 vol-% in water lower (> 0.5 vol-%) concentrated with highly alkaline and somewhat higher (<2.0 vol-%) concentrated with mildly alkaline or pH-neutral cleaning bathes.
- Dosage to rinsing bathes with amine-based corrosion inhibitors: 0.05-0.1 vol-%.
- Dosage to aqueous cooling liquids for surface treatments: ~2 vol-%.

#### **Tarnish protection for copper alloys:**

- Dosage to rinsing bathes: ~1.0 vol%.

### Safety Recommendations

**elma Co-serve** is classified as hazardous according to the Regulation (EC) No 1272/2008 [GHS] (acutely toxic (oral) - category 4, skin corrosive and serious eye damage, corrosive to metals [aluminium], hazardous to the aquatic environment - chronic category 2).

Observe also with respect to this the hints indicated in the safety data sheet and always handle chemicals with care.

### Physical-chemical characterisation

- Density: 1.2 g/ccm • pH (concentrate): 13 - 14.
- Ingredients according to Annex VII, A, Regulation (EC) No 648/2004 on detergents: none.
- Contains tolyltriazole sodium salt.

### Disposal

Dispose the cleaning, rinsing or cooling liquid in accordance with local official regulations.

European waste code: 07 01 01\*, „aqueous washing liquids and mother liquors “.

Do not discharge into surface waters/groundwater. The 0.5-2.0 % application solution is not classified as hazardous to the aquatic environment. Do not discharge into the subsoil/soil.

### Volumes, Storage and Transport

- Available volumes: 1 l PE-bottle **REF** 8000461, 10 l HDPE-can **REF** 8000460.
- Store in closed original container at a temperature between +5 °C and +30 °C, protected from heat and direct solar radiation. Do not store with acids and oxidizing agents.
- Keep under lock and key or accessible only to specialists or people authorized by them.
- Shelf life: 3 years from date of production (see lot on label).
- Classification for all means of transport: class 8, UN 3267.

### Accessories

- Tap (outlet tap): for 5 / 10 l cans **REF** 8000003927.
- Dosing cup: 250 ml vol./5 ml-scale **REF** 8000643 • 1000 ml vol./10 ml-scale **REF** 8000647.