

COMMENTS AND RESPONSE TO COMMENTS ON AUTHORISATION

Substance name: Chromium trioxide

EC number: 215-607-8

CAS number: 1333-82-0

Broad information on use applied for (title): Industrial use of chromium trioxide for the hard chromium plating of moulds, dies and custom-made finished parts on any metal base, in order to provide hardness, wear resistance, corrosion resistance, demoulding properties, low friction ratio, for the manufacture of high-quality metal parts in several sectors as automotive, pharmaceutical, food and packaging industries

Consultation number: 0281-01

Applicant name: ELECTRO-DUROCROM.S.L

Consultation period: 17/08/2022 - 12/10/2022

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Reference number and date:	Submitter:	Alternative:						Attachments:
		Type	Generic name	EC Number	CAS Number	Description of technical alternative	Classification and Labelling	
Ref.No: 1389 Date: 2022/10/12 Type of comment:* The comment provides information that is generally not in support of the application	Affiliation: BehalfOfAnOrganisation Type/Role in the supply chain: Non-governmental organisation (NGO) Name of org/company: ChemSec Country: Sweden					several proposals		Comment 1389 Attachment.doc
Applicants' response:								
Electro-Durocrom is a Spanish family-owned company that is specialised in the field of technical coating.								

The Substance - chromium trioxide - is used by the company for the hard chrome plating of a large variety of products (moulds, dies and custom-made finished parts on any metal base). Indeed, Electro-Durocrom supplies many industry sectors such as automotive, pharmaceutical, road construction, machinery and tools, etc.

Electro-Durocrom is applying the same standards for all of their products (safety axles for elevators, moulds for the manufacture of injectable needles for the health sector, packaging machines in the pharmaceutical sector) as a general internal requirement to ensure good product quality. Hence, generally accepted requirements are applied to all sectors covered such as:

- Hardness and thickness of the layer
- Wear resistance
- Corrosion resistance of the products
- Anti-adherence and demoulding properties for moulds
- Good surface condition
- Low friction coefficient
- Adhesion of the coating to the substrate

For instance, for lift shafts, the chrome-plated areas must meet a certain hardness, a specific roughness and a specific thickness that allow the protection of the part against corrosion. The customer requiring these plated lift shafts (a multinational company) has launched in the past some R&D programs with laboratory tests. However, this customer was not able to find a viable alternative to hexavalent chromium for hard chrome plating after many tests with other coatings.

Electro-Durocrom is well aware of ChemSec's marketplace and notably the alternatives listed there to replace the use of chromium trioxide in plating processes.

As presented in the AfA, Electro-Durocrom has done bibliographic searches on potential alternatives and has shortlisted the ones that appear most suitable to its own needs in terms of process and performance.

As regards the specificity of the use applied for, Electro-Durocrom has focused its R&D activity on two alternatives to chromium trioxide that could fit all of its sectors. Electro-Durocrom has proposed to their customers, after studying their needs, to carry out tests with their parts with alternative coatings. Many of them are willing to accept the proposal and would accept a change of the coating if the technical properties reach the ones of Cr(VI). However, at the current time, the tests with the chosen alternatives have shown mixed results.

Furthermore, hard chrome plating has not stood still for 50 years: it has evolved into many advanced applications such as micro-cracked layers, various hardnesses on the layer, double layered coating... The current technique is quite different from the original process. Thus, Electro-Durocrom claims around 25 different applications of hard chrome coating characteristics.