

Succinct summary of representative risk management measures (RMMs) and operational conditions (OCs)

Legal name of applicant(s):	Armoloy Ltd BEP Surface Technologies Ltd British Metal Treatments / FPS Coatings Ltd Chrometech Ltd Davies Precision Grinding Ltd Dynasurf (U.K.) Ltd East Lancashire Platers Ltd Firma-Chrome Ltd GB Plating Healey & Sprowson Ltd John Stokes Ltd Langthorpe Plating Nu-Pro Ltd Michrome Electro-Plating Ltd A.M. Philpot (Hard Chrome) Ltd Phoenix Electroplating Ltd R Wilson & Co (Platers) Ltd Reddish Electroplating (Stockport) Ltd Reis Chrome Ltd Silchrome Plating Ltd Spline Gauges Ltd Walton Plating Wedge Plating Ltd Yorkshire Plating
Submitted by:	Surface Engineering Association Chromium Trioxide Authorisation Consortium
Date:	21 st March 2023
Substance:	Chromium Trioxide EC: 215-607-8 CAS: 1333-82-0
Use title:	Use of chromium trioxide for the hard (functional / engineering) chromium electroplating of engineering components with the purpose of creating a coating to meet specific performance characteristics

Use number:

1

Exposure Scenario Use at an Industrial Site - Use of chromium trioxide for the hard (functional / engineering) chromium electroplating of engineering components with the purpose of creating a coating to meet specific performance characteristics

ECS and WCS	Task (ERC/spERC or PROC)	Annual amount per site (tonnes /year)	Technical RMMs, including: *Containment, *Ventilation (general, LEV...) *customized technical installation, etc	Organisational RMMs, including: *Duration and Frequency of exposure *OSH management system *Supervision *Monitoring arrangements *Training, etc	PPE (characteristics)	Other conditions	Effectiveness of waste water and waste air treatment (for ERC)	Release factors: water, air and soil (for ERC)	Detailed info. in CSR (section)
ECS 1	Use in chromium Electroplating	30 to 35 tonnes in total for all sites					At least 99% efficient	No emissions to soil. Minimal emissions to air outside. No direct emissions to water	
WCS 1	Receipt, transfer and storage of chromium trioxide PROC8a	See above	General ventilation	All persons with access to the storage areas have been informed of the risks of working with chromium trioxide, the safe way of handling chromium trioxide and use of PPE and other control equipment.	Safety shoes, suitable gloves and eye protection as required	None	Not applicable	Chromium trioxide is in sealed containers – no exposure	9.2.1.1
WCS 2	Loading / unloading of jigs PROC 0	See above	General ventilation	Exposure to chromium trioxide is not possible from loading components onto jigs. Processed components contain no chromium	Suitable gloves	Ensure adequate rinsing to remove process solutions	Not applicable	No exposure	9.2.2.1

				trioxide, only chromium metal					
WCS 3	Operation of electroplating line PROC 13	See above	Mist suppressant or surface tension modifiers are used to control any potential emissions of chromium trioxide.	Mist test measurements taken at least every 2 weeks, to ensure compliance with UK legislation. Individual air monitoring. Biological Monitoring	Suitable gloves, eye protection, clothing and footwear	None		In line with current UK ALARP principles. Minimal emissions to air outside factory via LEV	9.2.3.1
WCS 4	Sampling the electroplating solution PROC19	See above	Mist suppressant or surface tension modifiers are used to control any potential emissions of chromium trioxide.	All persons undertaking sampling activities have been instructed about the risks of working with chromium trioxide, the safe way of handling chromium trioxide and the use of PPE and other control equipment.	Suitable gloves, eye protection, clothing, footwear and respiratory protection where required	None			9.2.4.1
WCS 5	Making additions of chromium trioxide PROC 0	See above	Mist suppressant or surface tension modifiers are used to control any potential emissions of chromium trioxide. Chromium trioxide is in solid form	All persons undertaking making additions activities have been instructed about the risks of working with chromium trioxide, the safe way of handling chromium trioxide and the use of PPE and other control equipment.	Suitable gloves, eye protection, clothing, footwear and respiratory protection where required masks	None			9.2.5.1
WCS 6	Maintenance PROC 28	See above		All persons undertaking maintenance activities have been	Suitable gloves, eye	None			9.2.6.1

				instructed about the risks of working with chromium trioxide, the safe way of handling chromium trioxide and the use of PPE and other control equipment.	protection, clothing, footwear and respiratory protection where required				
WCS 7	Wastewater & effluent treatment PROC 0	See above	All solid and any liquid waste is collected and either forwarded to an external waste management company, or is treated on site by reducing the hexavalent chromium to trivalent chromium. The treated waste is either recycled or forwarded to an external waste management company (licenced contractor) for disposal as hazardous waste	Suitable training Use of licensed waste contractors Operating with the issued consent to discharge limits	Suitable gloves, eye protection, clothing and footwear	None	To comply with consent to discharge conditions where appropriate		9.2.7.1

Abbreviations: WCS=Worker contributing scenario, ECS=Environmental Contributing Scenario,* ERC=Environmental Release Category (or spERC if available) , PROC=Process category, LEV=Local Exhaust Ventilation, PPE=Personal Protective Equipment