Department
for Environment
Food & Rural Affairs

# Authorisation Decision

by Marc Casale

Deputy Director, Chemicals, Pesticides and Hazardous Waste (DEFRA)

On behalf of the Secretary of State for Environment, Food and Rural Affairs

Decision date: 20 January 2025

## Application Ref: AfA026-01

## Authorised use

Use of chromium trioxide for the electroplating of various components with technical performance requirements.

## UK REACH authorisation number

| Authorisation numbers | Authorisation holder |
|---|---|
| UKREACH/25/03/00 | Agbrigg Chrome Platers |
| UKREACH/25/03/01 | Allenchrome Electroplating Ltd |
| UKREACH/25/03/02 | Alpha Electroplaters Ltd |
| UKREACH/25/03/03 | Birmingham Plating |
| UKREACH/25/03/04 | Broadway Brass Ltd |
| UKREACH/25/03/05 | Castle Polishing & Chrome Plating Ltd |
| UKREACH/25/03/06 | Crown Polishing & Plating Ltd |
| UKREACH/25/03/07 | Derby Plating Services Ltd |
| UKREACH/25/03/08 | Doug Taylor Metal Finishing Co. |
| UKREACH/25/03/09 | Douglas Metal Finishing Ltd |
| UKREACH/25/03/10 | Essex Finishers Ltd |
| UKREACH/25/03/11 | Fox Plating |
| UKREACH/25/03/12 | Genius of the Lamp Ltd |
| UKREACH/25/03/13 | Global Metal Finishers Ltd |

| Authorisation number | Authorisation holder |
|---|---|
| UKREACH/25/03/14 | HD Sports |
| UKREACH/25/03/15 | Hockley Enterprises (Essex) Ltd |
| UKREACH/25/03/16 | J&A Finishing Services Ltd |
| UKREACH/25/03/17 | John Stokes Ltd |
| UKREACH/25/03/18 | MAJ Hi-Spec Ltd |
| UKREACH/25/03/19 | Manchester Electroplating Ltd |
| UKREACH/25/03/20 | Marque Restore Chrome Plating Ltd |
| UKREACH/25/03/21 | Merridale Polishing & Plating Ltd |
| UKREACH/25/03/22 | Midland Polishing & Plating |
| UKREACH/25/03/23 | Prestige Electro Plating |
| UKREACH/25/03/24 | Quality Chrome Ltd |
| UKREACH/25/03/25 | Reeve Metal Finishing |
| UKREACH/25/03/26 | S&T Electro-plate |
| UKREACH/25/03/27 | Sant Plating Ltd |
| UKREACH/25/03/28 | Silchrome Plating Ltd |
| UKREACH/25/03/29 | Star Polishing & Plating Ltd |
| UKREACH/25/03/30 | The Sterlingham Co Ltd |
| UKREACH/25/03/31 | Satchrome |
| UKREACH/25/03/32 | Vernon Moss |
| UKREACH/25/03/33 | Vintage Headlamp Restoration Ltd |

## Preliminary matters

- Chromium trioxide is listed in Annex XIV to assimilated Regulation (EC) No 1907/2006 concerning the registration, evaluation, authorisation and restriction of chemicals (UK REACH).[1] As such, chromium trioxide is subject to the authorisation requirement referred to in Article 56(1) of UK REACH.
- Chromium trioxide was included in Annex XIV due to its intrinsic carcinogenic and mutagenic properties (Article 57(a) and Article 57(b) of UK REACH).
- Hexavalent chromium (Cr(VI)) is the form of chromium in chromium trioxide to which the hazardous properties are attributed.
- The application is made by 34 members of the Surface Engineering Association (SEA) Chromium Trioxide Authorisation Consortium, Technical (each an

[1] References to Regulation (EC) No 1907/2006, referred to in this decision as UK REACH, are to the assimilated law available online at https://www.legislation.gov.uk/eur/2006/1907/contents.

'Applicant', together, the 'Applicants'). See Annex A for the Applicants' names and addresses.

- Article 127GA of UK REACH applied to this application. The latest application date for chromium trioxide for this use was extended to 30 June 2022. The sunset date for this use was 30 June 2022.
- On 30 June 2022, the Applicants submitted an application for authorisation (the 'Application') to the Health and Safety Executive (the 'Agency') for the use of chromium trioxide in the electroplating of various components with technical performance requirements.
- On 7 November 2023, the Agency sent its opinion (the 'Opinion') for this Application to the Secretary of State for Environment, Food and Rural Affairs, and Scottish and Welsh Ministers.

# Decision

1. This decision is addressed to the Applicants.
2. In accordance with Article 60(4) of UK REACH, authorisation is granted to the Applicants, as set out under the authorisation numbers in the above 'UK REACH authorisation numbers' section, for the following use of chromium trioxide:
    a. For the electroplating of various components with technical performance requirements.
3. The review period referred to in Article 60(9)(e) of UK REACH is set at 12 years from the sunset date. The authorisation will cease to be valid on 30 June 2034 unless a review report is submitted in accordance with Article 61(1) by 30 December 2032.
4. The authorisation is subject to the following conditions (as well as the requirement in Article 60(10) of UK REACH to ensure exposure is reduced to as low a level as is technically and practically possible):
    a. The authorisation holders must adhere to the operational conditions (OCs) and risk management measures (RMMs) described in the chemical safety report referred to in Article 62(4)(d) of UK REACH,[2] subject to the conditions and monitoring arrangements set out below
    b. By 20 January 2026, the authorisation holders must either provide an on-site laundering facility for workwear or instigate a contract with a suitable workwear laundering service that has been informed about the potential Cr(VI) contamination of the workwear and advised that the laundry company's

[2] This is a reference to the chemical safety report dated 30 June 2022 submitted by the Applicants, as part of the Application. The risk management measures, and operational conditions are described in sections 9 (exposure assessment) and 10 (risk characterisation related to combined exposure).

employees should wear suitable gloves to prevent any inadvertent skin exposure to Cr(VI) when handling the dirty workwear

c. The authorisation holders must arrange face-fit testing on each employee that is required to wear Respiratory Protective Equipment (RPE). Fit testing must be carried out by an accredited provider.[3] As an alternative, authorisation holders can instead choose to issue a powered air purifying respirator (PAPR) to each person that needs to use RPE. If PAPRs are issued, the authorisation holders must instigate a programme of monthly thorough examinations and tests of each PAPR. This programme must be carried out by a competent person

d. The authorisation holders must train employees in how to decontaminate and clean their RPE after each use before putting it back into their individual RPE storage locker or alternatively, instruct employees to discard each semi-disposable respirator as hazardous waste every time after it has been used, and then replace it with a new semi-disposable respirator

5. The authorisation is subject to the following monitoring arrangements:

a. The authorisation holders must undertake measurements of personal exposures to Cr(VI) that are supported by appropriate contextual information regarding descriptions of the work activities being undertaken during each monitoring period. Air sampling surveys must be undertaken at least once in any 6-month period by each authorisation holder where the use takes place. These measurements must:

(a) Be based on the methodology specified in BS ISO 16740:2005;[4]

(b) Include personal inhalation exposure sampling measured on the lapel, and on the outside of any respiratory protection equipment that may be worn; and

(c) Be representative of the range of tasks with possible exposure to Cr(VI) and of the total number of workers that are potentially exposed

b. Once an authorisation holder has obtained a minimum of 10 personal exposure data points for any particular job role where significant inhalation exposure to Cr(VI) is likely to occur, the minimum frequency for further air monitoring for that particular job role can be reduced to the minimum of carrying out annual surveys, provided that the 90th percentile of the

[3] It is recommended that the competent provider has been certified under the Fit-2-Fit scheme – see also HSE guidance note INDG479 (rev 1) https://www.hse.gov.uk/pubns/indg479.htm.

[4] BS ISO 16740:2005 specifies a method for the determination of the time-weighted average mass concentration of hexavalent chromium in workplace air. This international standard is applicable to the personal sampling of the inhalable fraction of airborne particles, as defined in ISO 7708, and to static (area) sampling. The analytical method is applicable to the determination of masses of 0.01 micrograms to 10 micrograms of hexavalent chromium per sample, without dilution.

measured personal exposures to Cr(VI) are below the benchmark of 5 μg/m$^3$ as an 8-hour time-weighted average (TWA) (the 'benchmark')

c. Where the 90th percentile of the plating operator's personal exposure to Cr(VI) exceeds the benchmark as defined in 5.b. above, then the authorisation holders must either:

    (a) Provide suitable, purpose-designed LEV on the chrome plating tank, or

    (b) Modify their RMMs such that the 90th percentile exposure is below the benchmark of 5 μg/m$^3$ as an 8-hour TWA

d. Where an LEV has been installed or the RMMs have been modified to reduce exposures in accordance with paragraph 5.c. authorisation holders must undertake a personal monitoring survey on the relevant chrome platers at least six times per year using the methodology that is given in BS ISO 16740:2005 until they have obtained a minimum of 10 personal exposure data points, from which the new 90th percentile of the plating operator's personal exposure to Cr(VI) after the change in the RMMs shall be determined

e. Authorisation holders who choose to undertake the regular air monitoring outlined in 5.a., 5.b. and 5.d. in-house, and who send the resultant samples off to an external laboratory, must commission a suitable laboratory to both supply the sample media and undertake the specialised analysis by ion chromatography and spectrophotometry using diphenyl carbazide for future monitoring surveys

f. The results of the measurements referred to above in points 5.a., 5.b.,5.d. and 5.e. must be documented by the relevant authorisation holder and made available upon request to the Agency

g. Subject to gaining appropriate consent from employees, authorisation holders must implement a voluntary biological monitoring (BM) programme for Cr(VI) in urine with samples collected post-shift for the directly exposed worker

h. If BM data from 5.g. shows that exposures of Cr(VI) are above the biological monitoring guidance value of 10 μmol/mol creatinine (the 'BMGV'), then authorisation holders must carry out four BM surveys per year until three consecutive BM surveys have produced no results that exceed the BMGV.[5] Any collected BM results must be anonymised

i. Where BM data from 5.g. is above the BMGV, authorisation holders must undertake a thorough and systematic review of their RMMs and apply improved measures to reduce Cr(VI) exposures to employees

6. Authorisation holders whose BM data submitted as part of the Application exceeded the BMGV, or whose BM data was collected before 30 June 2017, or

[5] The biological guidance value (BMGV) for Cr(VI) exposure is given in HSE Guidance note EH40 as 10 μmol chromium/mol creatinine in urine with samples collected post shift.

who did not submit any BM data as part of the Application, must submit a written update report to the Agency by 20 January 2026. Authorisation holders whose BM data obtained via their voluntary BM programme exceeds the BMGV (see sub-paragraph 5.h.) must submit an update report within 12 months of that BM data having been obtained. This update report must provide a review of the RMMs, including:

a. Conclusions on the underlying root cause of previously obtained BM results greater than the BMGV

b. Detailed descriptions, including photographic evidence as appropriate, of the revised RMMs and the proposed timescale for any improvement to the RMMs that have not already been implemented at the time of drafting the update report

c. Subject to gaining appropriate consents from employees, anonymised details of further BM data that has been obtained following the implementation of changes to the RMMs

7. By 20 January 2032, each authorisation holder must submit a written interim update report to the Agency. This interim update report must demonstrate each authorisation holder's compliance with the above relevant conditions and monitoring arrangements and include:

a. Data to demonstrate that the 90$^{th}$ percentile of the worker's personal inhalation exposure to chromium trioxide is equal to or below 5 µg/m$^3$ as an 8-hour TWA; and

b. Data to demonstrate that the results from voluntary BM for chromium trioxide are equal to or lower than 10 µmol chromium/mol in urine samples collected post shift

8. Recommendations for the authorisation holders have been set out should the authorisation holders submit a review report in accordance with Article 61(1) of UK REACH (See Annex B). These recommendations are not conditions of authorisation or conditions for any review report.

# Background

9. This decision is made under Article 60(4) of UK REACH and having obtained the consent of Scottish and Welsh Ministers.

10. In making this decision I have taken into account:

a. The Application submitted to the Agency

b. The provisions of Article 60 of UK REACH, including the elements referred to in Article 60(4) and the requirements of Article 60(5)

c. The Agency's Opinion

## Reasons

11. In its Opinion, the Agency concluded that it is not possible to determine a derived no-effect level (DNEL) for the carcinogenic properties of chromium trioxide.[6] Therefore, for chromium trioxide it is not possible to determine a threshold in accordance with Section 6.4 of Annex I of UK REACH.

12. In accordance with Article 60(3)(a) of UK REACH, this means that Article 60(2) of UK REACH does not apply to this Application and authorisation may only be granted on the basis of Article 60(4) of UK REACH.

13. Authorisation may only be granted under Article 60(4) of UK REACH if it is shown that the socio-economic benefits outweigh the risk to human health or the environment arising from the use of chromium trioxide and there are no suitable alternative substances or technologies.

## Risk to human health

14. Chromium trioxide presents a risk to human health due to its carcinogenic and mutagenic properties.

### Workers

15. In its Opinion, the Agency concluded that the majority of workers' exposures to Cr(VI) in each worker contributing scenario (WCS) are likely less than the Agency benchmark of 5 μg/m$^3$ as an 8-hour TWA. Two of the Applicants, however, did record measurements which exceed the Agency benchmark of 5 μg/m$^3$ as an 8-hour TWA, with 10 μg/m$^3$ as the highest personal sampling results reported. However, in its Opinion, the Agency noted that a single exposure measurement may well not be representative of the worker's exposure distribution and any uncertainty can be addressed by the implementation of routine monitoring, as set out in paragraph 5.

16. In the Application, the Applicants did not provide any worker exposure estimates for each WCS. Additionally, in its Opinion, the Agency concluded that the Applicants provided limited personal exposure measurement data from each of the Applicants. Only a small proportion of Applicants provided enough data for the Agency to definitively conclude that Cr(VI) inhalation exposures are at an appropriate and effective level and thereby minimising the risk. Furthermore, in its Opinion, the Agency concluded that the sampling and analysis methodologies that were used by the majority of Applicants means that there is a certain degree of uncertainty about the reliability of their Cr(VI) exposure data.

[6] The cancer risk is estimated according to the Committee for Risk Assessment (RAC) reference dose-response relationships for Cr(VI) carcinogenicity (RAC/27/2013/06 Rev.1). As a genotoxic mode of action (mutagenicity) is thought to be at least partially responsible for the carcinogenicity of Cr(VI), these relationships also account for the intrinsic property mutagenicity.

17. In its Opinion, the Agency concluded that BM results from the majority of the individual Applicants have not exceeded the BMGV during the last 5 years. The Agency concluded that this provides good confirmatory evidence that the RMMs for the majority of Applicants are appropriate and effective at controlling exposures from all routes. However, the Agency noted that seven individual Applicants have not carried out any BM in the last five years, and that the BM results from three individual Applicants showed results that exceeded the BMGV. Therefore, in its Opinion, the Agency concluded that where the BM results exceed the BMGV, the current RMMs are not effective enough in controlling exposures to minimise the risk.

18. Noting the uncertainties regarding personal exposure data and some BM data exceeding the BMGV, in its Opinion the Agency proposed additional conditions which will address the specific identified deficiencies in the relevant individual Applicants' RMMs and OCs. Furthermore, the Agency proposed monitoring arrangements which will require relevant individual Applicants, whose BM data exceeds the BMGV, to collect new BM data and provide this to the Agency by 20 January 2026. In its Opinion, the Agency concluded that its recommended conditions and monitoring arrangements will provide reliable further information on the effectiveness of the OCs and RMMs, thereby reducing any outstanding uncertainty and reducing exposure where there is an identified need to do so. For the reasons outlined above, I agree that the proposed conditions and monitoring arrangements will ensure that the OCs and RMMs are appropriate and effective.

19. In its Opinion, the Agency concluded that the OCs and RMMs described in the Application are generally appropriate and effective in limiting the risk to workers and the Applicants have most of the necessary OCs and RMMs in place that should minimise the exposure of employees to Cr(VI). The Agency also concluded that the data received from the Applicants is confirmatory evidence regarding the effectiveness of the control of dermal and/or ingestion exposures when air monitoring has confirmed that inhalation exposures are at relatively low levels. Nevertheless, there is uncertainty regarding three high BM results, a lack of worker exposure estimates for each WCS, and concerns about deficiencies in relation to management of RPE.

20. The Agency assessed the monetised human health impacts to workers to be up to £1.8 million over the 12-year review period. This accounts for 95 directly exposed workers across 34 sites in GB.

21. Having evaluated the Agency's assessment, I agree with the Agency's conclusions that:

    a. The OCs and RMMs described in the Application are generally appropriate and effective in limiting the risk to workers, provided that they are adhered to;

    b. The inclusion of conditions of authorisation and monitoring arrangements will help to minimise any remaining uncertainty; and

c. All the deficiencies that have been identified can be fixed by the Applicants through the conditions of authorisation and the monitoring arrangements.

**Humans via the environment**

22. In their Application, the Applicants stated there are no intentional releases to atmosphere, surface waters, or groundwaters, agricultural or non-agricultural soils. In its Opinion, the Agency considered that while releases to the environment are very limited, they cannot be entirely discounted. This is because the Applicants provided limited information on the environmental releases of chromium from electroplating using chromium trioxide, and no data specifically on emissions of Cr(VI).

23. In its Opinion, the Agency concluded that because of the limited emission monitoring data available, paired with the high number of users within the Application, significant variation in the effectiveness of the OCs and RMMs may be expected. Nonetheless, the Agency concluded that whilst this creates some uncertainty about the potential for emissions, the risk of human exposure is expected to be insignificant because of the reduction of Cr(VI) by organic matter in sewage and the environment. The Agency noted that the fact that Cr(VI) does not persist in the environment (except under aerobic conditions and at higher pH) means that the potential for significant exposure is very limited. Therefore, in its Opinion, the Agency concluded that the risk to human health via the environment is likely to be very low. Despite the lack of emissions data, in its Opinion, the Agency concluded that the OCs and RMMs are appropriate and effective in limiting the risk to humans via the environment. Any fugitive releases outside the workplace are unlikely to lead to significant human exposure, even at the local level.

24. In its Opinion, the Agency did not assess the monetised health impacts on humans via the environment because the exposure to the environment is expected to be very low, resulting in negligible monetised excess cancer risk.

25. Having evaluated the Agency's assessment, I agree that the OCs and RMMs described in the Application are appropriate and effective in limiting the risk to humans via the environment, provided they are adhered to.

## Conditions of authorisation

26. In its Opinion, the Agency proposed conditions and monitoring arrangements to specific Applicants to address certain matters in the Application. However, to provide consistency and parity to the Applicants, I believe the same conditions and monitoring arrangements should apply to each Applicant due to the nature of the Application and the number of users within the Application. Whilst conditions and monitoring arrangements have been applied to all Applicants, the information submitted by the Applicants demonstrates that most Applicants are already compliant through their existing OCs and RMMs and have not reached the threshold for some of the conditions to be implemented.

27. In its Opinion, the Agency considered that a regular programme of BM is an important RMM for Applicants conducting chrome plating, as it highlights what individual employee exposures are from all routes of exposure. I therefore consider it appropriate that the monitoring arrangement in paragraph 6 is applied to all Applicants in order to enable Applicants to ensure that the OCs and RMMs are appropriate and effective at limiting the risk to workers, and to address any concerns regarding the Application.

28. In its Opinion, the Agency concluded that the practice of laundering workwear at home could result in Cr(VI) exposures being spread to a domestic environment. The Agency therefore recommended that one individual Applicant should discontinue laundering workwear at home. However, I have decided that this proposed recommendation should be a condition of authorisation for all Applicants, to ensure that proper practice is being followed as a minimum requirement. The condition, stated in paragraph 4.b. will only have practical implications for the individual Applicants that currently allow employees to launder workwear at home and will prevent such practices from occurring across all the Applicants in future.

29. The Agency proposed recommendations for five individual Applicants on RPE testing. This is a minimum measure to mitigate the risk of direct exposure of chromium trioxide to workers and I therefore consider it appropriate to apply this recommendation as a condition to all the Applicants, to ensure good industrial practice is being followed and provide assurance that the OCs and RMMs will continue to be effective at minimising the exposures to Cr(VI) through all routes.

## Monitoring arrangements

30. Having evaluated the assessment of the OCs and RMMs in the Agency's Opinion, I believe that the monitoring arrangements listed in paragraph 5 will provide assurance that the OCs and RMMs are appropriate and effective at minimising the exposure of workers to Cr(VI). I believe that the monitoring arrangements will address any shortcomings in the personal monitoring of inhalation exposure and will corroborate the effectiveness of the Applicants' OCs and RMMs. I agree with the Agency that such ongoing monitoring represents good industrial practice, and the data collected will facilitate the evaluation of risk.

31. Three individual Applicants had recommendations proposed by the Agency. The Agency noted that receiving BM data under the BMGV is an important consideration when evaluating the effectiveness of the OCs and RMMs. I believe it is therefore more appropriate for this recommendation stated in paragraph 5.g. to be included as a monitoring arrangement. The monitoring arrangement shall also apply to all Applicants.

## Recommendations for the Review Report

32. In Section 10 of its Opinion, the Agency also made a series of recommendations. Due to the proposed conditions and monitoring arrangements above, I have concluded that some of the recommendations made by the Agency are no longer necessary, as the requirements included within the proposed Agency recommendations have now been covered by the conditions of authorisation and the monitoring arrangements. Therefore, Annex B sets out a modified list of the recommendations that the Agency made.

## Socio-economic analysis

33. In its Opinion, the Agency concluded that the Applicants have demonstrated that the socio-economic benefits of granting authorisation are higher than the risk to human health resulting from the granting of authorisation for the Application as a whole and for each individual company. The Agency has not identified any uncertainties of such magnitude that they may affect this conclusion.

34. The Agency's Opinion assessed both the socio-economic benefits arising from the applied for use and the socio-economic implications of a refusal to authorise. The socio-economic benefits of authorisation are based on the cost of the most likely non-use scenario (NUS) if the Applicants were not granted authorisation. The most likely NUS would be that 21 of the 34 Applicants would close, with all other Applicants losing 20 to 50% of its business. Although the Agency cannot verify all the costs of the NUS, it is accepted that this is the most likely scenario.

35. In its Opinion, the Agency concluded that the Applicants have demonstrated that the socio-economic benefits of granting authorisation outweigh the monetised risks. The minimum socio-economic benefit is estimated to be £12.2 million over 12 years, which consists only of the avoided social cost of unemployment for the directly exposed workers. This is a conservative estimate, and does not include any other potential benefits, such as avoided producer surplus loss.

36. Having evaluated the Agency's assessment, I agree with its conclusions on the quantitative and qualitative benefits.

## Conclusion on whether the benefits outweigh the risk

37. In its Opinion, the Agency concluded that the Applicants have demonstrated that the socio-economic benefits of granting authorisation of at least £12.2 million over 12 years are higher than the risk to human health of up to £1.8 million over 12 years.

38. I consider that the Applicants have shown that the socio-economic benefits outweigh the risk to human health because of:

    a. The likely assessed risks from the use of chromium trioxide

b. The likely quantitative benefits in respect of avoided profit losses and the avoided social costs of unemployment.

## Alternatives

39. In its Opinion, the Agency concluded that there were no available alternative substances or technologies with the same function and a similar level of performance that were technically and economically feasible for the Applicants by the sunset date.

40. The Applicants use chromium trioxide for the electroplating of various components with technical performance requirements. Due to the Applicants being comprised of small and micro-sized companies, it was not considered feasible for the Applicants to conduct physical research and development. Nonetheless, the Applicants noted in their Application that extensive research had been carried out over a number of years into potential alternatives and used this to identify three potential alternatives to chromium trioxide through desk-based research. The three alternatives did not meet the technical or the aesthetic requirements needed for the required specifications, and as such, it was concluded that there were no available alternative substances or technologies feasible to the Applicants. To support this conclusion, the Applicants also provided brief assessments of three shortlisted alternatives. The Agency agreed with the Applicants' assessment approach and conclusions but noted that the quality of some sections of the analysis of alternatives could be improved, and better evidence could have been provided. However, this did not affect the Agency's overall conclusion on the availability of alternatives.

41. The Applicants did not produce a substitution plan. In its Opinion, the Agency concluded that as there are no feasible alternatives, the length of time required for the substitution of chromium trioxide would be difficult to determine. I agree with the Agency that the lack of a substitution plan is reasonable given that no technically or economically feasible alternatives were identified. Nonetheless, the lack of substation plan was factored into the Agency's recommendation of a 7-year review period as described in paragraph 44.

42. Having evaluated the Agency's assessment, I agree with its conclusion that the Applicants have demonstrated the absence of suitable alternatives. In reaching this conclusion, I have considered the Agency's assessment of the technical and economic feasibility of alternative substances already on the market. The Agency did not evaluate the risk of alternatives due to the alternatives not currently being technically feasible.

## Review period

43. In its Opinion, the Agency recommended that the review period referred to in Article 60(9)(e) of UK REACH should be set at 7 years from the sunset date.

44. In the Application, the Applicants requested a 12-year review period due, in part, to the complexity of substitution over that period. The Agency recommended a 7-year review period after consideration of the appropriateness and effectiveness of the OCs and RMMs, the absence of a suitable LEV system, the absence of a substitution plan and, the Applicants' reliance on older data in their analysis of alternatives.

45. I instead consider a 12-year review period, with an interim update report to be provided at 7 years from the authorisation date, to be more appropriate. In reaching my conclusion I have noted that the Applicants have demonstrated there are no technically and/or economically feasible alternatives and the benefits outweigh the monetised risks. Additionally, in its Opinion, the Agency identified that the Applicants needed to obtain more sufficient data (air monitoring and BM) sooner to provide additional in-depth information on potential risk to workers. The condition of the requirement for the authorisation holders to submit an update report by 20 January 2032 allow for updated information on the risk to workers to be provided sooner, lessening the concerns and removing the need for a shorter review period. The update report will allow the Applicants a sufficient amount of time to provide further assurance that the OCs and RMMs are appropriate and effective at minimising exposures to Cr(VI). I consider that any issues with the current data do not justify a shorter review period of 7 years.

46. Therefore, with the condition of the requirement to submit an update report by 20 January 2032, as outlined in paragraph 7, I consider a 12-year review period to be appropriate.

## Conclusion

47. For the reasons set out above I conclude that the socio-economic benefits outweigh the risk to human health for the applied for use of chromium trioxide set out in paragraph 2 and that there were no suitable alternative substances or technologies available by the sunset date.

48. The Scottish Ministers and the Welsh Ministers have given their consent to this decision in accordance with the requirements of UK REACH.

M Casale

Marc Casale

Deputy Director, Chemicals, Pesticides and Hazardous Waste

*On behalf of the Secretary of State for Environment, Food and Rural Affairs*

## Annex A: Company name and contact address

| Name | Address |
|---|---|
| Agbrigg Chrome Platers | Unit 8, Manor Mills, Millshaw, Leeds, LS11 8DB |
| Allenchrome Electroplating Ltd | Pocklington Airfield Industrial Estate, Pocklington, York, YO42 1NP |
| Alpha Electroplaters Ltd | Woodfold Works, 17 Woodfold, Sheffield, S3 9PE |
| Birmingham Plating | 142 Lewisham Road, Smethwick, Birmingham, B66 2ER |
| Broadway Brass Ltd | Units 1-3 Brunswick Industrial Centre, Hertford Street, Birmingham, B12 8NJ |
| Castle Polishing & Chrome Plating Ltd | Unit 1, Shaw Road, Dudley, DY2 8TP |
| Crown Polishing & Plating Ltd | Derry Street, Wolverhampton, WV2 1EY |
| Derby Plating Services Ltd | 148 Abbey Road, Derby, DE22 3SS |
| Doug Taylor Metal Finishing Co | Unit 10, Knightcott Ind Estate, Banwell, Weston-Super-Mare, BS29 6JN |
| Douglas Metal Finishing Ltd | Unit 3b, Juno Way Industrial Estate, Juno Way, Lewisham, SE14 5RW |
| Essex Finishers Ltd | Unit 3 Hallsford Bridge Ind Estate, Stondon Road, Ongar, CM5 9RE |
| Fox Plating | 10 Abbey Trading Estate, Bell Green Lane, London, SE26 5TW |
| Genius of the Lamp Ltd | 15 -17 Northampton Street, Hockley, Birmingham, B18 6DU |
| Global Metal Finishers Ltd | 1 - 5 Moorfield Road, Blakenhall Business Park, Wolverhampton, WV2 4QT |
| HD Sport | Rutland Way, Sheffield, S3 8DG |
| Hockley Enterprises (Essex) Ltd | 8 Grainger Road, Southend on Sea, SS2 5BZ |
| J&A Finishing Services Ltd | Fort Wallington Industrial Estate, Fareham, PO16 8TT |
| John Stokes Ltd | 60 High Street, Princes End, Tipton |

| Name | Address |
|---|---|
| MAJ Hi-Spec Ltd | 1 Scott Street, Keighley, BD21 2JJ |
| Manchester Electroplating Ltd | Units 1-3 Dickinson Street, Mount Pleasant Industrial Estate, Oldham, OL4 1HH |
| Marque Restore Chrome Plating Ltd | 2 Dutton Road, Aldermans Green Ind Estate, Coventry, CV2 2LE |
| Merridale Polishing & Plating Ltd | Units 1a & 2, Brookside, off Friar Street, Wednesbury, Wednesbury |
| Midland Polishing & Plating | Unit 1, Moorfield Road, Blakenhall, Wolverhampton, WV2 4QT |
| Prestige Electro Plating | Unit 6, Cliff Street, Mexborough, S64 9HU |
| Quality Chrome Ltd | Units 1&2 Malton Street, Witham, Hull, HU9 1BA |
| Reeve Metal Finishing | Anne Road, Smethwick, Birmingham, B66 2NZ |
| S&T Electroplate | 15/16 The Alpha Centre, Armstrong Way, Yate, Bristol, BS37 5NG |
| Sant Plating Ltd | 322 Coleford Road, Darnall, Sheffield, S9 5PH |
| Satchrome | Birchills House Industrial Estate, Green Lane, Walsall, WS2 8LF |
| Silchrome Plating Ltd | Barras Garth Road, Leeds, LS12 4JW |
| Star Polishing & Plating Ltd | Graisley House, Graisley Row, Wolverhampton, WV2 4HJ |
| The Sterlingham Co Ltd | Units 2&2A, Stamford Street, Ambelcote, Stourbridge, DY8 4HR |

| Name | Address |
| --- | --- |
| Vernon Moss | Churchfield Works, Churchfield Road, Brighouse, HD6 1DH |
| Vintage Headlamp Restoration Ltd | Limestone Cottage Lane, Wadsley Bridge, Sheffield, S6 1NJ |

# Annex B: Recommendations

1. The Agency has set out recommendations for the authorisation holders in section 10 of its Opinion. These recommendations are not conditions of authorisation or conditions for any review report. Due to the proposed conditions and monitoring arrangements contained within the decision report, I have concluded that some of the recommendations made by the Agency are no longer necessary as the requirements included within the recommendations have been covered by the conditions of authorisation and monitoring arrangements. Therefore, Annex B provides a full list of the current recommendations should the authorisation holders submit a review report in accordance with Article 61(1) of UK REACH.

## Recommendations that apply to all 34 companies in the SEA Technical Consortium:

Each Company in the SEA Technical Consortium should keep a documented record of the management of the mist suppressant to demonstrate that the surface tension of the electrolyte is being maintained within an appropriate band over the course of the authorisation. The documentary records should be included in the next review report and, upon request, should be submitted to the Agency.

3. The Agency advise the applicant that consideration should be given on how in the future the Cr (VI) exposures can be further reduced (preferably to no more than 1 μg/$m^3$ as an 8-hour TWA).

## Recommendations that only apply to a certain specified company in the SEA Technical Consortium:

4. **Reeve Metal Finishing:** If they are still working on the plating line, consider whether it would be practicable for the employee with the highest BM result [of 12.2 μmol / mol creatinine in June 2021] to be removed from further potential Cr(VI) exposure until they present a BM result that is below the BMGV. Bearing in mind the findings of the internal investigation and the fact that Reeve Metal Finishing operates an automated plating line, it seems likely the main route of Cr(VI) exposure for this employee may have been inadvertent ingestion from contaminated surfaces. If removal from the line would not be practicable, the Company should more closely manage their employees' working practices, particularly in terms of ensuring that there is no eating, drinking or smoking in the plating line production area and that prior to eating, drinking or smoking hands are washed diligently.

5. **Silchrome Plating Ltd:** If they are still working on the plating line, consider whether it would be practicable for the employee with the highest BM result [the latest result provided to the Agency was 12.3 μmol / mol creatinine] to be removed from further Cr(VI) exposure until their BM result reduces to below the BMGV. It seems likely the main route of Cr(VI) exposure for this employee may

have been inadvertent ingestion from contaminated surfaces. If removal from the line would not be practicable, the Company should more closely manage their employees' working practices, particularly in terms of ensuring that there is no eating, drinking or smoking in the plating line production area and that prior to eating, drinking or smoking hands are washed diligently.

6. **Genius of the Lamp Ltd:** Review the plant layout design and consider whether it would be prudent to install a purpose-designed bund capable of providing effective secondary containment of at least 110% of the maximum content of the chrome tank.
7. **Manchester Electroplating Ltd:** Review the plant layout design and consider whether it would be prudent to install a purpose designed bund capable of providing effective secondary containment of at least 110% of the maximum content of the chrome tank.
8. **MAJ Hi-Spec Ltd:** Review the plant layout design and consider whether it would be prudent to install a purpose designed bund capable of providing effective secondary containment of at least 110% of the maximum content of the chrome tank.