To users of chromium trioxide
in chemical conversion coatings
for European Space Programmes

Noordwijk, 22.8.2024 Our ref. MPTB-RL-MO-0157

Continued use of chromium trioxide in chemical conversion coatings for space hardware after the REACH authorisation sunset date on 21 September 2017

The purpose of this document, which has been prepared in the frame of the Chromates Space Task Force (STF) of the Materials and Processes Technology Board[1], is to facilitate compliance with the REACH authorisation requirement for the use of chromium trioxide (EC 215-607-8; CAS 1333-82-0) – hereafter "**CrO_3**" or "**the Substance**" – in the European space industry after the Annex XIV Sunset Date on 21.9.2017.

More specifically, this document covers the use of CrO_3 in chromic (or chemical) conversion coating (CCC) and the repair or maintenance of such coating on aluminium alloy parts used in launchers and space vehicles – hereafter "**the Use**". For these applications CrO_3 is contained in certain mixtures sold in or imported into the EU by Henkel AG & Co. KGaA ("**Henkel**") or its EU affiliates. They are known under the following brand names (formerly known as 'Alodine'):

- **BONDERITE M-CR 1200 AERO, BONDERITE M-CR 1200S AERO, BONDERITE M-CR 600 AERO**

Info box 1 Summary

Until 20.4.2024 the Use was permitted under European Commission (COM) Implementing Decision C(2020) 8797 final of 18.12.2020 (Chemservice and others, also known as 'CTACSub'[2]), and downstream users (DUs) had to notify the European Chemicals Agency (ECHA) about it under REACH Art. 66. The Court of Justice of the European Union (CJEU) has annulled this decision effective 20.4.2024 (judgment of 20.4.2023 in Case C-144/21 (link to judgment), essentially due to its very broad scope and resulting uncertainties in the assessment. Nevertheless **after 20.4.2024 and also beyond 21.9.2024, a company (DU) will still be allowed to continue use of chromium trioxide if is covered by the initial CTACSub Application for Authorisation 'AfA'** (*which is pending again after decision annulment*), thanks to the transitional provisions in the REACH Regulation.[3] **This applies until COM would decide otherwise in response to the CJEU judgment, the CTACSub AfA would be withdrawn or the vendors would cease supply**. In the meantime, new upstream AfAs and a review report have been submitted to ECHA ('ADCR', 'CTACSub2') which – if granted – will eventually replace the DUs' reliance on the CTACSub AfA.

[1] The Materials and Processes Technology Board of the European Space Components Coordination (ESCC MPTB) is a partnership between the European Space Agency (ESA), national space agencies, and space industry represented by ASD-Eurospace; it is chaired at present by ESA.
[2] **C**hromium **T**rioxide **A**uthorisation **C**onsortium - **Sub**mission Consortium.
[3] European Commission clarification in its Questions & Answers – European Court of Justice Judgment in Case C-144/21 (European Parliament vs Commission), 5.8.2024, question 6, available here.

The questions and answers in this document contain further clarifications of legal requirements and recommended good practice to continue the Use under the REACH authorisation regime and information about EU/ECHA activities to replace the REACH authorisation requirement with a REACH restriction. The next version of this document will be issued upon issuance of authorisation decisions for ADCR and/or CTACSub2 or other relevant events affecting REACH compliance actions.

1. I am a downstream user (DU) established in the EU of a mixture containing CrO_3 from Henkel. What do I have to do if I want to continue using such mixture containing CrO_3 in the EU/EEA after 20.4.2024?

As a DU you have a duty to ensure compliance with the REACH authorisation requirement for the Use of CrO_3 (as part of a mixture). Henkel has been relying on the upstream CTACSub application for authorisation by Chemservice and others. Consequently, you also have to ensure coverage by this application as follows:

i. **Identify the CTACSub use applied for** by which you need to be covered: With regard to the Use in question this is ECHA ID 0032-04: *Surface treatment for applications in the aeronautics and aerospace[4] industries, unrelated to functional chrome plating or functional chrome plating with decorative character;* and

ii. **Comply with** the **operational conditions** and **risk management measures** for the use in the Chemical Safety Report (CSR) of the CTACSub AfA: These should have been included in updated **Exposure Scenarios (Annex to Safety Data Sheet/SDS)** made available by the supplier; Henkel is publishing SDSs and Exposure Scenarios at https://mysds.henkel.com/index.html.

Please be reminded that after 20.4.2024 DU notifications under REACH Art. 66[5] are no longer required nor possible for the CTACSub authorisation, given the absence of a valid authorisation number.

Info box 2 Supplier switch affecting the Use

Important note: On 7.8.2024 Henkel informed that a **supplier switch** affecting the Use was initiated, and that they will update SDS and Label accordingly. The new supplier is holder of a valid authorisation with a review period until 21.9.2024, but submitted a review report in time being part of ADCR (see below question 4). In the present understanding that authorisation holder is HAAS GROUP INTERNATIONAL SP. Z.O.O (ECHA ID 0096-01, authorisation number REACH/19/29/0, Commission implementing decision C(2019) 7448 final of 22.10.2019, available here), and ADCR has filed a review report in time (ECHA ID 0337-02, see below question 4). As a consequence, a company (DU) covered by this review report will be allowed to use the substance until a European Commission decision on the review report is taken (see COM Q&A of 5.8.2024, case scenario 1.ii.)a), available here) or the pending CTACSub AfA is rejected.[6] **Please follow any customer communication and update of SDS and Label by Henkel or reach out to your Henkel Sales Representative or Authorised Distributor concerning the applicable date for this supplier switch and any REACH-related actions, including the need to submit a REACH Article 66 notification for authorisation number REACH/19/29/0**.

With regard to your possible future upstream authorisation title please see question 4 below.

[4] The term 'aerospace' also includes the 'space' industry as a sub-sector, for all applications in these guidelines.
[5] https://echa.europa.eu/support/dossier-submission-tools/reach-it/downstream-user-authorised-use.
[6] See also ADCR Guidance flows for understanding ADCR Authorisation applications – TRANCHE 1 EU submissions v2 July 2024, available here.

2. What are the implications of the Good Practice Sheets (GPS) published by CTACSub?

CTACSub has published a number of Good Practice Sheets, providing safe handling advice for DUs wishing to rely on the application.[7] Compliance with these GPSs is voluntary and thus not legally binding (only once incorporated in REACH SDSs), but those DUs are strongly recommended to follow them as a good practice and document their application as long as they need to rely on the CTACSub AfA.[8]

According to the GPS Overview Table[9] the GPSs A, C, D & E apply to the use group subject to this document. In particular, C1 specifies conversion coating. C5, which is touch-up using the pen, and C8, which is touch up with a brush, seem to be the most relevant for maintenance/repair.[10]

3. What kind of documentation should a DU keep in place to show authorisation compliance and for possible enforcement purposes?

The following documents are recommended as a minimum, as part of an internal documentation system:

i. **The present document**, especially with reference to question 1 above, for the period until the new authorisations are granted (see below question 4);
ii. **Latest version of the (extended) REACH safety data sheet for the mixture**; Henkel has made available Exposure Scenarios (Annex to Safety Data Sheet) on its website https://mysds.henkel.com/index.html as soon as they are received from its suppliers[11];
iii. *As long as the DU needs to rely on the CTACSub AfA:* **Evidence of the strict application of the CTACSub Good Practice Sheets "GPS"** (see above under 2.), such as the list of GPSs used by the DU and evidence of the conduct of exposure and environmental monitoring as set out in the respective GPS.

Please note that in addition to REACH, compliance with national legislation on Occupational Safety & Health (OSH) also needs to be ensured. The following **EU Binding Occupational Exposure Limit (BOEL) values** apply, subject to due national transposition:

- 10 µg/m³ until 17.1.2025
- 5 µg/m³ after 17.1.2025 (Directive (EU) 2017/2398 amending Directive 2004/37/EC).

[7] They are available for download in English and partly other languages at https://jonesdayreach.com/substances under "III. Good Practice Sheets for Uses of Chromium Trioxide and Miscellaneous Chromates".
[8] Regarding possible use as a good practice under future ADCR authorisations (see question 4.a) below), please consult ADCR.
[9] https://8bm.f33.myftpupload.com/wp-content/uploads/GPS-Overview-EN-2020-05-25_1.pdf.
[10] Note: Repair procedures may use products containing K/Na dichromates that are not subject of this document and the CTACSub AfA referred herein. Authorisation compliance needs to be assessed separately for each substance, use (on its own or as part of mixtures) and supply chain.
[11] If a product is not displayed on the Henkel website, the customers nevertheless get SDS and Annex via an automated mail (e-mail or paper depending on the contact details).

4. What upstream AfAs / renewal applications to grant a future title for the continued use of mixtures containing CrO_3 in the EU/EEA for CCC to potentially cover DUs in the European Space Sector and their subcontractors are currently on-going?

a) Aerospace and Defence Chromates Re-Authorisation Consortium (ADCR): ADCR has submitted the following EU AfA / renewal application to ECHA in November 2022-February 2023, among several others[12]:

ECHA ID	Applicant	Name of use applied for
0327-01	Henkel Global Supply Chain B.V. **Note**: *Henkel is currently not planning to use this authorization, once granted, and instead rely on an upstream supplier authorisation.*	Chemical conversion coating using chromium trioxide, sodium dichromate and/or potassium dichromate in aerospace and defence industry and its supply chains
0337-02	HAAS GROUP INTERNATIONAL SP. Z.O.O; CROMITAL S.P.A. in its legal capacity as Only Representative of Türkiye Şişe ve Cam Fabrikaları A.S.; Chemservice GmbH - (B1P7); Boeing Distribution Deutschland GmbH	Chemical conversion coating using chromium trioxide, sodium dichromate, potassium dichromate and/or dichromium tris(chromate) in aerospace and defence industry and its supply chains

Importantly (and unlike CTACSub2, see below), future authorisations based on these applications **can also cover DUs not members of ADCR**. The ADCR AfAs are currently in the decision-making process at ECHA and the European Commission's REACH Committee. COM intends to discuss and vote all ADCR files in the REACH Committee meetings of 20.9. and 14.10.2024. After a positive vote at the meeting, the adoption process (a formal administrative procedure) takes around 4 to 6 weeks, before the notification of the decision to the applicants (i.e. this is expected in October 2024 at the earliest). Afterwards, the decisions are expected to be made available to DUs in due time, including through publication on the COM website (full decision) and decision summaries (including authorisation numbers) in the Official Journal of the European Union (CJEU). Further information and news are available from ADCR at https://www.adcr-consortium.eu (including a new ADCR FAQ Document of 16 August 2024[13]) and the COM[14].

ADCR will provide guidance on any mandated conditions for use of the chromates under the ADCR authorisations, when decisions on the applications are known.[15]

b) CTACSub2 Consortium: This is a sub-group consisting of five member companies of the CTACSub Consortium, they have filed AfAs for 12 uses of CrO_3, including for CCC:

ECHA ID	Applicant	Name of use applied for
0364-08	Chemservice GmbH in its legal capacity as Only Representative of Brother CISA (Pty) Ltd.; Prospere Chemical Logistic OÜ as Only Representative of Aktyubinsk Chromium Chemicals Plant, Kazakhstan; CROMITAL S.P.A. in its legal capacity as Only	Chromium trioxide-based main treatment covering chemical conversion coating (CCC) (also referred to as chromating, chromate conversion and alodining) and passivation (of stainless steel) of components applied in the aeronautics and aerospace industries

[12] See ADCR Consortium Factual Communication, 16.7.2024, available here.
[13] See ADCR Consortium Frequently Asked Questions, 16.8.2024, available here.
[14] European Commission, Questions & Answers, Applications for authorisation and review reports for uses of hexavalent chromium in the aerospace and defence sector, 5.8.2024, available here.
[15] See ADCR Consortium Frequently Asked Questions, 16.8.2024, p.7, question 10, available here.

	Representative of Türkiye Şişe ve Cam Fabrikaları A.S.; Polychrome Holding B.V. as Only Representative of American Chrome & Chemicals Inc; MacDermid Enthone GmbH	

Unlike in case of ADCR, **only DUs who formally signed up to CTACSub2 are covered**. They are listed by their name in the public version of the AfA, see for ECHA ID 0364-08 in *Analysis of Alternatives and Socio-Economic Analysis – Public Version, February 2024, Appendix A. List of legal entities covered by Use 8, p. 138, link*. More details can be found in the CTACSub2 press release of 27.2.2024, available here.

Henkel have informed that they have also signed up to CTACSub2 and the aerospace uses covered by the AfA will be valid for Henkel too, but for Henkel's Aerospace branded products they will not use the supply chain of CTACSub2, they will use a supply chain having submitted review reports under ADCR (see above a), ECHA ID 0337-02). CTACSub2 will still be relevant for Henkel's non-Aerospace business.

Note: If and once the authorisation under ADCR and/or CTACSub2 is granted based on these applications (possibly later in 2024), you should find information about the then applicable authorisation number from the supplier's SDS, label, any customer communications issued as well as the official websites of the European Commission and the CJEU. DUs will then have to notify ECHA according to REACH Art. 66(1) within three months of the first supply of the substance; this obligation applies after the authorisation decision has been published in the CJEU.[16]

5. What do DUs located in Great Britain (GB) have to do, if they wish to continue the Use?

The EU REACH Regulation has ceased to apply in Great Britain 'GB' (comprising England, Scotland and Wales[17]) at the end of 2021. Instead, a separate but mostly similar UK REACH regime now applies to entities located in GB. For information about the right to continue your use for space applications in GB following on the original CTACSub EU application for authorisation you are advised to contact your supplier and/or the ADCR Consortium: https://www.adcr-consortium.eu (see also ADCR FAQ of 16.8.2024, questions 21 et seqq., available here). You may also contact the HSE at ukreach.clp@hse.gov.uk.

6. What are the obligations for already surface-treated hardware (articles or assemblies thereof/complex objects) related to REACH?

The authorisation requirement does **not** apply. However, according to REACH Art. 33(1) EU suppliers of articles[18] containing a substance included in the REACH Candidate List (e.g. chromium trioxide or chromic acid)[19] above 0.1 % w/w in relation to the coated object (component article[20] or complex object, as the case may be) shall provide EU customers with sufficient information, available to the supplier, to allow

[16] See https://echa.europa.eu/support/dossier-submission-tools/reach-it/downstream-user-authorised-use.
[17] Please note that EU REACH still continues to apply in Northern Ireland.
[18] Space hardware typically qualifies as assemblies of articles ("complex objects").
[19] https://echa.europa.eu/candidate-list-table.
[20] According to the judgement of the European Court of Justice of 10 September 2015 in case C-106/14 the 0.1 % w/w threshold for complex products for the application of REACH Article 33 should be calculated with reference to each component article contained in a complex product (assembly) as supplied to the EU customer ("once an article, always an article" principle).

safe use of the article including, as a minimum, the name of that substance. MPTB members have jointly prepared a REACH Article 33 declaration template; the latest version is available on the ESCIES page.[21]

In addition, as from 5.1.2021 EU suppliers of articles should also provide (notify) the information pursuant to REACH Article 33(1) to ECHA, for its new database on Substance of Concern In products, as such or in complex objects (Products) – "**SCIP**"; the SCIP Database is now published on the ECHA website[22]. This "SCIP notification" requirement stems from Art. 9(1)(i) of the revised Waste Framework Directive (WFD) 2008/98/EC and required transposition into the national laws of the EU Member States by 5 July 2020. A dedicated Space Task Force has elaborated SCIP notification compliance guidelines for space products; the latest version is also available on the ESCIES page.[23]

6a. What are the obligations for local mechanical post-treatment of an already coated component after the CCC process (e.g., Bonderite-M1200 'Alodine' application), where some Cr(VI) content below 0.1 % w/w remains and the post-treatment itself is free of Cr(VI) (Surtec)?

Such a processing of a component (article/complex object) is not subject to REACH authorisation nor REACH Art. 33 or SCIP reporting. It is the responsibility of Occupational Safety and Health (OSH) to assess how the specific post-treatment is to be carried out in compliance with applicable OSH regulations.

7. ECHA is currently preparing a restriction proposal for certain Cr(VI) substances, including CrO_3 with the aim to eventually replace the REACH authorisation requirement for these substances. How can I prepare for this transition?

COM has requested ECHA in September 2023 to prepare a REACH restriction dossier for certain Cr(VI) substances, including CrO_3. This request has been made because the number of AfAs for the use of these substances, especially CrO_3, has far exceeded COM's and ECHA's predictions. The approach envisaged for regulating Cr(VI) substances (authorisation) is no longer considered appropriate to control the risk to human health posed by these substances. The ECHA restriction proposal is currently expected in April 2025 and could lead to adoption of a new restriction by COM by the end of 2026, which would eventually replace the REACH authorisation system for these chromates.[24] In this regard COM has also noted that derogations from such a restriction may not necessarily reflect granted authorisations in terms of timing and/or scope.[25]

DUs interested in continuing use of Cr(VI) substances, including CrO_3, after 2026/7 are advised to follow the ECHA restriction process and evaluate their active participation, including in calls for evidence and stakeholder consultations on the ECHA website. For the European space community regular updates will be provided via the MPTB and STF.

The ECHA restriction process is specifically tracked in the registry of restriction intentions: HERE.

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[21] https://escies.org/webdocument/showArticle?id=1049&groupid=6 under "Other REACH-relevant material".
[22] https://echa.europa.eu/scip-database.
[23] https://escies.org/webdocument/showArticle?id=1049&groupid=6 under "Waste Framework Directive – SCIP Task Force".
[24] European Commission information in its Questions & Answers – Towards a Restriction of Cr(VI) Substances under REACH, 5.8.2024, available here.
[25] European Commission, previous footnote, p.3, question 5.

8. Where can I turn for further information concerning this issue?

- European Commission: GROW-F1@ec.europa.eu
- CTACSub/2: Please check on www.jonesdayreach.com for any press releases and recommendations
- ADCR: Please see https://www.adcr-consortium.eu
- Contact your CrO_3 supplier (Henkel Sales Representative or Authorised Supplier), national REACH helpdesk or ECHA
- UK REACH: Contact the HSE at ukreach.clp@hse.gov.uk
- For remaining questions you may contact Premysl Janik (ESA, reach.officer@esa.int).

For the Materials and Processes Technology Board

P. Janik (ESA), Chairman of the MPTB

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Issue 6 ref. MPTB-RL-MO-0157 of 2024-08-22 - *current, especially taking into account:*

- *Expiry of the CTACSub authorisation after 20.4.2024 - transitional regime based on CTACSub AfA;*
- *Progress of ADCR and CTACSub2 authorisation / renewal applications;*
- *Updates from ADCR (including the latest FAQ document of 16.8.2024, available here), CTACSub2, the COM (Q&A section on REACH and chromium(VI) substances published on 5.8.2024, available here) and Henkel received in July/August 2024, including on the initiated supplier switch;*
- *Added question 6a;*
- *Cr(VI) restriction initiative by COM/ECHA and possible future implications for granted authorisations;*
- *Removed detailed guidelines on REACH Art. 66 notifications as no longer relevant for CTACSub AfA.*