

**RAC working group/R/18/2024**  
**Final**

**7 February 2024**

**Report**  
**of the 18<sup>th</sup> Meeting of the Committee for Risk Assessment**  
**Working Group on Applications for Authorisation**  
**(RAC AfA working group)**

**(Telakkakatu 6, Helsinki)**  
**via WebEx**

**Tuesday 6 February starts at 10.00**  
**Wednesday 7 February ends at 15.00**

**Summary Record of the Proceedings**

**1. Welcome and apologies**

The Chair, Roberto Scazzola, welcomed the 31 participants to the 18<sup>th</sup> Meeting of the Committee for Risk Assessment Working Group on Applications for Authorisation. He informed the group that sections of the meeting would also be chaired by Arnis Ludboržs and Piotr Sosnowski.

He reminded that the working group will be requested to adopt its report at the end of the meeting.

**2. Adoption of the Agenda**

The Chair introduced the agenda for the meeting (RAC working group/A/18/2024), which was adopted unchanged and is attached to this Report as Annex II.

**3. Declarations of conflicts of interests to the Agenda**

The Chair requested all participants to declare any potential conflicts of interest to any of the agenda items. Declaration of a potential conflict of interest to the agenda items by one participant was added to Annex IV (declared at previous meetings). The Chairs all declared that they had no potential conflicts of interest related to any of the agenda points of the meeting.

#### 4. Authorisation applications

ADCR Horizontal issues.

The working group discussed horizontal issues common to all ADCR Review Reports and Applications for Authorisation.

##### 1. Appropriateness of OCs & RMMs

The working group discussed:

- Concerns related to the low response rate especially for the uses (i.e. electroplating where high tonnage is used).

The working group recommended to use in all draft opinions following conclusions:

Workers: Major and moderate concerns regarding the description of the OCs & RMMs in place due to the lack of representativeness for all the DUs sites → Not appropriate and effective

HvE: Appropriate and effective.

##### 2. Exposure assessment

The working group discussed:

- When the data provided can be considered as representative. The applicants provided information from limited number of sites and related contextual information.
- If the modelled data supports exposure assessment based on measured data and their limited value due to the high variety between sites.
- Relevance of the data from UK sites and their limited impact to the overall representativeness due to the low number of sites.
- The possibility to revise the main conclusion and the strength of concerns (case by case approach).

The working group recommended to use in all draft opinions following conclusions:

Workers & HvE: Moderate concerns regarding the exposure estimates due to the lack of representativeness of the used measurement data for all the DUs sites.

- Formulation: Workers – minor shortcomings; HvE – no shortcomings

##### 3. Risk characterisation

The working group discussed:

- High risk for HvE for the use Inorganic finish stripping.

The working group recommended to use in all draft opinions following conclusions:

Workers & HvE: The estimates of excess cancer risk for workers and for humans via environment and the RCR for reproductive risk for workers allow a health impact assessment.

The recommendations by the working group on specific draft opinions on the 23 Review Reports and Applications covering 24 uses considered at this meeting are listed in Annex I.

## **5. Any other business**

### **Horizontal issues:**

The Chair informed the working group about proposal to cancel the RAC AfA working group meeting in June. More details will be presented at RAC-68.

The Secretariat presented the state of play of the AfA pipeline and how the Secretariat intends to process the AfAs in 2024.

## **6. Adoption of the report of the working group**

Before the chair of the working group Arnis Ludboržs thanked the participants and closed the meeting, the working group adopted its report, requesting the Secretariat to make any necessary editorial changes.

**Annex I Working group recommendations**

**Annex II Agenda of the 18<sup>th</sup> meeting**

**Annex III List of participants of the 18<sup>th</sup> Meeting of the Committee for Risk Assessment Working Group on Applications for Authorisation**

**Annex IV Declarations of potential conflicts of interest**

**Annex V Standard text for Section 8: monitoring arrangements for the authorisation and Section 9: recommendation for the review report.**

## Annex I

### Working group recommendations

#### Abbreviations used

CA	chromic acid
CT	chromium (VI) trioxide
DtC	dichromium tris(chromate)
ERC	environmental release category
ES	exposure scenario
HvE	Humans via environment
LEV	local exhaust ventilation
OC	operational condition
PBT	persistent, bioaccumulative and toxic
PPE	personal protective equipment
RMM	risk management measure
RPE	respiratory protective equipment
RR	review report
SD	sodium dichromate
STP	sewage treatment plant
WWTP	wastewater treatment plant
vPvB	very persistent, very bioaccumulative

Summary of the recommendation	Action Points
<b>4.11. 335_ADCR_RR_Anodising (1 use)</b>	
<p><b>Use1:</b> <i>Anodising using chromium trioxide in aerospace and defence industry and its supply chains.</i></p> <p>The working group discussed:</p> <ul style="list-style-type: none"> <li>- Conditions for authorisation.</li> </ul> <p>The working group supported the draft opinion as proposed by the Rapporteurs.</p> <p>Regarding the exposure to Cr(VI) associated with use of chromium trioxide, the working group recommends to RAC that that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.</p> <p>The working group recommends to RAC that the operational conditions and risk management</p>	<p><b>Rapporteurs</b> together with <b>SECR</b> to edit the draft opinion according to the discussion of the working group.</p> <p><b>Rapporteurs</b> together with <b>SECR</b> to prepare a draft opinion on AFA 326_ADCR_Anodising.</p> <p><b>SECR</b> to launch RAC written consultation on the draft opinion on AFA 326_ADCR_Anodising.</p> <p><b>SECR</b> to schedule both draft opinions for agreement at the RAC-68 plenary meeting.</p>

measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

The working group supports:

Section 7: additional conditions for the authorisation

1. The authorisation holder and its DUs shall implement technical improvements to the OCs/RMMs (e.g., removal of the workers from the treatment area through remote operations of hoists, covering the bath during the anodising process, segregation of treatment area from other work areas, etc.) to minimise the Cr(VI) concentration nearby the plating bath and reduce workers' exposure to Cr(VI) at all DUs sites.
2. The authorisation holder and its DUs shall ensure that manual handling of solid and liquid chromates for measuring and weighing and the solution preparation for selective anodising shall be performed in dedicated work areas under LEV with high containment (e.g., glove box).
3. The authorisation holder and its DUs shall ensure that selective anodising is performed in dedicated rooms under LEV.
4. Mechanical ventilation shall be used for machining activities in work areas, except in cases where mechanical ventilation would introduce risks (e.g., local spark risk).
5. The authorisation holder and its DUs shall ensure that workers involved in surface treatment activities (dipping into the baths), bath sampling, baths make-ups and concentration adjustment use RPE with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE can be stopped if the mentioned tasks are performed under the LEV and additional technical improvements to the OCs and RMMs (automated / closed processes) are implemented at the sites or if exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
6. The authorisation holder and its DUs shall ensure that workers involved in selective anodising and machining operations use

appropriate RPE during the tasks with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies (or improved OCs/RMMs) are implemented in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.

7. The authorisation holder and its DUs shall ensure that workers perform a 'fit check' of the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the renewal of the authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

8. Without prejudice to points 1-7 above, the authorisation holder and its DUs shall carry out and document a detailed feasibility study on:

- a) the replacement of solid CT by a liquid solution, or the implementation of a closed/automated system to perform the dilution of solids (e.g., a glove box to transfer flakes to a mixing tank) and any subsequent refilling of the baths with liquid solutions (e.g., fix-piping from the containers or mixing tanks to the baths);
- b) the implementation of a closed/automated system to perform bath sampling tasks;
- c) the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g., the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly.

The feasibility studies shall be concluded within 12 months of the renewal of the authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

Section 8: monitoring arrangements for the authorisation as given in Annex V with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 326\_ADCR\_Anodising.

#### 4.12. 336\_ADCR\_RR\_Anodise\_sealing (1 use)

**Use1:** *Anodise sealing using chromium trioxide, potassium dichromate, sodium chromate and/or sodium dichromate in aerospace and defence industry and its supply chains.*

The working group supported the draft opinion as proposed by the Rapporteurs.

Regarding the exposure to Cr(VI) associated with use of chromium trioxide, sodium dichromate, potassium dichromate and sodium chromate, the working group recommended to RAC that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.

The working group recommended to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

Regarding the reproductive hazards associated with the use of sodium dichromate, potassium dichromate and sodium chromate, the working group recommended to RAC that the risk assessment presented in the application demonstrates adequate control of risks from the use applied for, provided that the operational conditions and risk management measures described in the application are adhered to.

**Rapporteurs** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteurs** together with **SECR** to prepare a draft opinion on AFA 325\_ADCR\_Anodise\_sealing.

**SECR** to launch RAC written consultation on the draft opinion on AFA325\_ADCR\_Anodise\_sealing.

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

The working group supports:

Section 7: additional conditions for the authorisation

1. The authorisation holder and its DUs shall implement technical improvements to the OCs/RMMs (e.g., removal of the workers from the treatment area through remote operations of hoists, covering the bath during the anodise sealing process, segregation of treatment area from other work areas, etc.) to minimise the Cr(VI) concentration nearby the treatment bath and reduce workers' exposure to Cr(VI) at all DUs' sites.
2. The authorisation holder and its DUs shall ensure that manual handling of solid and liquid chromates for measuring and weighing shall be performed in dedicated work areas under LEV with high containment (e.g., glove box).
3. The authorisation holder and its DUs shall ensure that workers involved in surface treatment activities (dipping into the baths), bath sampling, bath make-ups and concentration adjustment use RPE with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE can be stopped if the mentioned tasks are performed under the LEV and additional technical improvements to the OCs and RMMs (automated / closed processes) are implemented at the sites or if exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
4. The authorisation holder its DUs shall ensure that workers involved in machining operations use appropriate RPE during the tasks with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies (or improved OCs/RMMs) are implemented in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
5. The authorisation holder its DUs shall ensure that workers perform a 'fit check' of the seal



of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the renewal of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

6. Without prejudice to points 1-5 above, the authorisation holder shall carry out and document a detailed feasibility study on:
- a) the replacement of solid Cr(VI) substances by a liquid solution, or the implementation of a closed/automated system to perform the dilution of solids (e.g., a glove box to transfer flakes to a mixing tank) and any subsequent refilling of the baths with liquid solutions (e.g., fix-piping from the containers or mixing tanks to the baths);
  - b) the implementation of a closed/automated system to perform bath sampling tasks;
  - c) the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g., the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly.

The feasibility studies shall be concluded within 12 months of the renewal of authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

Section 8: monitoring arrangements for the authorisation as given in Annex V with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 325\_ADCR\_Anodise\_sealing.

#### 4.13. 337\_ADCR\_RR\_Chemical\_conversion\_coating (1 use)

**Use1:** *Chemical conversion coating using chromium trioxide, sodium dichromate, potassium dichromate and/or dichromium tris(chromate) in aerospace and defence industry and its supply chains.*

The working group discussed:

- risk levels to the humans via the environment

On all the ADCR cases the Secretariat to consider the following:

- representativeness of measured data,
- conditions for the authorisation,
- enforceability of the conditions for the authorisation.

The working group supported the draft opinion as proposed by the Rapporteurs.

Regarding the exposure to Cr(VI) associated with use of chromium trioxide, sodium dichromate, potassium dichromate and dichromium tris(chromate), the working group recommends to RAC that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.

The working group recommends to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

Regarding the reproductive hazards associated with the use of sodium dichromate and potassium dichromate, the working group recommends to RAC that the risk assessment presented in the application demonstrates adequate control of risks from the use applied for, provided that the operational conditions and risk management measures described in the application are adhered to.

**Rapporteurs** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteurs** together with **SECR** to prepare a draft opinion on AFA 327\_ADCR\_Chemical\_conversion\_coating.

**SECR** to launch RAC written consultation on the draft opinion on AFA 327\_ADCR\_Chemical\_conversion\_coating.

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

The working group supports:

Section 7: additional conditions for the authorisation

1. The authorisation holder and its DUs shall implement technical improvements to the OCs/RMMs (e.g., removal of the workers from the treatment area through remote operations of hoists, covering the bath during the CCC process, segregation of treatment area from other work areas, etc.) to minimise the Cr(VI) concentration nearby the treatment bath and reduce workers' exposure to Cr(VI) at all DUs' sites.
2. The authorisation holder and its DUs shall ensure that manual handling of solid and liquid chromates for measuring and weighing, and the solution preparation for local application shall be performed in dedicated work areas under LEV with high containment (e.g., glove box).
3. The authorisation holder and its DUs shall ensure that surface treatment by filling of the parts and local treatment by brush, swab or pen-stick is performed in dedicated rooms under LEV, except the cases where it is not technically and practically possible (e.g. on-field tasks).
4. The authorisation holder and its DUs shall ensure that workers involved in surface treatment activities (dipping into the baths and filling of the parts), bath sampling, bath make-ups and concentration adjustment use RPE with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE can be stopped if the mentioned tasks are performed under the LEV and additional technical improvements to the OCs and RMMs (automated / closed processes) are implemented at the sites or if exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
5. The authorisation holder and its DUs shall ensure that workers involved in local treatment by brush, swab or pen-stick, machining operations use appropriate RPE during the tasks with due consideration for

the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies (or improved OCs/RMMs) are implemented in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.

6. The authorisation holder and its DUs shall ensure that workers perform a 'fit check' of the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the renewal of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

7. Without prejudice to points 1-6 above, the authorisation holder and its DUs shall carry out and document a detailed feasibility study on:

- a) the replacement of solid Cr(VI) substances by a liquid solution, or the implementation of a closed/automated system to perform the dilution of solids (e.g., a glove box to transfer flakes to a mixing tank) and any subsequent refilling of the baths with liquid solutions (e.g., fix-piping from the containers or mixing tanks to the baths);
- b) the implementation of a closed/automated system to perform bath sampling tasks;
- c) the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g., the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly.

The feasibility studies shall be concluded within 12 months of the renewal of the authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

Section 8: monitoring arrangements for the

authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 327\_ADCR\_Chemical\_conversion\_coating.

#### 4.14. 338\_ADCR\_RR\_Chromate\_rinsing (1 use)

**Use 1:** *Chromate rinsing after phosphating using chromium trioxide in aerospace and defence industry and its supply chains.*

The working group discussed:

- the use of the conditions open to interpretation (close/automated).

The working group supported the draft opinion as proposed by the Rapporteurs.

Regarding the exposure to Cr(VI) associated with use of chromium trioxide, the working group recommends to RAC that that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.

The working group recommends to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

The working group supports:

Section 7: additional conditions for the authorisation

1. The authorisation holder and their DUs shall implement technical improvements to the OCs/RMMs (e.g., removal of the workers from the treatment area through remote operations

**Rapporteurs** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteurs** together with **SECR** to prepare a draft opinion on AFA 328\_ADCR\_Chromate\_rinsing.

**SECR** to launch RAC written consultation on the draft opinion on AFA 328\_ADCR\_Chromate\_rinsing.

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

of hoists, covering the baths, segregation of treatment area from other work areas, etc.) to minimise the Cr(VI) concentration nearby the treatment bath and reduce workers' exposure to Cr(VI) at all DUs sites.

2. Where RPE is needed to control exposure to chromium trioxide, it shall be used in accordance with standard procedures for use and maintenance. Those procedures shall include procedures for fit testing of RPE masks, applied in accordance with relevant standards, shall ensure training and medical fitness checking and supervision of the wearer and maintenance of the RPE.

These conditions shall be implemented within 12 months of the granting of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

3. Without prejudice to points 1 and 2 above, the authorisation holder and their DUs shall carry out and document a detailed feasibility study on:

- the replacement of solid Cr(VI) substances by a liquid solutions, or the implementation of a closed/automated system to perform the dilution of solids (e.g. a glove box to transfer flakes to a mixing tank) and any subsequent refilling of the baths with liquid solutions (e.g. fix-piping from the containers or mixing tanks to the baths);
- the implementation of a closed/automated system to perform bath sampling tasks;
- the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g. the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly.

The feasibility studies shall be concluded within 12 months of the granting of an authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

Section 8: monitoring arrangements for the authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 328\_ADCR\_Chromate\_rinsing.

#### 4.15. 339\_ADCR\_RR\_Electroplating (1 use)

**Use 1:** *Electroplating using chromium trioxide in aerospace and defence industry and its supply chains.*

The working group discussed:

- risk levels for the humans via the environment near the larger industrial sites,
- representativeness of the measurement data.

The working group supported the draft opinion as proposed by the Rapporteur.

Regarding the exposure to Cr(VI) associated with use of chromium trioxide, the working group recommends to RAC that that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.

The working group recommends to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

The working group supports:

Section 7: additional conditions for the authorisation

**Rapporteur** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteur** together with **SECR** to prepare a draft opinion on AFA 329\_ADCR\_Electroplating.

**SECR** to launch RAC written consultation on the draft opinion on AFA 329\_ADCR\_Electroplating.

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

1. Manual immersion or dipping in the electroplating treatment baths shall be replaced at all DUs' sites by systems that allow the worker be positioned at certain distance from the treatment bath during the immersion or dipping of the parts in the treatment bath (e.g., semi-automated process using a control device (hoist) or automated process).
2. The authorisation holder and all their DUs shall ensure that manual handling of solid or liquid chromates for measuring and weighing and the solution preparation with solid chromate is performed in dedicated work areas under LEV with high containment (e.g., glove box).
3. The authorisation holder and all their DUs shall ensure that the workers involved in electroplating activities (manual immersion or dipping of the parts into the treatment baths), bath sampling, bath make-ups and concentration adjustment use RPE with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies (or improved OCs/RMMs) are implemented in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
4. The authorisation holder and all their DUs shall ensure that the workers perform a 'fit check' of the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the granting (renewal) of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

5. Without prejudice to points 1-4 above, the authorisation holder and their DUs shall carry out and document a detailed feasibility study on:
  - a) the implementation of an automated or closed system to perform bath sampling;
  - b) the installation of a system that controls continuously the LEV and triggers



automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g., the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly;

- c) the replacement of solid Cr(VI) substances by a liquid solution, or the implementation of a closed/automated system to perform the dilution of solids (e.g. a glove box to transfer flakes to a mixing tank) and any subsequent refilling of the baths with liquid solutions (e.g., fix-piping from the containers or mixing tanks to the baths);
- d) an automated closed system to perform the chromium concentration adjustment of the treatment baths (e.g., transfer of solid CT via mechanic or pneumatic closed-transfer system, the use of liquid CT within an automated closed dosing system);
- e) the segregation of the electroplating treatment line from the other working areas at those DUs sites for which background air contamination of Cr(VI) have been detected.

The feasibility studies shall be concluded within 12 months of the granting of an authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

Section 8: monitoring arrangements for the authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 329\_ADCR\_Electroplating.

#### 4.16. 340\_ADCR\_RR\_Finish\_stripping (1 use)

**Use 1:** *Inorganic finish stripping using chromium trioxide or sodium dichromate in aerospace and defence industry and its supply chains.*

The working group discussed:

- risk levels for both the humans via the environment and the workers.

The working group supported the draft opinion as proposed by the Rapporteur.

Regarding the exposure to Cr(VI) associated with the use of chromium trioxide and sodium dichromate, the working group recommended to RAC that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk.

The working group recommended to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

Regarding the reproductive hazards associated with the use of sodium dichromate, the working group recommended to RAC that the risk assessment presented in the application demonstrates adequate control of risks from the use applied for, provided that the operational conditions and risk management measures described in the application are adhered to.

The working group supports:

Section 7: additional conditions for the authorisation

1. Manual immersion or dipping in the inorganic finish stripping treatment baths shall be replaced at all DUs' sites by systems that allow the worker to be positioned at a certain distance from the treatment bath during the immersion or dipping of the parts in the treatment bath (e.g., semi-automated process using a control device (hoist) or automated process).
2. At all DUs' sites, manual handling of solid

**Rapporteur** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteur** together with **SECR** to prepare a draft opinion on AFA 330\_ADCR\_Finish\_stripping.

**SECR** to launch RAC written consultation on the draft opinion on AFA 330\_ADCR\_Finish\_stripping.

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

chromates for measuring and weighing and the solution preparation with solid chromate shall be performed in dedicated work areas under LEV with high containment (e.g., glove box).

3. All DUs shall ensure that their workers involved in inorganic finish stripping activities (manual immersion or dipping of the parts into the treatment baths), bath sampling, bath make-ups and concentration adjustment use RPE with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies (or improved OCs/RMMs) are implemented in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
4. At all DUs' sites, the workers shall perform a 'fit check' of the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the granting (renewal) of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

Without prejudice to points 1-4 above, all DUs shall carry out and document a detailed feasibility study on:

- a) the implementation of an automated or closed system to perform bath sampling;
- b) the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g., the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly;
- c) the replacement of solid Cr(VI) substances by a liquid solution, or the implementation of a closed/automated system to perform the dilution of solids (e.g., a glove box to transfer flakes to a mixing tank) and any subsequent refilling of the baths with liquid solutions (e.g., fix-piping from the

- containers or mixing tanks to the baths);
- d) an automated closed system to perform the chromium concentration adjustment of the treatment baths (e.g. transfer of solid CT via mechanic or pneumatic closed-transfer system, the use of liquid CT within an automated closed dosing system);
  - e) the segregation of the inorganic finish stripping treatment line from the other working areas at those DUs sites for which background air contamination of Cr(VI) has been detected.

The feasibility studies shall be concluded within 12 months of the granting of an authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

The authorisation holder shall define clear criteria when the implementation of an air abatement system is considered not essential and shall be based on a well-defined measurement programme (see section 8).

Section 8: monitoring arrangements for the authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

The authorisation holder shall perform a measurement programme to define/ that justifies the criteria that the implementation of an air abatement system is not essential (see also section 7);

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 330\_ADCR\_Finish\_stripping.

#### 4.17. 341\_ADCR\_RR\_Formulation (1 use)

**Use1:** *Formulation of mixtures with soluble Cr(VI) compounds for use in aerospace and defence industry and its supply chains for surface treatments.*

The working group discussed:

- the scale of the general population exposed,
- the condition to use liquid Cr(VI) in formulation of mixtures.

The working group supported the draft opinion as proposed by the Rapporteurs.

Regarding the exposure to Cr(VI) associated with use of chromium trioxide, sodium dichromate, potassium dichromate, sodium chromate, the working group recommended to RAC that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.

The working group recommended to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

Regarding the reproductive hazards associated with the use of sodium dichromate, potassium dichromate, sodium chromate, the working group recommended to RAC that the risk assessment presented in the application demonstrates adequate control of risks from the use applied for, provided that the operational conditions and risk management measures described in the application are adhered to.

The working group supports:

Section 7: additional conditions for the authorisation

1. The authorisation holder shall ensure that the weighing / measuring / mixing of solids and liquids activities are performed in dedicated rooms under the LEV.
2. The authorisation holder shall ensure that workers involved in manual sampling of the

**Rapporteurs** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteurs** together with **SECR** to prepare a draft opinion on AFA 331\_ADCR\_Formulation

**SECR** to launch RAC written consultation on the draft opinion on AFA 331\_ADCR\_Formulation

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

vessels, cleaning, repair and maintenance use appropriate RPE during the tasks with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies are applied in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.

3. The authorisation holder shall ensure that workers perform a 'fit check' of the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the granting of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

4. Without prejudice to points 1 and 2 above, the authorisation holder shall carry out and document a detailed feasibility study on:
  - a) the replacement of solid Cr(VI) substances by a liquid solutions, or the implementation of a closed/automated system to perform the dilution of solids (e.g., a glove box to transfer flakes to a mixing vessel) and any subsequent refilling of the vessels with liquid solutions (e.g., fix-piping from the containers to the vessels) (at one site);
  - b) the implementation of a closed/automated system to perform bath sampling tasks;
  - c) the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g., the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly.

The feasibility studies shall be concluded within 12 months of the granting of an authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

Section 8: monitoring arrangements for the authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 331\_ADCR\_Formulation.

#### 4.18. 342\_ADCR\_RR\_Passivation\_metallic\_coatings (1 use)

**Use 1:** *Passivation of (non-Al) metallic coatings using chromium trioxide or sodium dichromate or potassium dichromate in aerospace and defence industry and its supply chains.*

The working group discussed:

- lack of data of air emission measurements at some sites of the authorisation holder.

The working group supported the draft opinion as proposed by the Rapporteur.

Regarding the exposure to Cr(VI) associated with use of chromium trioxide, sodium dichromate and potassium dichromate, the working group recommended to RAC that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk.

The working group recommended to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

Regarding the reproductive hazards associated with the use of sodium dichromate and potassium dichromate, the working group recommended to RAC that the risk assessment presented in the application demonstrates

**Rapporteur** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteur** together with **SECR** to prepare a draft opinion on AFA 332\_ADCR\_Passivation\_metallic\_coatings.

**SECR** to launch RAC written consultation on the draft opinion on AFA 332\_ADCR\_Passivation\_metallic\_coatings.

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

adequate control of risks from the use applied for, provided that the operational conditions and risk management measures described in the application are adhered to.

The working group supports:

Section 7: additional conditions for the authorisation

1. Manual immersion or dipping in the passivation of (non-Al) metallic coating treatment baths shall be replaced at all DUs' sites by systems that allow the worker to be positioned at a certain distance from the treatment bath during the immersion or dipping of the articles in the treatment bath (e.g., semi-automated process using a control device (hoist) or automated process).
2. At all DUs' sites, manual handling of solid chromates for measuring and weighing and the solution preparation with solid chromate shall be performed in dedicated work areas under LEV with high containment (e.g., glove box).
3. All DUs shall ensure that their workers involved in passivation of (non-Al) metallic coating activities (manual immersion or dipping of the articles into the treatment baths), bath sampling, bath make-ups and concentration adjustment use RPE with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies (or improved OCs/RMMs) are implemented in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
4. At all DUs' sites, the workers perform a 'fit check' of the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the granting (renewal) of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

Without prejudice to points 1-4 above, all DUs shall carry out and document a detailed



feasibility study on:

- a) the implementation of an automated or closed system to perform bath sampling;
- b) the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g., the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly.
- c) the replacement of solid Cr(VI) substances by a liquid solution, or the implementation of a closed/automated system to perform the dilution of solids (e.g., a glove box to transfer flakes to a mixing tank) and any subsequent refilling of the baths with liquid solutions (e.g., fix-piping from the containers or mixing tanks to the baths);
- d) an automated closed system to perform the chromium concentration adjustment of the treatment baths (e.g., transfer of solid CT via mechanic or pneumatic closed-transfer system, the use of liquid CT within an automated closed dosing system);
- e) the segregation of the passivation treatment line from the other working areas at those DUs sites for which background air contamination of Cr(VI) has been detected.

The feasibility studies shall be concluded within 12 months of the granting of an authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

The authorisation holder shall define clear criteria when the implementation of an air abatement system is considered not essential and shall be based on a well-defined measurement programme (see section 8).

Section 8: monitoring arrangements for the authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

The authorisation holder shall perform a measurement programme to define/ that justifies the criteria that the implementation of an air abatement system is not essential (see also section 7);  
 Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 332\_ADCR\_Passivation\_metallic\_coatings.

#### 4.19. 343\_ADCR\_RR\_Pre-treatments (1 use)

**Use1:** *Pre-treatments: Deoxidising, pickling, etching and/or desmutting using chromium trioxide or sodium dichromate in aerospace and defence industry and its supply chains.*

The working group discussed:

- exposure levels to Cr(VI) for line operators (WCS 1) and for the humans via the environment (default and corrected assessment factors),
- risk levels for the workers and the humans via the environment,
- conditions for the authorisation with a possible inclusion of a reference to the hierarchy of controls to Condition 1,
- enforceability of the conditions.

The working group supported the draft opinion as proposed by the Rapporteurs.

Regarding the exposure to Cr(VI) associated with use of chromium trioxide and sodium dichromate, the working group recommended to RAC that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.

The working group recommended to RAC that the operational conditions and risk management

**Rapporteurs** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteurs** together with **SECR** to prepare a draft opinion on AFA 333\_ADCR\_Pre-treatments.

**SECR** to launch RAC written consultation on the draft opinion on AFA 333\_ADCR\_Pre-treatments.

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

Regarding the reproductive hazards associated with the use of sodium dichromate, the working group recommended to RAC that the risk assessment presented in the application demonstrates adequate control of risks from the use applied for, provided that the operational conditions and risk management measures described in the application are adhered to.

The working group supports:

Section 7: additional conditions for the authorisation

1. The authorisation holder and its DUs shall implement technical improvements to the OCs/RMMs (e.g., removal of the workers from the treatment area through remote operations of hoists, covering the bath during the pre-treatments' process, segregation of treatment area from other work areas, etc.) to minimise the Cr(VI) concentration nearby the treatment bath and reduce workers' exposure to Cr(VI) at all DUs' sites.
2. The authorisation holder and its DUs shall ensure that manual handling of solid and liquid chromates for measuring and weighing shall be performed in dedicated work areas under LEV with high containment (e.g., glove box).
3. The authorisation holder and its DUs shall ensure that workers involved in surface treatment activities (dipping into the baths), bath sampling, bath make-ups and concentration adjustment use RPE with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE can be stopped if the mentioned tasks are performed under the LEV and additional technical improvements to the OCs and RMMs (automated / closed processes) are implemented at the sites or if exposure data obtained through monitoring campaigns allow concluding that the exposure is minimized to as low a level as is technically and practically possible.
4. The authorisation holder and its DUs shall ensure that workers perform a 'fit check' of

the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the renewal of authorisations for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

5. Without prejudice to points 1-4 above, the authorisation holder shall carry out and document a detailed feasibility study on:
- a) the replacement of solid Cr(VI) substances by a liquid solution, or the implementation of a closed/automated system to perform the dilution of solids (e.g., a glove box to transfer flakes to a mixing tank) and any subsequent refilling of the baths with liquid solutions (e.g., fix-piping from the containers or mixing tanks to the baths);
  - b) the implementation of a closed/automated system to perform bath sampling tasks;
  - c) the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g., the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly.

The feasibility studies shall be concluded within 12 months of the granting of an authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

Section 8: monitoring arrangements for the authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.

The working group recommended to use the same conclusions for a draft opinion on AFA 333\_ADCR\_Pre-treatments.

#### 4.20. 344\_ADCR\_RR\_Slurry\_coating (1 use)

**Use1:** *Slurry coatings using chromium trioxide in aerospace and defence industry and its supply chains.*

The working group discussed:

- high exposure of spray operators,
- limited measured exposure data,
- possibility to add the standard requirement for enhanced biomonitoring,
- how to consider uniformity of the conditions in terms of workers exposure during the manual spraying and using airbrush guns.

The working group supported the draft opinion as proposed by the Rapporteurs.

Regarding the exposure to Cr(VI) associated with use of chromium trioxide, the working group recommended to RAC that that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.

The working group recommended to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for the general population via the environment.

The working group supports:

Section 7: additional conditions for the authorisation

1. The authorisation holder and their DUs shall implement technical improvements to the OCs/RMMs (e.g., closed systems, automated stirring, automated spraying, automated loading/unloading and decanting, segregation of treatment area from other work areas, etc.) to minimise the Cr(VI) concentration nearby the slurry coating work areas and reduce

**Rapporteurs** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**SECR** to schedule the draft opinion for agreement at the RAC-68 plenary meeting.

workers' exposure to Cr(VI) at all DUs sites.

2. The authorisation holder and their DUs shall ensure that workers involved in manual slurry coating by brushing use appropriate RPE during the tasks with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies are applied in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
3. The authorisation holder and their DUs shall ensure that workers perform a 'fit check' of the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These measures shall be implemented within 12 months of the granting of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

4. Without prejudice to points 1-3 above, the authorisation holder shall carry out and document a detailed feasibility study on:
  - a) the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g. immediately work stoppage), in case the local exhaust ventilation is not functioning properly.

The feasibility studies shall be concluded within 12 months of the granting of an authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.

Section 8: monitoring arrangements for the authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.

Section 9: recommendations for the review report as given in Annex V.

The working group recommended that the draft

opinion is suitable for general agreement at the RAC plenary.

#### 4.21. 345\_ADCR\_RR\_Stainless\_steel\_passivation (1 use)

**Use1:** *Passivation of stainless steel using chromium trioxide or sodium dichromate in aerospace and defence industry and its supply chains.*

The working group discussed:

- a need to express emphasis that proper and representative monitoring data should be generated by the applicant/authorisation holder during the review period,
- to what extent all DUs fulfilled the authorisation condition to perform monitoring,
- the possible lack of communication between DUs and the applicant.

The working group supported the draft opinion as proposed by the Rapporteurs.

Regarding the exposure to Cr(VI) associated with the use of chromium trioxide and sodium dichromate, the working group recommended to RAC that the operational conditions and risk management measures described in the review report are not appropriate and effective in limiting the risk for the workers.

The working group recommended to RAC that the operational conditions and risk management measures described in the review report are appropriate and effective in limiting the risk for humans via the environment.

Regarding the reproductive hazards associated with the use of sodium dichromate, the working group recommended to RAC that the risk assessment presented in the application demonstrates adequate control of risks from the use applied for, provided that the operational conditions and risk management measures described in the application are adhered to.

The working group supports:

**Rapporteurs** together with **SECR** to edit the draft opinion according to the discussion of the working group.

**Rapporteurs** together with **SECR** to prepare a draft opinion on AFA 334\_ADCR\_Stainless\_steel\_passivation.

**SECR** to launch RAC written consultation on the draft opinion on AFA 334\_ADCR\_Stainless\_steel\_passivation.

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting.

Section 7: additional conditions for the authorisation

1. The authorisation holder and their DUs shall implement technical improvements to the OCs/RMMs (e.g., removal of the workers from the treatment area through remote operations of hoists, covering the bath during the passivation process, segregation of treatment area from other work areas, etc.) to minimize the Cr(VI) concentration nearby the treatment bath and reduce workers' exposure to Cr(VI) at all DUs sites.
2. The authorisation holder and their DUs shall ensure that the weighing / measuring / mixing of solids and liquids is performed in dedicated rooms under the LEV.
3. The authorisation holder and their DUs shall ensure that workers involved in manual dipping/immersion, sampling of the baths, manual touch-up activities, bath make-up and addition use appropriate RPE during the tasks with due consideration for the duration of the tasks and the comfort of the workers during their use. The use of RPE could stop if state-of-the-art technologies are applied in the facilities and exposure data obtained through monitoring campaigns allow concluding that the exposure is minimised to as low a level as is technically and practically possible.
4. The authorisation holder and their DUs shall ensure that workers perform a 'fit check' of the seal of their RPE before taking on relevant tasks and workers shall be trained to do this test adequately.

These conditions shall be implemented within 12 months of the granting of an authorisation for this use and be followed by a measurement campaign to validate the effectiveness of the applied technical improvements.

5. Without prejudice to points 1-4 above, the authorisation holder and their DUs shall carry out and document a detailed feasibility study on:
  - the replacement of solid Cr(VI) substances by a liquid solutions, or the implementation of a closed/automated system to perform the dilution of solids (e.g. a glove box to transfer flakes to a mixing tank) and any subsequent refilling



<p>of the baths with liquid solutions (e.g. fix-piping from the containers or mixing tanks to the baths);</p> <ul style="list-style-type: none"> <li>• the implementation of a closed/automated system to perform bath sampling tasks;</li> <li>• the installation of a system that controls continuously the LEV and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g. the shutdown of the relevant Cr(VI) treatment bath(s)), in case the local exhaust ventilation is not functioning properly.</li> </ul> <p>The feasibility studies shall be concluded within 12 months of the granting of an authorisation for this use. In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented and reviewed during the review period.</p> <p>Section 8: monitoring arrangements for the authorisation as given in Annex V. with additional clarification that the authorisation holder and its DUs shall continue to implement the monitoring programmes listed in section 8 at all sites.</p> <p>Section 9: recommendations for the review report as given in Annex V.</p> <p>The working group recommended that the draft opinion is suitable for general agreement at the RAC plenary.</p> <p>The working group recommended to use the same conclusions for a draft opinion on AFA 334_ADCR_Stainless_steel_passivation.</p>	
<b>4.22. 346_CT_Safran_landing_systems (2 uses)</b>	
<p><b>Use1:</b> <i>Industrial use of chromium trioxide for hard chrome plating to provide key functional properties such as wear resistance (...) in the manufacturing of landing and braking system parts for aeronautical applications exclusively supplied by Safran Landing Systems without technical limitations with the identified alternative.</i></p>	<p><b>Rapporteur</b> together with <b>SECR</b> to edit the draft opinion according to the discussion of the working group.</p> <p><b>Rapporteur</b> together with <b>SECR</b> to split draft opinions.</p>

**Use2:** *Industrial use of chromium trioxide for hard chrome plating in the manufacturing and the repairing of landing gear parts exclusively supplied by Safran Landing Systems and for which there is not yet potential alternatives identified as part of the substitution process.*

The working group discussed:

- representativeness of the exposure assessment based on limited data from number of sites,
- big variety of RMMs and OCs between sites,
- concerns related to manual sludge removal from baths and the waste management,
- use of mist suppressants,
- hard deadline to implement additional conditions for the authorisation.

The working group supported the draft opinion as proposed by the Rapporteur.

The working group recommends to RAC that the operational conditions and risk management measures described in the application are:

- not appropriate and effective in limiting the risk to the workers;
- appropriate and effective in limiting the risk to the general population via the environment at all sites (with the exception of site K).

The working group supports:

Section 7: additional conditions for the authorisation

1. The applicant shall implement within 12 months of the granting of an authorisation technical improvements to the OCs and RMMs at the manual plating lines (e.g. automated and/or closed systems to perform the dipping/immersion of the parts, reconfiguration/redesign to remove loading and unloading from the plating area, bath coverage, use of mist suppressant without PFAS content and physical segregation or removal of the workers from the plating area through remote operations of hoists, etc), followed by a measurement campaign to validate the effectiveness of the applied

**SECR** to schedule both draft opinions for agreement at the RAC-68 plenary meeting via the A-listing procedure.

technical improvements.

2. Until the implementation of the additional OCs and RMMs, the applicant shall ensure that workers involved in chrome plating activities, use appropriate and properly fit-tested RPE, with due consideration for the duration of the tasks and the comfort of the workers during their use.
3. Without prejudice to points 1 and 2 above, the applicant shall carry out and document a detailed feasibility study on:
  - a. the substitution of solid  $\text{CrO}_3$  by liquid solutions of  $\text{CrO}_3$  (at 9 sites) to further limit exposure,
  - b. the implementation of an closed and/or automated system to perform the bath concentration adjustment including preparation of functional Cr(VI) solutions and re-filling of baths (at all 11 sites) (e.g. fix-piping from the containers or mixing tanks, to the plating baths),
  - c. the implementation of a closed/automated system to perform bath sampling (at all sites), where exposure to Cr(VI) is foreseen and which currently rely on the use of PPE,
  - d. the applicant shall carry out and document a detailed feasibility study for all sites except for site G on the installation of a system that controls continuously the local exhaust ventilation and triggers automatically an alarm and appropriate and effective measures to reduce the exposures to workers (e.g. the shutdown of the relevant Cr(VI) plating bath(s)), in case the local exhaust ventilation is not functioning properly
  - e. the implementation of additional measures for heavy and rare maintenance tasks performed under WCS 6 to further reduce the exposure of workers, considering the hierarchy of control principles, such as improved cleaning practices to minimise the exposure to Cr(VI) (e.g., reduce it to Cr(III) before workers can enter the bath to remove the sludge and remaining liquid or removing of the sludge by vacuum).

The feasibility study shall be concluded within 12 months of the granting of an authorisation for this use.

In accordance with the conclusion of the feasibility study, OCs and RMMs to further reduce workplace exposure to Cr(VI) to as low a level as technically and practically feasible must be implemented all across the sites and reviewed during the review period.

4. The applicant shall take further action related to the air emissions of the **site K**:

- a. At the latest within three months of the granting of an authorisation for this use, the applicant shall conduct a measurement campaign on all emission points for emissions of Cr(VI) to air at the **site K**. This campaign shall be conducted in accordance to section 8.1, paragraph 1.b)iii.
- b. The applicant shall carefully analyse the results of the measurement campaign and recalculate the release factor for the air of the **site K**.
  - i. A release factor of a same level of magnitude or lower than the one derived for the other sites shall be achieved;
  - ii. If the release factor is not of the same level or lower than for the other sites, the applicant shall conduct a root cause analysis for the difference and implement immediately appropriate actions to improve the situation in terms of achieving a higher level of efficiency of the applied OCs and RMMs at the site for air release control. If necessary, additional RMMs shall be implemented to further reduce these releases to as low a level as technically and practically feasible.
  - iii. Control measurements shall be conducted to confirm the impact of any action. The “control measurement – analysis – action” cycle shall be continued until a release factor of the same level of magnitude or lower than at the other sites is achieved.

All of the actions taken shall be reviewed during the review period.

Section 8: monitoring arrangements for the authorisation as given in Annex V.

Section 9: recommendations for the review report as given in Annex V.

<p>The working group recommends that the draft opinion is suitable for consideration via the A-listing procedure.</p>	
<b>4.23. 347_CT_Safran_Aircraft_Engines (1 use)</b>	
<p><b>Use1:</b> <i>Industrial use of slurry mixtures containing chromium trioxide for the surface treatment of aircraft engines parts including turbines and compressors.</i></p> <p>The working group discussed:</p> <ul style="list-style-type: none"> <li>- possibility or condition to use CMR substance in spraying cabin with direct exposure of workers,</li> <li>- lack of measurements for WCS 6,</li> <li>- way to address during the presentation of the DO members written comments,</li> <li>- possibility to propose the hard condition to fully automatise the process.</li> </ul> <p>The working group recommends to discuss at the RAC plenary the full opinion after update following the discussion at the working group meeting.</p>	<p><b>Rapporteur</b> together with <b>SECR</b> to edit the draft opinion according to the discussion of the working group.</p> <p><b>SECR</b> to schedule the draft opinion for agreement at the RAC-68 plenary meeting.</p>

**Annex II**

6 February 2023  
RAC WG/A/18/2024  
Final

**Agenda**

**Meeting of the Committee for Risk Assessment Applications for  
Authorisation Working Group  
(RAC AFA WG) reporting to RAC-68**

**6 - 7 February 2024**

**WebEx meeting**

**Tuesday 6 February starts at 10:00  
Wednesday 7 February ends at 15:00**

***Times are Helsinki times***

**Item 1 – Welcome and Apologies**

**Item 2 – Adoption of the Agenda**

***RAC WG/A/18/2024  
For adoption***

**Item 3 – Declarations of conflicts of interest to the Agenda**

**Item 4 – Authorisation applications**

1. 325\_ADCR\_Anodise\_sealing
2. 326\_ADCR\_Anodising
3. 327\_ADCR\_Chemical\_conversion\_coating
4. 328\_ADCR\_Chromate\_rinsing
5. 329\_ADCR\_Electroplating
6. 330\_ADCR\_Finish\_stripping
7. 331\_ADCR\_Formulation
8. 332\_ADCR\_Passivation\_metallic\_coatings
9. 333\_ADCR\_Pre-treatments
10. 334\_ADCR\_Stainless\_steel\_passivation
11. 335\_ADCR\_RR\_Anodising
12. 336\_ADCR\_RR\_Anodise\_sealing

13. 337\_ADCR\_RR\_Chemical\_conversion\_coating
14. 338\_ADCR\_RR\_Chromate\_rinsing
15. 339\_ADCR\_RR\_Electroplating
16. 340\_ADCR\_RR\_Finish\_stripping
17. 341\_ADCR\_RR\_Formulation
18. 342\_ADCR\_RR\_Passivation\_metallic\_coatings
19. 343\_ADCR\_RR\_Pre-treatments
20. 344\_ADCR\_RR\_Slurry\_coating
21. 345\_ADCR\_RR\_Stainless\_steel\_passivation
22. 346\_CT\_Safran\_landing\_systems
23. 347\_CT\_Safran\_Aircraft\_Engines

***For discussion***

**Item 5 – AOB**

1. AfA horizontal issues

***For discussion***

**Item 6 – Adoption of the Report from the WG**

***For discussion and adoption***

### Annex III

#### List of participants of the 18<sup>th</sup> Meeting of the RAC AFA working group

<b><u>RAC Members</u></b>	<b><u>European Commission</u></b>
Angeli Karine	Dunauskiene Lina
Barański Bogusław	Roebben Gert
Brovkina Julija	
Chiurtu Elena Ruxandra (co-opted)	<b><u>RAC Regular Stakeholders</u></b>
Christodoulou Sotirios	Janosi Amaya
Devilleer Geneviève (co-opted)	
Docea Anca Oana	<b><u>ECHA</u></b>
Esposito Dania	Atanasova Marina
Hoffmann Frauke	Etholen Anita
Klőslova Zuzana	Lefevre Remi
Leinonen Riitta	Lehto Hürlimann Mikko
Manusadžianas Levonas	Logtmeijer Christiaan
Menard Srpčič Anja	Loukou Christina
Rodriguez Wendy	Ludborzs Arnis
Schlüter Urs	Mäkelä Petteri
Stalter Daniel	Nicot Thierry
Wildemann Tanja	Niemela Helena
Tobiassen Lea	Nurmi Väinö
Uzomeckas Zilvinas	Peltola Jukka
van der Haar Rudolf (co-opted)	Pillet Monique
Viegas Susana	Portugal Laura
	Regil Pablo
<b><u>Members' advisers</u></b>	Scazzola Roberto
Beetstra Renske (adv. to Gerlienke Schuur)	Schakir Yasmin
Saksa Jana (adv. to Raili Moldov)	Sosnowski Piotr
Granato Giuseppe (adv. to Dania Esposito)	Tarvainen Emma
Jankowska Agnieszka (adv. to Peczkowska Beata)	Thierry-Mieg Morgane
Moilanen Marianne (adv. to Leinonen Riitta)	
Panieri Emiliano (adv. to Esposito Dania)	Salo Marta
Smith Jenny (adv. to Murray Brendan)	Wilk Mateusz



### Declaration of potential conflicts of interest

The following participants, including those for whom the Chair declared the interest on their behalf, declared potential conflicts of interest with the Agenda items (according to Art 9 (2) of RAC RoPs)

AP/Dossier / DS	RAC Member	Reason for potential CoI / Working for
<b>ALREADY DECLARED AT PREVIOUS RAC AFA WORKING GROUP MEETING(S)</b>		
<b>Applications for Authorisation</b>		
<b>All chromates</b>	Urs SCHLUTER	Institutional & personal involvement; asked to refrain from voting in the event of a vote on this group of substances - other mitigation measures may be applied by the Chair.

**Standard text for Section 8: monitoring arrangements for the authorisation and Section 9: recommendation for the review report.**

**Section 8: monitoring arrangements for the authorisation**

1. The applicant shall implement the following monitoring programmes for Cr(VI):
  - (a) Occupational inhalation exposure monitoring programmes, which shall:
    - (i) be conducted at least annually. The frequency of the measurements should be sufficient to capture any potential increase in exposure of workers to Cr(VI).
    - (ii) be based on relevant standard methodologies or protocols;
    - (iii) ensure a sufficiently low limit of quantification;
    - (iv) comprise personal and/or static inhalation exposure sampling;
    - (v) be representative of:
      - a. the full range and duration of tasks undertaken where exposure to Cr(VI) is possible;
      - b. the OCs and RMMs typical for each of these tasks;
      - c. the number of workers potentially exposed;
    - (vi) include contextual information about the tasks performed during sampling.
  - (b) Environmental releases:
    - (i) the applicant shall continue conducting their (or “implement a”) monitoring programme for Cr(VI) emission to wastewater;
    - (ii) the applicant shall conduct air emission measurements at least annually or more frequently following any possible changes in the process;
    - (iii) the monitoring programmes for wastewater and air emissions shall:
      - a. be based on relevant standard methodologies or protocols; and
      - b. be representative of the OCs and RMMs used at the applicant’s site.
      - c. ensure a sufficiently low limit of quantification.
2. The information gathered via the measurements referred to in paragraph 1 and related contextual information shall be used annually by the applicant to confirm the effectiveness of the RMMs and OCs in place and, if needed, to introduce measures to further reduce workplace exposure to Cr(VI) and emissions to the environment to as low a level as technically and practically feasible. While doing so, the applicant shall also review and, if needed, update their assessment of the combined exposure for the different groups of workers.
3. The applicant shall use the monitoring results to further ensure that the application of RMMs at their site is in accordance with the hierarchy of control principles.
4. The information from the monitoring programmes referred to in paragraph 1, including the contextual information associated with each set of measurements as well as the outcome and conclusions of the review and any action taken in accordance with paragraph 2, shall be documented, maintained and be made available by the applicant, upon request, to the competent national authority of the Member State where the authorised use will take place.

5. The applicant may reduce the frequency of measurements, once they can demonstrate to the competent authority of the Member State where the use takes place, that exposure of humans (i.e. workers and general population) has been reduced to as low a level as technically and practically possible and that the risk management measures and operational conditions corresponding to the specific exposure scenarios developed in the chemical safety report function appropriately.
6. Where the frequency of a monitoring programme has been reduced in accordance with paragraph 5, any subsequent changes to the operational conditions or risk management measures that may affect the exposure of workers and humans via the environment at each of the sites where the use takes place shall be documented. The applicant shall assess the impact of such changes by monitoring to demonstrate that exposure of workers continues and humans via the environment to be reduced to as low a level as technically and practically possible
7. The applicant shall continue their existing [annual] biomonitoring programme for the workers potentially exposed to Cr(VI).

**Section 9: recommendation for the review report.**

The results of the feasibility study as mentioned in section 7 and the measurements referred to in section 8.1 as well as the outcome and conclusions of the review and any actions taken in accordance with section 8.1 should be documented and included in any subsequent authorisation review report