



## **STEEL FOR PACKAGING – REACH COMPLIANT AND IN TRANSITION TO CHROME-VI FREE PASSIVATION**

### **1. WHAT IS THIS Q&A ABOUT?**

APEAL members and its value chain have proactively taken the initiative to ensure Steel for Packaging availability in Europe in response to the European REACH regulation.

*Last updated: 17/10/2022*

### **2. WHAT IS REACH?**

REACH stands for Registration, Evaluation, Authorisation (and Restriction) of Chemicals. It is a wide ranging and far-reaching EU chemicals regulation that aims to ensure the protection of human health and the environment from the use of chemicals, while ensuring good functioning of the EU internal market.

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### **3. WHY DO I NEED TO KNOW ABOUT REACH?**

One of the processes under REACH is the Authorisation process which focusses on the use of Substances of Very High Concern (SVHC).

A number of chromium VI compounds were added to REACH Annex XIV that lists substances subject to Authorisation in Europe, with a Sunset Date of 21 September 2017.

Some of these substances are standards for use in the passivation of tinplated steel (ETP) and in electrolytic chrome coated steel (ECCS) and are used for this purpose all over the world.

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### **4. WHAT IS AUTHORISATION?**

As noted above, Authorisation is one of the processes under REACH that deals with SVHC.

In this process, the EU aims to, after a specific date, ensure that uses of these SVHC substances in Europe is prevented unless the use has been approved/authorised by the European Commission and the Member States. Practically, the use of chromium VI will be, therefore, limited to specifically authorised uses in Europe.

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## **5. A HAZARDOUS SUBSTANCE IS USED IN MAKING THE STEEL for PACKAGING, IS THERE ANY REMAINING ON THE PRODUCT?**

There is no chromium VI on the surface or in the final tinsplate product or steel cans.

Indeed, in nature chromium exists in the vast majority of cases in other forms, like chromium III (trivalent chrome) or chromium 0, which do not have the same properties, or cause the same health issues, as chromium VI.

Chromium VI is used under specific conditions and according to the highest safety and environmental standards in European Steel for Packaging production plants which means that chromium VI is converted to other forms of chromium.

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## **6. HOW DOES THE AUTHORISATION PROCESS WORK?**

An application for continued use of an SVHC substance is prepared either individually or jointly by the manufacturers, importers (upstream) or users (downstream) of the substance. This is then submitted to the European Chemicals Agency (ECHA) who analyse the application and provide an Opinion based on scientific evidence.

Two large, upstream Authorisation dossiers were submitted for the use of chromium VI substances (1 for chromium trioxide and 1 for sodium dichromate), covering uses in a multitude of different and diverse industries, like aerospace, defence, decorative coatings, etc. covering many hundreds of companies. Some of the uses in these applications are specific to Steel for Packaging.

In the Opinion from ECHA<sup>1</sup> they agreed with the information provided in the dossier, and recommended to the Commission that the requested Authorisation be granted for the Steel for Packaging uses. The review period sought was 4 years and this was reflected in the ECHA Opinion.

This Opinion was then passed on to the European Commission who had to prepare a Decision based on ECHA's work and their own analysis. This draft Decision then needed approval from the Member States in a committee called the REACH Committee.

Once the Member States vote, and agree with the Commission, then the Commission takes the Decision and publishes it as law in the EU.

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<sup>1</sup> <https://echa.europa.eu/documents/10162/ab92f048-a4df-4d06-a538-1329f666727a> and <https://echa.europa.eu/documents/10162/a5f155f8-4bc9-65f0-9f9a-f55003a4ec8e>



## **7. YOU SAID THE SUNSET (BAN) DATE WAS THE 21<sup>ST</sup> OF SEPTEMBER 2017. HOW CAN YOU CONTINUE USING THIS IN THE STEEL for PACKAGING PROCESS?**

There is a mechanism within the REACH Authorisation process (Transitional Arrangements) that allows the continued use of an SVHC substance after the Sunset Date. APEAL members are, consequently, allowed to continue to use chromium VI until a Decision has been made by the European Commission and agreed by the Member States.

Decisions, once made, then become EU law and the users of the SVHC substance must abide by any conditions set-out in the Authorisation Decision.

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## **8. SO APEAL MEMBERS WILL BE NAMED ON THIS APPLICATION?**

No. APEAL members are downstream users of the hexavalent chromium substances in these applications. Only the names of the companies that actually applied will be listed in the Decision.

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## **9. WHAT IS THE CURRENT SITUATION WITH THE DECISION?**

Two large, upstream Authorisation dossiers mentioned in Q6 above; 1 for sodium dichromate and 1 for chromium trioxide covering uses specific to Steel for Packaging, separately:

Sodium Dichromate:

- For the application covering sodium dichromate, there was a positive vote in the REACH Committee in September 2019. The corresponding Decision was published on the 21st of April 2020 and states that the **Review Period** (length of additional time authorised for the use of sodium dichromate) **runs until 14th of April 2024**<sup>2</sup> for the Steel for Packaging use (ETP).

Chromium Trioxide:

- The Decision for the application covering chromium trioxide was published in the Official Journal of the European Union on the 23<sup>rd</sup> of December 2020 specifying a **Review Period** for the use of chromium trioxide in Steel for Packaging uses (ETP and ECCS) until **21st September 2024**.<sup>3</sup>

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<sup>2</sup> <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52020XC0421%2803%29&qid=1610442968311>

<sup>3</sup> [https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC1223\(01\)&qid=1610371981902&from=EN](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52020XC1223(01)&qid=1610371981902&from=EN)



Consequently, APEAL members will still legally use chromium VI compounds in their ETP processes until the alternative – CFPA – has been qualified for use. As a result, there should be no interruption in the supply of Steel for Packaging material.

The European Steel for Packaging industry will regularly update its customers on developments.

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#### **10. SO, WE CAN CONTINUE AS BEFORE?**

No.

REACH Authorisation is difficult to achieve and is always time-limited.

The aim of the Regulation is to ensure that the use of *ALL* SVHC substances is eventually stopped in the EU. The REACH Risk Management processes (Authorisation and Restriction) are designed to allow time for industries to transition to an alternative.

That is why APEAL members have invested heavily in developing an alternative process to the use of chromium VI in tinplate passivation.

The alternative to the current industry standard is a chrome-free passivation technology. This new technology is called **CFPA: Chromium-Free Passivation Alternative**. CFPA will be used by APEAL members in the future for tinplate passivation.

#### **11. WE NOW MUST GAIN PRACTICAL EXPERIENCE IN THE PACKAGING CHAIN**

The Steel for Packaging and can-making industries are committed to only introduce fully qualified material to the market. The four years review period granted by the EU Commission, should be used for that purpose. All necessary resources have been allocated by APEAL members to avoid market disruption and achieve a smooth transition to the alternative CFPA technology.

It is, therefore, incumbent on all stakeholders in the Steel for Packaging value chain to fully engage and ensure a seamless transition to this innovative technology.

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#### **12. BUT WHAT IF WE ARE NOT IN A POSITION TO MOVE ALL OUR PRODUCTION AWAY FROM 300/311 BY THE END OF 2024**

In consultation with our value chains, APEAL members are aware of the need to perform pack testing that can last for up to 5-years for some food fillings. In addition, there may be a need to reformulate some coating systems that are currently in use such that they perform in an equivalent way with CFPA material.

**APEAL –  
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Avenue Ariane 5  
1200 Brussels  
Belgium



Consequently, **ALL APEAL members** have applied for their own Authorisations with a **Review Period until the end of 2027 for ETP** in a Wave 2 Authorisation. Applications for Wave 2 have been made individually by APEAL members, in-line with that individual APEAL member company's application strategy. Consequently, these applications are at slightly different stages in the Authorisation process.

Several APEAL members have already received decisions on these applications from the Commission, affirming the end of 2027, while others will see their Decisions taken in Q1 of 2024.

The review period requested in those Applications for Authorisation corresponds to the estimated time sufficient for the whole substitution process to be complete at all levels of the supply chain, taking into account the need for lacquer reformulation for a limited number of applications.

This timeline supposes active engagement of all involved actors during the whole qualification and substitution process.

In order to achieve this there will need to be a gradual substitution to CFPA affecting all product categories. Such a shift in volume to CFPA will allow APEAL members to move forward with line conversions to effectively manage the expected increasing demand for CFPA.

Considering also that not all product categories are dependent on 4-years pack-tests, certain volumes may be switched as soon as they have completed their validation.

While a very few lines may still be in a position to produce 300/311 up to 2027, overall 300/311 capacity will, very soon, be significantly reduced in order to allow for the transition to CFPA .

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### **13. THE MAJORITY OF THE CFPA PACK TESTS ARE SUCCESSFUL BUT SOME CHALLENGES STILL EXIST**

The introduction of CFPA is a fundamental change to the steel for packaging substrate. Consequently, an enormous effort has been underway at all levels of the value chain in order to ensure that the material meets the high level of safety that is currently expected of steel for packaging. These efforts are on-going with manufacturing experience being built-up.

Metal Packaging Europe members have been extensively testing the CFPA substrate in hundreds of pack-tests of products such as food and general line cans, aerosols and other packaging (e.g. closures for glass jars).

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Avenue Ariane 5  
1200 Brussels  
Belgium



Based on these results, it has been possible to obtain an overview of the CFPA behaviour across the metal packaging portfolio which shows that the vast majority of the pack tests are successful.

However, as with the development of any new technology, some challenges still exist. These challenges are being addressed cooperatively by the value chain and it is expected that these will be overcome before the end of the Wave 2 review period. This work includes the development of specific coatings for CFPA material which, it is anticipated, will address these remaining challenges.

The aim of all of these developments is to ensure the continued supply of high quality material with equivalent levels of performance and safety to the current material for all food fillings.

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#### **14. WHAT IS THE LATEST INFORMATION ON THE STATUS OF CHROMIUM TRIOXIDE**

The Commission considers that the current approach envisaged for regulating Cr(VI) substances through Authorisations is no longer appropriate to control the risk to human health posed by these substances.

One of the main motivations for this is the fact that there are too many applications for Authorisation for these substances, which is causing difficulties in processing and taking too much time away from addressing the concerns of other hazardous substances.

Consequently, the Commission has requested that ECHA prepares an Annex XV dossier for the Restriction of chromium trioxide and chromic acid. The aim of Restriction is also the removal from use of SVHC substances. This aim, therefore, has not changed and APEAL members still need to substitute and can-makers still need to move forward with qualification of CFPA.

Practically the implications for APEAL members is that, as the substances will be removed from the Authorisation list and will be placed on the Restriction list, **there will be no possibility to apply for a Wave 3 Authorisation.**

**Substitution to CFPA, therefore, needs to be complete as soon as possible and before end-2027 at the very latest. Can-makers should already substitute to CFPA for those product categories that are already qualified in order to build-up production experience and ensure higher production volumes of CFPA.**

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#### **15. APEAL MEMBERS ARE IN POSITION TO OFFER CHROMIUM FREE ALTERNATIVE**

All of the APEAL members' tin mills with tinning lines operating in the European Union (Acciaierie d'Italia, ArcelorMittal, Tata Steel, thyssenkrupp Rasselstein and U.S. Steel Košice) are able to produce the chromium free alternative material. In addition, all APEAL members actively participate and engage in the CFPA development process.

<https://www.apeal.org/publication/chrome-free-passivation-alternative-brochure>

In response to steel packaging customers' demand for equivalent surface qualities across the industry, APEAL members' will continue to cooperate with MPE members and share any relevant developments on CFPA-related technical work. APEAL members have also integrated CFPA into the relevant EuroNorm for tinplate (EN 10202-2022). In addition, references to CFPA has been included in the relevant ASTM standards in the USA and will also be included in the ISO 11949.

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#### **16. THE CHROMIUM FREE ALTERNATIVE (CFPA) IS FOOD CONTACT-COMPLIANT**

Compliance of CFPA with food contact regulations for human food in Europe is confirmed in Mercosur and China. We have also obtained FDA Food Contact Notification for human food and dry infant formula to cover USA.

For more information, please contact the APEAL secretariat.

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