

# MPTB and REACH update for ESCCON 2023

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# Outline

## Update on MPTB status

- Introduction to MPTB
- MPTB composition, task forces and working groups



## Update on REACH and other regulations

- REACH Status Summary
- REACH in Numbers
- Example: Lead Metal
- Individual WGs in focus
- Current Challenges beyond REACH



# MPTB OVERVIEW



**Materials and Processes Technology Board** of the European Space Components Coordination (ESCC MPTB). The ESCC MPTB is a partnership between the **European Space Agency (ESA)**, **national space agencies**, and the European space industry represented by **ASD-EUROSPACE** members; it is chaired at present by ESA. The European Defence Agency (EDA), Leonardo and MAP Space coatings as observers.

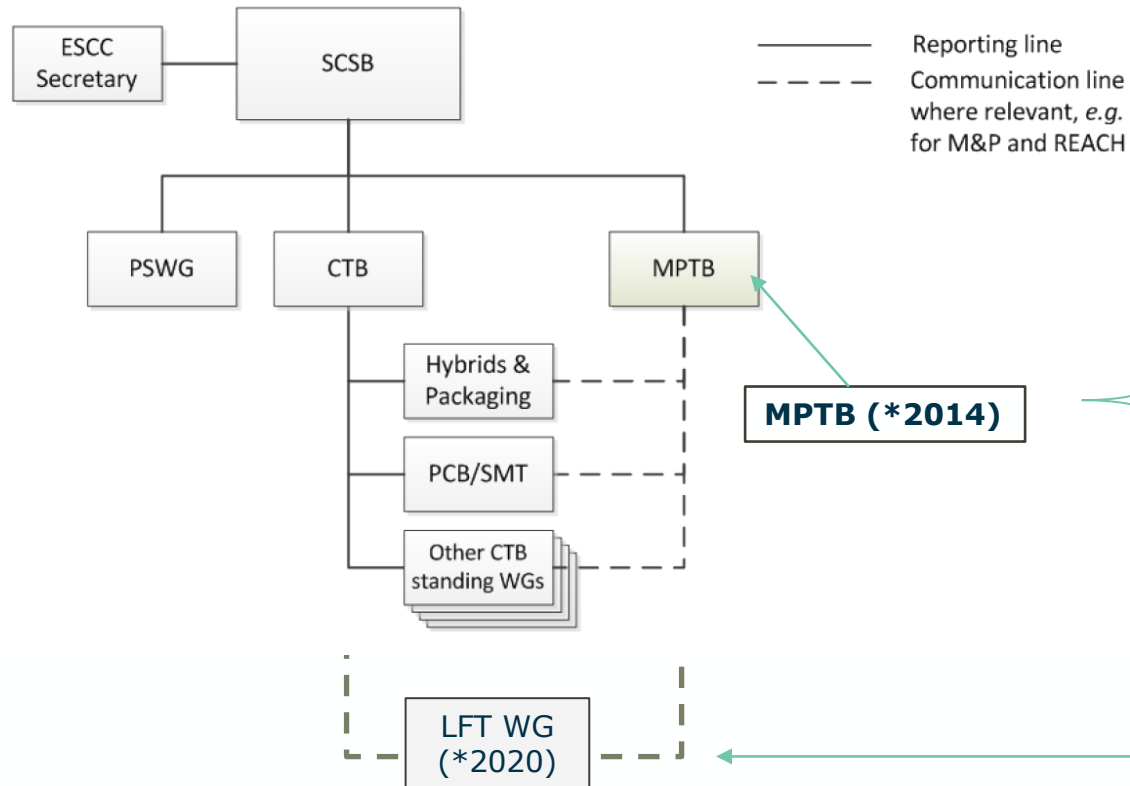
- ❑ Exchange of information on Materials and Processes.
- ❑ **Prepare roadmaps and work plans** for R&D activities aiming to secure the use of existing or new materials and processes in future space programmes
- ❑ **Reduce dependence on non-European supplies** and promote the use of European technologies
- ❑ **Improve awareness** of the legislative processes (e.g. REACH) and of its consequences in order to coordinate preventive and corrective actions covering all space applications
- ❑ Monitor the **stability of supply chains** and mitigate obsolescence risks
- ❑ Promote **synergy** with other research or industrial groups
- ❑ Promote the **optimisation** of available resources, e.g. in the areas of standardisation, qualification and testing.

# MPTB organisation and groups

MPTB Chair: P. Janik/ESA

MPTB Deputy Chair: T. Ziegler/ArianeGroup

Main distribution: 80+ members, 20+ entities



## Working groups and Task Forces:

- ❑ **Chromate** TF (STF), T. Becker/ReachLaw
- ❑ **Lead** TF (LTF), T. Becker/ReachLaw
- ❑ **Waste Framework Directive** (WFD TF), T. Becker/ReachLaw
- ❑ **Energetic materials** WG (EMWG) – including also former scope of Hydrazine TF (HTF), T. Becker/ReachLaw
- ❑ **Chem. Strategy for Sustainability** SFG, T. Becker/ReachLaw
- ❑ **NEW REACH Restrictions Task Force** (RTF), including “universal” PFAS and bisphenols, T. Becker/ReachLaw
- ❑ **Obsolescence** Splinter Group (OSG), CNES/ESA
- ❑ **ESMDB** Steering Board, A. Graham/ESA
- ❑ **Long Term Storage** Splinter Group (LTS J. Geary/ESA)
- ❑ **Materials Space Environmental Survivability** WG (A.Tighe/ESA),
- ❑ Composite splinter (not active)

## CTB/MPTB shared WGs:

- ❑ **Lead-free transition** WG (LFT WG), G. Corocher/ESA

# REACH STATUS SUMMARY



# REACH Update by Numbers in 2023 (as of January)

Registration, Evaluation, Authorisation and Restriction of Chemicals

- ❑ EU REACH Registered substances: **>20,000**
- ❑ EU REACH registrations: **>100,000**
- ❑ ECHA's Cand. List -Substances of Very High Concern (SVHCs): **233 (479 ref. substances)**
- ❑ REACH Annex XIV –Authorization list: **59**
- ❑ REACH Annex XVII – chemical(s)-specific restrictions: **71 (multiple substance entries)**

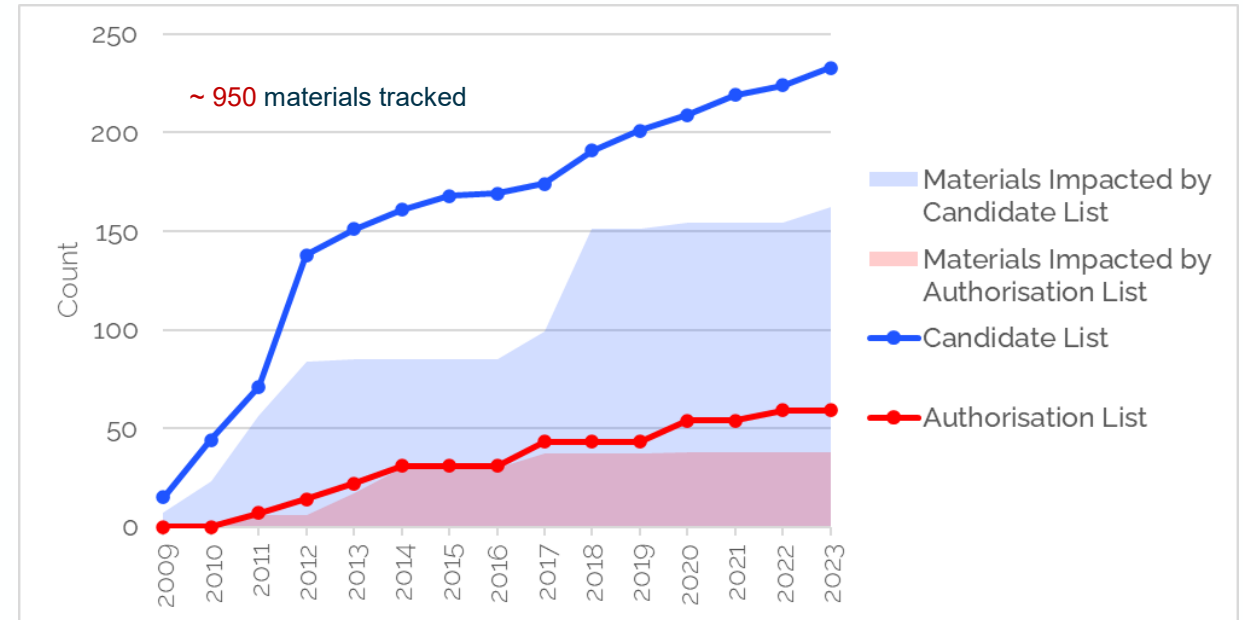


Figure 1. Evolution of entry count in relevant REACH lists and subsequent space relevant materials impact of over time, based on the bill of materials in the ESA REACH Tool.

**>150** relevant materials affected

- ❑ OSG/REACH Tool analysis resp. points at
  - ❑ **15%** of active materials impacted by Candidate List
  - ❑ **13** REACH Annex XIV entries hit space-relevant materials,
  - ❑ **37** materials/mixtures with highest risk of obsolescence
- ❑ Analysis of Annex XVII impact on space sector ongoing



# EXAMPLE OF SVHC:

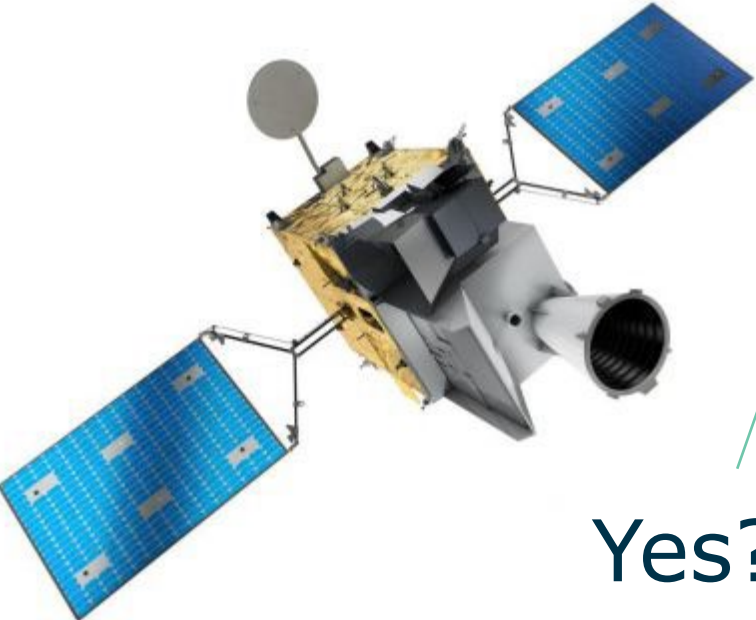


# Example of REACH-affected Manufacturing Processes



Are there any materials\* with Candidate List SVHCs\*\* c>0.1% w/w?

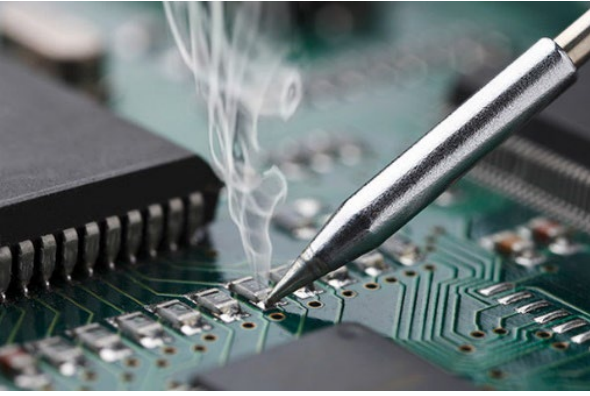
\*"Articles" as defined in REACH Art. 3(3)



Yes?

Arbitrary examples (Art. 33 declaration & WFD/SCIP reporting):

- Solar arrays – Cr<sup>6+</sup> based primers
- Pyro valves – phthalates
- PCDUs – B<sub>2</sub>O<sub>3</sub> contained in insulators
- ...
- Electronic units – lead in solders



\*\*SVHC- Substance of Very High Concern



# Lead metal

## REACH Regulatory Status and Outlook

Current baseline: Reporting on presence in articles  $c > 0.1\%$  w/w (REACH Art. 33(1) & WFD/SCIP); OEL revision (*COM proposal of 13.2. available*) and specific REACH Restrictions

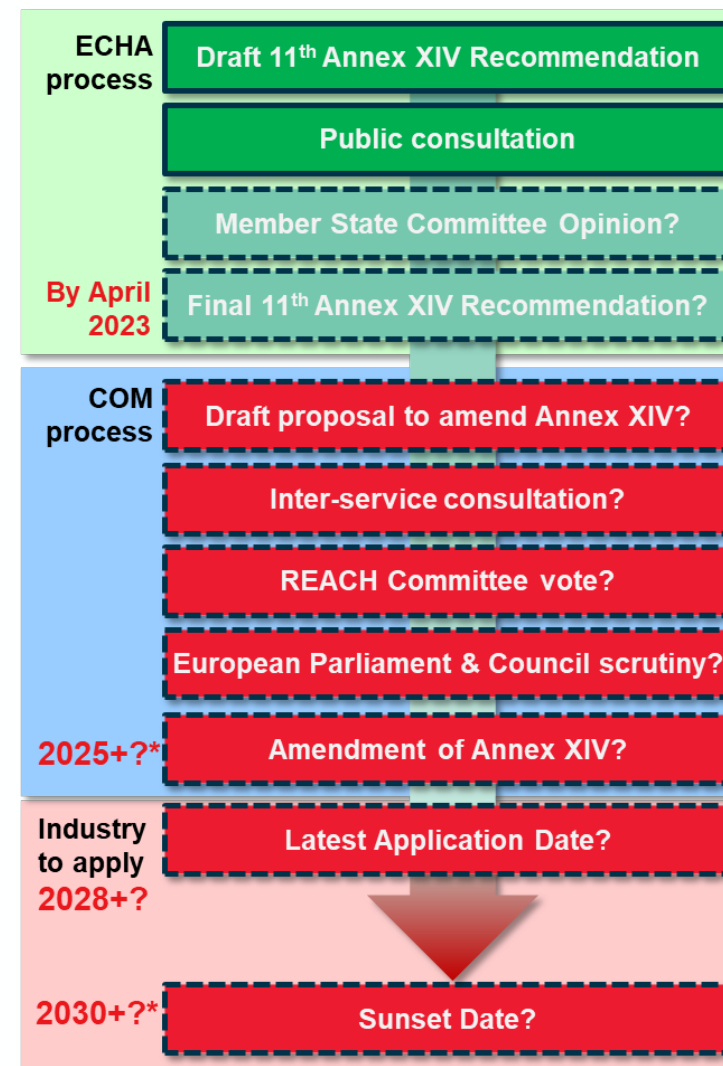
### Likelihood of REACH Annex XIV inclusion?

- ❑ Numerous steps ahead (see diagram) – **No automatism!**
- ❑ Further uncertainties mainly due to on-going REACH Revision (incl. Authorisation & Restriction Reform)

*In case of Annex XIV inclusion*: Good case for authorisation of space applications without alternatives could be made, but **disproportionate impact and efforts expected** (up to 200+ AfAs for soldering only!)

**NOTE: No REACH authorisation requirement for lead today nor decided – but substitution pressure is increasing**

### REACH Authorisation – next steps



\*Worst case timeline

# MPTB & CTB / Lead-free Transition Working Group



Update from the group will be tomorrow morning, to be given by captain of the group Gianni Corocher/ESA.



# Current challenges: REACH & Beyond

1. **REACH Revision: Chemicals Strategy for Sustainability Towards a Toxic-Free Environment** ([link](#)) and **Sustainable Products Initiative**.
2. Waste Framework Directive (**WFD**) – revised (**SCIP** notification)
  - EU aims to minimize waste and enable efficient recycling. This directive requires **article manufacturers** to provide SVHC information to the European Chemicals Agency's (ECHA) **database (SCIP) since 5<sup>th</sup> January 2021**
  - Space Sector Guidance developed in the frame of MPTB/WFD Task Force
3. UK Withdrawal from the European Union – UK REACH: **1<sup>st</sup> January 2021**
  - **Divergence of UK REACH from EU REACH is already happening**, e.g. equivalent for SCIP notification duty was NOT adopted, and more differences are to come
4. Non-REACH constrains:

## EU regulation on conflict minerals

- Legislation came into force **since 1<sup>st</sup> January 2021** (tin, tantalum, tungsten and gold)

**EU sanctions on Russia** (10<sup>th</sup> package recently published: [link](#), impacting many sectors, limiting import as well as export of important materials, dual use goods, chemicals, etc.)

# RESPONSE OF THE EUROPEAN SPACE SECTOR ON REGULATION

## ON-GOING REVISION ACTIVITIES UNDER THE EUROPEAN GREEN DEAL

# CSS Space Focus Group (SFG), since 2021



SFG objective to follow the European Commission activities on 2020 EU Chemicals Strategy for Sustainability (CSS) implementation with regard to the planned **revision activities**, and to prepare and inject contributions in support of Space Sector interests

- ❑ **CSS REACH Revision** (incl. Essential Use Concept) – Position Paper (13 April 2022), available [here](#)
- ❑ Participation in workshops and interviews (→ on Essential Use Concept) for COM impact assessment
- ❑ Feedback on **Sustainable Products Initiative (SPI)** and COM proposal of 30.3.2022 for **Ecodesign for Sustainable Products Regulation** (20 June 2022), available [here](#)
- ❑ Further specific contributions sent to COM on **Essential Use Concept** and **interface REACH / OSH**
- ❑ In addition: Dedicated **support to** a number of **ASD** contributions to the REACH Revision and RoHS Review
- ❑ **Next: Awaiting Commission proposal on REACH Revision (by Q4 2023)**

# Ecodesign for Sustainable Products

- ❑ EU ambition under the European Green Deal and Circular Economy Action Plan to **make sustainable products the norm in the EU**, boost Europe's resource independence
- ❑ Commission proposal of 30 March 2022 for an Ecodesign for Sustainable Products Regulation (ESPR) – framework to improve the environmental sustainability of products (“any physical good”)
  - ❑ **Space technologies are not excluded from the scope, but their strategic role for Europe and for its technological non-dependence is explicitly recognized (recital (16) of the Proposal)**
- ❑ The ESPR is currently with the European Parliament and the Council – possible adoption by 2024
  - ❑ Setting of specific ecodesign requirements and Digital Product Passport in a second step, to be rolled out according to product priorities from ca. 2024 – 2030 / beyond
- ❑ Commission Call for Evidence *“New product priorities for Ecodesign for Sustainable Products”*, open for stakeholder input since 31 January 2023 (deadline: 25 April 2023)
  - ❑ Product priorities include e.g. lubricants, paints and varnishes, aluminium, chemicals → **likelihood of upstream impact on the Space Sector is quite high** → Space Sector response to flag possible impacts is under development in the MPTB/SFG

# New MPTB Restrictions Task Force (RTF) launched

- ❑ New EU approach under the CSS to **restrict broad groups of substances of concern** for the environment (& human health)
- ❑ **Two cases requiring specific attention:**
  1. **Bisphenol A and bisphenols of similar concern:** ECHA public stakeholder consultation on German restriction proposal on-going until 22 June 2023
  2. **“Universal” PFAS, comprising a group of 10,000+ substances defined only by chemical structure**, present in a myriad of applications: ECHA 6-month public consultation on joint restriction proposal by five Member States to start on 22 March 2023
- ❑ **Main challenges for the Space Sector:**
  - **Significant risks of widespread obsolescence** affecting critical materials and processes and unpredictable side effects within the space and other industrial supply chains
  - **Impact assessment is very challenging** – very limited visibility given supply chain complexities and trace amounts



On 10 February 2023 an industry-agency space task force ([link](#)) was launched under the MPTB to identify the main challenges of complying with the proposed restrictions, as well as possible solutions, including the definition of **suitable derogation claims**. The task force is open to new entities and experts – ESA contractor contact: [Tim.Becker@reachlaw.fi](mailto:Tim.Becker@reachlaw.fi)



# List of important contributions with references

in reverse chronological order

- 4<sup>th</sup> ESA REACH Workshop on the EU REACH Regulations... (18<sup>th</sup> October 2022), all presentations available [here](#)
- WFD/SCIP Best-Practice Guidance for European Space Sector (2<sup>nd</sup> update, 19 September 2022), available [here](#))
- Sustainable Products Initiative – European Space Sector feedback (20 June 2022), available [here](#)
- Lead Task Force comments on ECHA intention to recommend lead metal for Annex XIV (28 April 2022), available [here](#)
- CSS REACH Revision (incl. Essential Use Concept) – Position Paper (13 April 2022), available [here](#)
- REACH compliance guidelines for users of chromium trioxide in the European Space Sector to facilitate continued use under the REACH authorisation requirement (update, 18 November 2021), available [here](#)
- Energetic Materials Working Group comments on the Candidate List proposal for anti-oxidizer DBMC (18 October 2021), available [here](#)
- Heiskanen P. et al., Regulatory and Commercial Obsolescence Risks of Materials and Processes (International Chemical Regulatory and Law Review, Volume 3 (2020), Issue 1), available [here](#)
- Hydrazine Position Paper – Exemption from REACH authorisation (update, 8 April 2020), available [here](#)

A list of further contributions is available at <https://euospace.org/task-forces/#reach>. In addition, a number of contributions have been submitted by ASD, with the support of MPTB/its task forces and working groups.

# Conclusions

- ❑ REACH and related regulations – as well as their evolutions – represent continuous challenges for the European Space Sector
- ❑ The European Space Sector stays up to date and is prepared for these challenges, e.g. by coordinated effort with help of MPTB forum, preparing sectorial guidelines, position papers or guidelines for extended use of substances under authorisation and participation in consultations
- ❑ ESA REACH Office continuously monitors evolution of REACH and associated regulations, as well as commercial obsolescence in Materials and Processes relevant to our sector
- ❑ 2023 main priorities: EU REACH restriction initiatives for bisphenols and “universal” PFAS; re-authorisation for chromates; emerging regulation on Ecodesign for sustainable products and Digital Product Passport; REACH Revision proposal by European Commission (by Q4 2023)

## Thanks a lot for your attention

Any questions?

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# Acknowledgement



Thanks to all MPTB plenary members, Task Forces and individual Working Group members for their contributions. Special thanks to Tim Becker and Oliver Reiff-Musgrove and their REACHLaw team for support of ESA and MPTB activities.

