

Paris, 8 October 2018

European Commission
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REQUEST FOR LEGAL CLARIFICATION REGARDING DIRECTIVE (EU) 2018/851

Non-application of Article 9 (1) (i) and (ii) of Directive (EU) 2018/851 to the supply of equipment designed to be sent into space and related means of transport (including spacecraft and launch vehicles) which do not result in waste on the EU territory

The European Space Industry, represented by ASD-EUROSPACE – collaborating with European and national space agencies – seeks your support on the interpretation of Directive (EU) 2018/851 of the European Parliament and of the Council of 30 May 2018 (hereafter “the Directive”) amending Directive 2008/98/EC on waste.¹

Article 9 titled ‘**Prevention of waste**’ of the Directive foresees as one of the measures to be taken by the Member States ‘to prevent waste generation’ that **any supplier of an article** provides the information pursuant to Article 33 (1) of Regulation (EC) No 1907/2006 (REACH) to the European Chemicals Agency (ECHA) as from 5 January 2021 (point (i) of paragraph 1). The ECHA shall establish a database for the data to be submitted according to this provision by 5 January 2020, maintain it, and ‘provide access to that database **to waste treatment operators**’ (first and second sentence of paragraph 2; *emphasis added*).

Thus, this new notification duty goes beyond the already existing information obligations under REACH Articles 33 and 7(2),² **with special regard to the waste stage.**

¹This paper has been prepared in the frame of the 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 space industry represented by ASD-EUROSPACE; it is chaired at present by ESA. Current participants from Eurospace include: Airbus Defence & Space, ArianeGroup, Avio, MT Aerospace, OHB, RUAG, TESAT and Thales Alenia Space. Participating national space agencies are: Agenzia Spaziale Italiana (ASI), Centre National d’Etudes Spatiales (CNES) and Deutsches Zentrum für Luft- und Raumfahrt e.V. (DLR). Other participants are MAP, a manufacturer of mixtures, REACHLaw, a consultancy supporting the group on REACH and other chemical regulations, and the European Defence Agency (EDA) as observer.

² The ECHA notification requirement for candidate-listed substances under REACH Article 7(2) with its 1 tonne-threshold is of very limited - if any - relevance for the Space Sector as a user of chemicals in very small volumes, comparing to other industry sectors.

With letter of 14 February 2018 to your attention the AeroSpace and Defence Industries Association of Europe (ASD) had already suggested that a **feasibility study and impact assessment is conducted before** taking any decision on such a legally binding notification obligation and database; unfortunately this suggestion could not be taken up.³

The Space Sector as a producer of very complex space systems (spacecraft and launch vehicles) is already strongly impacted by the REACH Regulation in general and REACH Article 33 in particular.⁴ The sector is fully committed and has been working since the adoption of REACH on a company and sector-level to address the REACH impacts and ensure continued compliance efficiently. Whereas it is clear that REACH does apply to ground operations, it is also clear that **EU waste rules do - by definition - not cover objects that do not result in “waste”⁵ on the EU territory**. This is the special case for the Space Sector which, as producers of equipment that is designed to be sent into space, is therefore not part of the Circular Economy:

The **supply chain ends** at the launch site (for example in EU at Centre Spatial Guyanais (CSG), the European spaceport and launch facility near Kourou in French Guiana).^{6&7} Subsequently a change of legal regime takes place as space activities are governed by international agreements⁸ and national space law.⁹ The **space law framework** contains specific and very stringent rules and safety requirements, including provisions on the Return of Objects Launched into Outer Space and Space Debris Mitigation. At the end of its service life space systems typically **burn in the atmosphere** or are **re-/de-orbited** and never come back to Earth. Please see **Annex 1** on ‘Space Debris Mitigation’ for more information.

The wording of Article 9 (1) (i) of Directive (EU) 2018/851, with its general reference to ‘*any supplier of an article as defined in point 33 of Article 3*’ [of REACH], suggests that the notification duty would also apply to suppliers of articles including of equipment designed to be sent into space which does not result in “waste” on the EU territory. However, such equipment appears to be **out of scope** of the EU waste rules in general and Article 9 of Directive (EU) 2018/851 in particular, with its clear references to ‘*measures to prevent waste generation*’ (paragraph 1) and access to the ECHA database to ‘*waste treatment operators*’ (sentence 2 of paragraph 2). Further to this we would like to note that

³ EC/DG Environment response to ASD dated 16 March 2018, ref. ENV/DCC Ares (2018) 1458557.

⁴ See Eurospace Space Sector contribution to the EC REACH Review 2017, especially “Difficulties to comply with REACH Article 33” (page 7-8) and “Substances in complex articles: Workable approach” (page 9); available at <https://eurospace.org/working-groups/#reach>.

⁵ ‘Waste’ means any substance or object which the holder discards or intends or is required to discard, Article 3 No. 1 of Directive 2008/98/EC.

⁶ See also Eurospace REACH position on hydrazine (June 2012); available at <https://eurospace.org/publication/position-papers>.

⁷ Alternatively spacecraft produced in EU may also be launched from non-EU launch sites or subsystems and equipment produced by EU space companies are supplied to non-EU satellite producers who operate under a different space law framework. However, end-of-life considerations for these objects post launch as given in this document are similar to spacecraft launched from CSG.

⁸ See [United Nations Treaties and Principles On Outer Space, related General Assembly resolutions and other documents \(ST/SPACE/61\)](#).

⁹ Concerning launches from CSG (launcher and spacecraft), the French Space Act ([Loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales](#) – « L.O.S. ») applies (fully applicable for all launches after 01/01/2021).

“equipment designed to be sent into space” as well as “means of transport for persons or goods” are already explicitly excluded from the scope of **Directive 2011/65/EU (RoHS Article 2 (4) (b) and (f))**.¹⁰ RoHS supplements the general Union waste management legislation, such as Directive 2008/98/EC and REACH (RoHS Recital (11)).

Therefore ASD-Eurospace is of the opinion that the notification duty under Article 9 (1) (i) does not apply to EU suppliers of equipment designed to be sent into space and related means of transport (spacecraft and launch vehicles) which do not result in “waste” on the EU territory.

We would herewith like to ask the European Commission for a legal clarification confirming our opinion, given the excessive wording of Article 9 (1) (i) of the Directive with regard to the legal scope of EU waste rules in general and Article 9 of Directive (EU) 2018/851 in particular. Such clarification would serve the Union law principles of legal certainty, regulatory consistency (with RoHS), proportionality and the EU’s space policy.¹¹ It would also help reduce ECHA’s workload by avoiding the treatment of irrelevant data.

We would like to note that this request for legal clarification is limited to the Space Segment. For the Ground Segment the Space Sector undertakes to evaluate separately the regulatory impact from Article 9 of Directive (EU) 2018/851.

We would like to add that the Commission has issued a similar clarification on the initial version of the RoHS Directive. Prior to the explicit exclusion in Article 2 (4) (b) of Directive 2011/65/EU the European Commission “*Frequently Asked Questions on Directive 2002/95/EC on the Restriction of the Use of certain Hazardous Substances in Electrical and Electronic Equipment (RoHS) and Directive 2002/96/EC on Waste Electrical and Electronic Equipment (WEEE)*” of May 2005 stated that:¹² “[...] *equipment that is specifically designed to be installed in airplanes, boats and other means of transport (including satellites) is considered to fall outside the scope of the RoHS Directive.*”

We look forward to your response and are available for any further questions.

Kind regards,

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¹⁰ Furthermore, RoHS does not apply to «*equipment specifically designed solely for the purposes of research and development only made available on a business-to-business basis*» (Article 2 (4) (j)).

¹¹ https://ec.europa.eu/growth/sectors/space_en. In its “Space Strategy for Europe” of 26 October 2016 the European Commission proposed a number of actions to maintain Europe’s autonomous access to space.

¹² http://ec.europa.eu/environment/waste/pdf/faq_weee.pdf.

ANNEX 1. OUTLINE OF SPACE DEBRIS MITIGATION (“SDM”) REQUIREMENTS

Space law framework

ESA space systems follow the “*United Nations Treaties and Principles On Outer Space, related General Assembly resolutions and other documents*” (ST/SPACE/61).⁸ They include provisions on the Return of Objects Launched into Outer Space¹³ and Space Debris Mitigation (“SDM”).¹⁴

SDM requirements are intended to reduce the growth of space debris by ensuring that spacecraft and launch vehicle orbital stages are designed, operated and disposed of in a manner that prevents them from generating debris throughout their orbital lifetime for the purpose of collision avoidance and the protection of population during re-entry. Concerning European launchers, and for ESA space systems launched from CSG, Europe’s spaceport located on the French territory, the French Space Act (Loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales – « **L.O.S.** ») applies,⁹ together with its associated technical regulation “*Arrêté du 31 mars 2011 relatif à la réglementation technique en application du décret n° 2009-643 du 9 juin 2009 relatif aux autorisations délivrées en application de la loi n° 2008-518 du 3 juin 2008 relative aux opérations spatiales*”.¹⁵ As such, the L.O.S. requires that any space object follows safety requirements and any space object is subject to retrieval as much as possible. ESA has issued its first SDM policy in 2008 (updated in 2014). At the international level an ISO standard **ISO 24113:2011** “*Space systems -- Space debris mitigation requirements*” of May 2011 has been proposed.

Most space systems are not returning to Earth

Interplanetary probes stay in deep space or are de-orbited in another planet. *Geostationary satellites* (“GEO” region ≈ 36000km altitude) are in end of life re-orbited to the graveyard orbit (+300km) and never come back to earth. Also *Low Earth Orbit satellites* (“LEO” region 0 - 2000km altitude) typically burn at end of life in the atmosphere. Equally, *Launch stages* de-orbited are expected to burn when returning through the atmosphere, by requirement and design.

Re-entry of spacecraft and launch vehicle orbital stages

For those elements surviving re-entry through the atmosphere, the following scenarios may apply from the SDM point of view:

- **Controlled re-entry:** Remaining unburned parts will target a point in the ocean, as for stages of launchers. When re-entry is at sea, the objective is not to create floating wrecks on sea surface in order not to endanger maritime traffic. There are two cases depending on the mission:
 - When **recovery is part of the mission**, the space object (and/or space fragments) is recovered by a specific planned procedure by sea, air or terrestrial means, to be carried out by operators pre-defined in the mission.
 - When **recovery is not possible**, specific measures are foreseen to sink the space object into the ocean, following international waters principles which foresee not to

¹³ *Agreement on the Rescue of Astronauts, the Return of Astronauts and Return of Objects Launched into Outer Space*, adopted by the General Assembly in its resolution 2345 (XXII) of 19 December 1967.

¹⁴ *Space Debris Mitigation Guidelines of the Committee on the Peaceful Uses of Outer Space*, endorsed by the Committee on the Peaceful Uses of Outer Space at its fiftieth session and contained in A/62/20, annex.

¹⁵ Available at <https://www.legifrance.gouv.fr>.

leave any object at the sea surface which could endanger maritime traffic in international waters.¹⁶

- **Un-controlled re-entry:** Unburned parts of spacecraft may crash on Earth, and there is a requirement to demonstrate that the casualty risk (i.e. the human casualty risk due to debris falling on ground) is $< 10^{-4}$.

Without a specific design, examples of unburned parts are: Titanium tanks, Ceramic mirrors, heavy rods or bars (i.e. magnetorquers), reaction wheels, etc.

End of Annex

¹⁶ [United Nations Convention on the Law of the Sea.](#)