Service Contract "Study on the Impact of (other than REACH/CLP) European Chemical/Waste Regulations on the Defence Sector"

Executive Summary

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EXECUTIVE SUMMARY

The 'Study on the Impact of (other than REACH/CLP) European Chemical/Waste Regulations on the Defence Sector' commissioned by the European Defence Agency in May 2020 provides detailed information on the implementation of selected EU chemicals and waste legislation and its impact on the defence sector, as well recommendations to tackle identified issues.

In a first part the study focuses on the following five pieces of EU chemicals and waste legislation[1] that are of concern for the defence sector:

- **Biocidal Products Regulation** (Regulation (EU) 528/2012),
- **Persistent Organic Pollutants Regulation** (Regulation (EU) 2019/1021),
- **Ozone Depleting Substances Regulation** (Regulation (EC) No 1005/2009),
- **Fluorinated Gases Regulation** (Regulation (EU) No 517/2014),
- **Restriction of the use of certain hazardous substances in electrical and electronic equipment** (Directive 2011/65/EU).

It explains the scope of and processes under the regulations, their interactions with REACH and CLP Regulations and among each other, and analyses their impacts on the defence sector.

In a second part, the study analyses the implementation of Article 9(1)(i) and (2) of the **Waste Framework Directive** (Directive 2008/98/EC).

The study builds upon the work carried out by REACHLaw in 2016 for the European Defence Agency (EDA) on the *'Impact of REACH and CLP European Chemical Regulations on the Defence Sector'*[2]. This previous study mostly focused on the impacts of REACH[3] and CLP[4] and looked briefly at the impacts of some other pieces of chemicals and waste legislation. The present study took this work as a starting point and provides a more in-depth overview of the impacts of selected pieces of chemicals' legislation other than REACH and CLP, and selected pieces of waste legislation on defence stakeholders[5].

The work on the Waste Framework Directive is a new component compared to the 2016 study, as the revision of the Directive that the study focuses on (i.e., the creation of the SCIP database) was introduced in 2018.

Methodology

The methodology for this seven-months study is based on a combined set of tools, namely documentary review, legal analysis, and stakeholder consultation.

The consultation aimed to gather input from main stakeholder groups implementing and/or affected by all six regulations/directives covered by the study. Questionnaires have been designed for each stakeholder group, namely:

- European institutions/agencies,
- National Ministries of Defence (MoDs),
- Member States' competent authorities responsible for the implementation of the regulations covered by the study (MSCAs),
- EU and national defence industry associations and their members,

- EU/international industry associations.

Thirty entities have provided information through the questionnaire. The stakeholder consultation has been complemented by interviews (via e-mail and telephone). The information provided through the questionnaires, together with (limited) literature sources and interviews, provided the evidence base for the study.

Key findings and recommendations

The following key findings and recommendations have been identified in the study (per regulation/directive within the scope of the study).

Biocidal Products Regulation

Requirements

Regulation (EU) 528/2012[6] (Biocidal Products Regulation – BPR) sets rules for the **approval of active substances in biocidal products** at EU level, the **authorisation of biocidal products** at Member State or EU level and the placing on the market of articles treated with biocidal products. It ensures that all biocidal substances and products undergo a risk assessment for toxicity to humans and the environment before they can be made available on the market.

Biocidal active substances are approved at EU level by the European Commission - following an evaluation carried out by a Member State Competent Authority (MSCAs) and the opinion of ECHA's Biocidal Products Committee (BPC)[7] - for a maximum period of ten years (or five or seven years if the substance presents specific concerns). Biocidal products are authorised at national level by Member States' Competent Authorities, with a possibility to use the mutual recognition process for authorisation in several Member States. Biocidal products can also be authorised at EU level through Union authorisations. Authorisations are granted for ten years – or five if the product contains substances of concern.

Article 2(8) of the BPR provides for the possibility that Member States **exempt specific uses of certain biocidal products, on their own or in a treated article, where necessary, in defence applications**. The exemption is not automatically granted but requires a decision on a case-by-case basis from the authority responsible for granting the exemption in the Member States (i.e., Ministry of defence (MoD) and/or MSCA), following an assessment that the exemption is necessary/linked with interests of defence. MoDs generally consider the Article 2(8) defence exemption as a last resort to be used only if complying with the BPR would impede the use of a critical product in defence applications.

There are **other derogation mechanisms** (not specific to defence) in the BPR that may enable Member States to temporarily authorise biocidal products that do not fulfil the conditions for authorisation. Article 55(1) of the BPR allows MSCAs to authorise, for 180 days, a biocidal product if such a measure is necessary to contain a danger to public health, animal health or the environment. Article 55(2) provides for a provisional authorisation, granted by MSCAs and the Commission, for three years, for a biocidal product containing a new active substance, before the approval process of the active substance is completed. A derogation for essential uses was introduced by Article 5 of Regulation (EC) No 1451/2007[8] (no longer in force) and maintained by Article 22 of Regulation (EU) No 1062/2014[9], for biocidal products containing a substance from the Review Programme which has not been approved or for which no approval dossier was submitted. The derogation allows to extend the deadline for removing the biocidal product from the market. This mechanism was used extending the use of copper for the prevention of biofouling in the pipework and waterway system of ships.

Impacts

The BPR is **consistent** with the REACH and CLP Regulations and with the other regulations covered by the study. The BPR uses definitions from the REACH Regulation and classifications under CLP to define risk management measures (exclusion and substitution criteria). Synergies with the POPs Regulation exist as the PBT assessment under the BPR can support the identification of new POPs.

In relation to the defence sector, consulted stakeholders observed the **reduced availability of certain biocidal products** (such as insect repellents for textiles, antifouling products, or preservatives) and treated articles. Stakeholders reported that the reduced availability of products could lead to **reduced performance, reliability, or longevity of defence equipment**, and may raise issues for the maintenance of legacy equipment still in use. The unavailability of substances sometimes results from suppliers not applying for approval of active substances and/or authorisation of biocidal products because of lack of awareness of processes and deadlines (application starts late, only when the imminent threat to the product is understood) or lack of capacity (dossier submission is considered costly by suppliers of biocidal products).

Requirements of the BPR related to the **transfer of information on biocidal used in treated articles** in the supply chain are currently not fully implemented and this prevents defence industries from fully tracking biocidal uses in articles and ensuring compliance with the BPR and national procurement provisions requiring information on biocidal products used in procured equipment. This is more of a concern when suppliers are located outside the EU, as they are less aware of BPR requirements. Consequently, monitoring costs were reported to be significant for defence industries.

The Article 2(8) **defence exemption has barely been used**, in particular as it is considered by MoDs as a last resort. The defence exemption mechanism is considered as complex by defence industries as each exemption is only valid in one Member State. In addition, the **process for requesting an exemption at national level is not always clear** to defence industries – i.e. which institution to contact, which information to provide and in which format. The effectiveness of the exemption mechanism might also be limited, in particular as it only applies to defence applications and cannot be used to secure the use of a dual use substance in civil applications. As a result, the defence exemption does not prevent the risk of commercial obsolescence.

Recommendations

Recommendations to tackle these issues address:

- the impacts of the BPR on the availability of biocidal products for the defence sector by proposing discussing those impacts, as well as possible collective actions at EDA level;
- the low level of information in the supply chain on biocidal products used in treated articles by promoting awareness raising towards suppliers on the requirements of Article 58 of the BPR (labelling and communication obligations for treated articles); and
- the shortcomings of the defence exemption mechanism by proposing to provide easily accessible information to industry on the procedure to request a defence exemption at national level, and harmonise the implementation of the exemptions for defence across Member States.

POPs Regulation

Requirements

Regulation (EU) 2019/1021[10] on Persistent Organic Pollutants (POPs Regulation) is the main EU instrument implementing the Stockholm Convention and the UNECE POPs Protocol. It regulates the

production, **placing on the market and use of POPs**, the management of stockpiles and wastes and measures to reduce releases of unintentionally produced POPs.

Annex I to the Regulation currently lists **29 banned POPs**, including pesticides and industrial chemicals. It includes exemptions for specific uses, reflecting the specific exemptions included in the Annexes to the Convention. As a rule, the exemptions expire after five years but may be extended for another five years. Although there is no exemption mechanism specific to defence or military equipment, exemptions for defence/military uses may be granted in the Annexes to the Convention and in the POPs Regulation, as has been the case for decaBDE in civil and military aircrafts. Similar exemptions might be adopted in the future, in particular as other PFAS substances are likely to be listed in the Annexes to the Convention.

Regulation (EU) 2019/1021 (which repealed Regulation (EC) No 850/2004 – previous POPs Regulation) assigned new responsibilities to ECHA, including providing scientific support for the identification of new POPs and organising consultations on proposals for the inclusion of new POPs and on the risk profile and risk management evaluation prepared by the POP Review Committee of the Stockholm Convention. New POP candidates are identified through activities carried out under other legislation, Persistent, Bioaccumulative, Toxic (PBT)/very Persistent, very Bioaccumulative (vPvB) substances assessment in regulatory processes (especially Substances of Very High Concern (SVHC)[11] and Restriction) under REACH, PBT assessment in the BPR and Plant Protection Products Regulation (PPPR).

Proposals for new POPs are discussed with Member States at the Competent Authorities expert group and within the Council. These discussions, as well as the consultations organised by ECHA, provide **early opportunities for MoDs and defence industries to raise defence related issues** with regards to the inclusion of new POPs in the Convention and may propose specific exemptions for defence uses where necessary. As there are no possibilities for derogations once amendments to the Convention have been adopted, it is critical to manage potential impacts of the inclusion of a substance as early as possible in the regulatory process to ensure that appropriate exemptions can be proposed and negotiated at the POP Review Committee.

Impacts

The POPs Regulation is **consistent** with REACH and CLP. The Common Understanding paper[12] on the interaction between REACH and the POPs Regulation published by the Commission in 2014, identifies cases of potential overlaps between the two Regulations and explains agreed standard practice in those cases. The general rule in case a new POP is already restricted under REACH is that the entry in REACH Annex XVII is deleted. When the new POP is subject to authorisation requirements under REACH, and a conflict arise with the authorisations granted under REACH, a case-by-case analysis should determine whether to refuse or remove authorisations or temporarily delay the implementation of the amendment to the Convention through the POPs Regulation (by notifying the EU's non-acceptance of the amendment to the Convention to the Secretary General of the Convention). This last solution was used only in one case (Hexabromocyclododecane (HBCDD)). The POPs Regulation is also consistent with the other regulations covered by the study.

The POPs Regulation had until now **little impact on the availability of substances for defence equipment** because most substances listed in Annex I to the POPs Regulation have already been substituted. However, the inclusion of **PFOA** in the POPs Regulation had an **impact on the availability of surface treatments available for textiles** (for water and oil repellency and non-flammable properties). Inclusion of other **PFAS** substances in the Stockholm Convention is expected, following their inclusion in Annex XVII to REACH, which might impact the availability of substances meeting military standards for fire extinguishing equipment, military personal protection equipment and textiles. The substitution of long chain PFAS, such as PFOA, by short chain PFAS is therefore only a

short-term solution and alternatives need to be secured when possible. Concerns were also expressed in relation to the potential inclusion of Octamethylcyclotetrasiloxane (D4), which has several uses, including naval paints. Impacts of potential future inclusion of substances in the Stockholm Convention and POPs Regulation need to be further assessed by MoDs.

According to the defence industry, **knowledge** of the POPs Regulation in the supply chain, particularly in SMEs, is quite **low**, which creates problems and delays for defence industries in tracing POPs in defence equipment, as they mainly rely on information provided by suppliers. It remains difficult to constrain suppliers outside the EU to track and substitute POPs, even though the Stockholm Convention is an international Convention. Consequently, **monitoring costs** are significant for defence industries.

Recommendations

Recommendations therefore address the impacts of the POPs Regulation on the availability of substances for the defence sector by proposing discussing those impacts, as well as possible collective actions at EDA level. They also suggest ways to anticipate and manage earlier in the legislative process the possible impacts of the POPs Regulation by:

- Making use of the consultations organised by ECHA to flag necessary exemptions early on,
- Exploiting synergies with the restriction process under REACH where relevant to discuss relevant exemptions before the substance is nominated as a POP and send a signal to industry that the substance will eventually have to be substituted, and
- If considered feasible after informal discussion with the Commission the creation of a cooperation mechanism through which EDA would be informed by the Commission before the draft proposal of new substances proposed for inclusion in the Annexes of the Convention.

Ozone Regulation

Requirements

Regulation (EC) 1005/2009[13] on substances that deplete the ozone layer (the Ozone Regulation) supports the implementation of the Vienna Convention for the Protection of the Ozone Layer and the Montreal Protocol on Substances that Deplete the Ozone Layer but goes beyond by setting a higher level of ambition for the EU, establishing stricter phase-out schedules and covering a wider range of substances. Also, while the provisions of the Protocol for licensing system focus on the import and export of substances, the Regulation's licensing system also covers products and equipment containing or relying on those substances.

The Ozone Regulation defines a number of measures and requirements for Member States to regulate the use of ozone-depleting substances, in order to replace them with more climate-friendly alternatives. The Regulation aims for **controlling, monitoring and reporting** on the production, use, trade and handling of **ozone depleting substances (ODS)** and products relying on them, while ensuring the enforcement of ODS policies. **The controlled substances (alone or in a mixture, and virgin or recycled) are listed in Annex I to the Regulation and cover Chlorofluorocarbons (CFCs), Halons (1211, 1301, 2402), Carbon tetrachloride (CTC), 1,1,1- Trichloroethane (TCA), Methyl Bromide (MB), Hydrochlorofluorocarbon (HCFCs), Bromochloromethane (BCM)**. Furthermore, five additional 'new' substances are considered in Annex II, namely Dibromodifluoromethane (halon 1202), methyl chloride (MC), Bromoethane (ethyl bromide), trifluoroiodomethane (trifluoromethyl iodide), and 1-Bromopropane (n-propyl bromide). Article 13 of the Ozone Regulation provides for exemptions of 'critical uses' of halons (including military uses) which are permitted for a limited

period. Annex VI to the Ozone Regulation specifies these critical uses along with progressive decommissioning dates. There are other derogation mechanisms (not specific to defence) defined in Chapter III of the Regulation.

Impacts

It is considered that there is consistency between the Ozone Regulation and the CLP Regulation that are linked through the labelling requirements required for various ODS exempted from prohibition. Regarding REACH, ozone-depleting substances placed on the market generally fall under REACH and thus require registration and evaluation processes. It is noted that an exchange of information, as well as control mechanisms for substances, would enhance the coherence between the two Regulations. Some substances with ozone-depleting potential, such as very short-lived substances (VSLS), may already be restricted under REACH, while they might not be currently covered by the existing regime of the Ozone Regulation. It is noted that the Impact Assessment currently carried out aims at tackling this issue. The main interactions with other EU chemicals Regulations focus on the F-gas Regulation. The consultation carried out for this study showed that defence industries struggle with differentiating between the two. Some of the new substances identified may present characteristics that could qualify them to be regulated by both Regulations. Also, the reduction of ODS emissions fostered by the Montreal Protocol globally and the Ozone Regulation at the European level has led to the introduction of fluorinated gases (F-gases) as substitutes for ODS in sectors such as refrigeration and air conditioning applications. This becomes problematic when these F-gases subsequently are phased-down under the F-gas Regulation.

Overall, it appears that **requests for derogations from defence stakeholders have been limited**. However, the above-mentioned exemption under Article 13(1) of the Ozone Regulation concerning **critical uses of halons is of specific relevance for the defence sector**. According to the stakeholders consulted, halons, which are classified as "Ozone 1 (H420 – Hazardous to the Ozone Layer)" represent the most difficult group of substances to find workable alternatives for in the aerospace and defence industry. Therefore, the **time-limited exemptions granted under Article 13 are regularly used by stakeholders** and are considered to allow more flexibility than REACH authorisations, allowing stakeholders to have more time to search replacements. Most MoDs consulted have stated to comply with the requirements of the Ozone Regulation given the specific provisions provided for military uses. They only make use of halons when these cannot be replaced and try to work on the development of substitutes to the extent possible without jeopardizing the operability of the equipment and the safety of the personnel.

As far as MoDs are concerned, difficulties to manage the impacts of the Ozone Regulation mostly relate to the need to adapt their organisation to comply with the phase-out of certain substances and train their workforce to handle new substances for military uses. On the other hand, defence industry stakeholders highlighted difficulties for downstream users to identify restricted substances. The source of confusion regarding substance identification may then stem from the need to clarify which substances are specifically covered by the Annexes, underlining for instance that although the Ozone Regulation covers HCFCs, this does not concern all HCFCs.

During the consultation, several challenges to overcome in the coming years have been highlighted. First the risk of **unavailability of substances** represents an issue especially for products and equipment relying on controlled substances which have a long lifetime. Refilling those products or equipment may become more and more difficult. The **search for alternatives** may be complex as some alternatives have **not yet proven to meet minimum standards for use in military equipment**. However, it is noted that one positive impact of the Ozone Regulation identified was that the phase-out of substances **incentivised research for alternatives** and pushed discussions at the international level to introduce globally applicable phase-out dates. As a consequence, with the exception of aircraft fuel tank inerting, a majority of new design now integrate suitable alternatives (such as F-

gases). There remains a challenge for existing systems still in operation.

Finally, all the stakeholders consulted identified several potential additional costs in relation to the implementation of the Regulation. **Logistics and administrative costs** are expected to reorganise and adapt the defence sector to the provisions of the Regulation. Further investments in R&D would also be necessary to search for innovative solutions and reduce the burden of alternative substances. The retrofitting of old equipment to comply with the Regulation will also lead to further spending as substitutes may be more expensive than ODS. MoDs highlighted that there will also be **procurement costs regarding controlled substances as civil applications will decrease** along with the availability of these substances.

Recommendations

The recommendations developed in this study address:

- the **lack of awareness and information** among the defence sector concerning the nomination of substances for phase-down or phase-out under the Ozone Regulation making the Ozone Regulation part of a tool similar to the PACT tool of ECHA;
- the issue of **regrettable substitution** by a plea for streamlining the phase-out processes under the Ozone regulation and the F-gas Regulation (see below section on F-gas Regulation);
- the challenges linked to the phase out of ODS and the further costs foreseen by **providing strong incentives to pursue research and innovation** to find viable alternative substances which meet military standards.

F-gas Regulation

Requirements

Regulation (EU) No 517/2014[14] (F-gas Regulation) aims for the protection of the environment and the fight against climate change by reducing the emission of the **fluorinated greenhouse gases**, F-gases, by two thirds compared with 2014 levels by 2030. In accordance with the objectives of the Kyoto Protocol, it constitutes a pillar of the European Union's action against F-gases. With this Regulation, the European Union played a proactive role on the international stage and supported talks on actions on F-gases under Montreal Protocol on Substances that Deplete the Ozone Layer, which culminated with the adoption of the Kigali Amendment, which entered into force on 1 January 2019, and added HFCs to the list of controlled substances under the Montreal Protocol.

Pursuant to Article 2, the fluorinated greenhouse gases covered are **Hydrofluorocarbons (HFCs), Perfluorocarbons (PFCs), and Sulphur hexafluoride (SF6)**. These are all listed in Annex I to the Regulation, as well as Annex II for the other F-gases subject to reporting in accordance with Article 19. It is noted that the reduction in the use of F-gases relies on the notion of Global Warming Potential (GWP) which corresponds to the climatic warming potential of a greenhouse gas relative to that of carbon dioxide (Article 2). Annexes I, III, IV and V to the Regulation provide the specific GWP values allowed for each substance or mixture.

The use of F-gases **in military equipment benefits from several exemptions**, such as exemptions from the ban on uses of F-gases from January 2020 (Article 13(3)), and exemptions from bans on products containing F-gases are listed in Annex III to the Regulation Article 11(1). Article 11(3) provides that competent authorities are allowed to send a request to the Commission for a temporary exemption (up to four years) regarding the placing on the market of products and equipment relevant for Annex III if the authorities manage to prove that safe alternatives present a

disproportionate cost or that none are yet available yet. Finally, pursuant to Article 15(2)(d) exemptions from the quota system established for placing on the market may concern uses in military equipment, too.

Overall, the implementation of exemption mechanisms can **vary across Member States**. Some MoD do use specific exemptions to meet the military standards set for the equipment and their functioning, while others try to avoid the activation of the exemption mechanism by decreasing the use of F-gases. However, most stakeholders noted that some military uses are very difficult to handle such as refrigeration application or fire protection systems. In this case the use of F-gases can be authorised under the scope of the Regulation.

Impacts

None of the stakeholders interviewed underlined any inconsistencies with the REACH or CLP Regulations or any other EU chemicals regulation, except with the Ozone Regulation. The objective of the Ozone Regulation is to replace chlorofluorocarbon (CFC), hydrochlorofluorocarbon (HCFC) and halons with substances with a limited ozone-depleting potential since 2000. One of the solutions found was to substitute the regulated substances with hydrofluorocarbons (HFC) for refrigeration and as fire extinguishing agents. However, the F-gas Regulation requires the phase-out of HFCs in production and in maintenance (from 2020). Consequently, HFCs are now being replaced by hydrofluoroolefins (HFO). However, concerns were raised by the consulted stakeholders regarding the **technical performance characteristics of HFOs that may not fit within the design margins**, such as electric consumption or refrigeration power in terms of volume and mass or safety characteristics of the substances being phased out.

Further challenges regarding **regrettable substitution** were identified regarding the substitution of F-gases with a high GWP-value with other F-gases with a lower GWP-value, as this was the case for R 404a[15] (3921 GWP) which was replaced by R 134a[16] (1430 GWP). These substitutions can thus only constitute a temporary solution and a more sustainable alternative should be pursued. This represents a challenge particularly for fire protection applications for which military specifications ensure the safety of people inside vehicles.

In addition to the risk of potential substitutions between the Ozone Regulation and the F-gas Regulation, most of the consulted industry stakeholders agreed on the fact that the difficulty to find appropriate alternatives represented the main challenge of the F-gas Regulation. The main concern is that **some substitutes known to date are very flammable** and may not meet the existing standards for use in military applications. Moving away from F-gases with a high global warming potential, due to them being gradually phased out, is proving very difficult for the defence industry because F-gases with a low global warming potential are flammable, which is unacceptable in most air, maritime and land defence platforms. Existing legacy equipment is not going to be supported in the future if F-gases become obsolete and new equipment with non-F-gas alternatives are a fire hazard in a combat zone, according to some consulted stakeholders. Reformulation may lead to less effective refrigerants which may result in a use of larger volumes of refrigerants to gain the same effect and meet minimum standards for use in military applications. Furthermore, commercial obsolescence is also expected. Already some F-gases are beginning to disappear from the market. As these substances will no longer be used for civil applications, they will most likely become more expensive to purchase for use in military applications.

Finally, the implementation of the Regulation may entail some **potential additional costs** for the defence sector. There should be further **administrative costs** to ensure the supervision of regulatory changes, the implementation of provisions or the inventory and reporting obligations for specific substances. Consequently, an increase in the resources needed in terms of **manpower** (and the need for certified personnel) as well as **IT tools** to track substances is expected. There may also be some

potentially higher costs to ensure the remodelling and redesign of old equipment. In fact, some MoDs underlined that reformulation could pose a problem, especially for refrigeration applications and fire protection systems. Lastly, **R&D** to identify alternative substances will also involve costs, which in turn may result in higher prices of the new substances than the currently available substances.

Recommendations

The recommendations developed in this study focus on the same measures proposed in relation to the Ozone Regulation, hence:

- **increasing the level and timeliness of information** among the defence sector on legislative processes,
- providing **incentives to pursue research and innovation** to anticipate the phase-down of F-gases,
- as well as requiring the **mandatory identification of F-gases** in equipment by suppliers.

RoHS Directive

Requirements

Directive 2011/65/EU[17] provides for the restriction of the use of certain hazardous substances in **electrical and electronic equipment (EEE)**. EEE placed on the market must not contain the following substances in concentrations exceeding the limits provided in Annex II to RoHS: **lead, mercury, cadmium, hexavalent chromium, PBB, PBDE, and four phthalates (DEHP, BBP, DBP and DIBP)**.

Several groups of EEE are excluded from the scope of the RoHS Directive, including '*necessary for the protection of the essential interests of the security of Member States, including arms, munitions and war material intended for specifically military purposes*'. Other groups of EEE excluded from the scope of RoHS are also relevant to the defence sector, such as equipment designed to be sent into space, parts of non-scope equipment, large-scale fixed installations, means of transport for persons or goods, except two-wheeled electric vehicles, and non-road mobile machinery made available exclusively for professional use. However, in several Member States, the general approach followed in procurement is to require 'voluntary' compliance with the RoHS Directive whenever possible, even for equipment excluded from the scope of RoHS, and to require suppliers to report on the use of the Article 2(4) exemption. In addition, exemptions – i.e., temporary permissions for placing EEE containing certain restricted substances on the market – can also be granted for certain applications upon request from industry. Those exemptions are listed in Annex III and IV to the Directive.

According to Article 6(1) of the RoHS Directive, the list of substances restricted in EEE in Annex II to RoHS must be periodically reviewed by the Commission, on its own initiative or following the submission of a proposal for inclusion of a substance by a Member State. The first review was done in 2012-2014, the second in 2018-2020. The 2018 Substance review covered seven substances, two of which have been recommended for inclusion in Annex II to RoHS – Medium Chain Chlorinated Paraffins and Tetrabromobisphenol-A. Further assessment or increased scrutiny are recommended for some of the other substances.

Impacts

The **scope of the REACH Regulation and the RoHS Directive can partially overlap** since REACH applies to all substances, including in mixtures and articles, which means it also applies to substances in EEE which are covered by the RoHS Directive. Potential overlaps between the REACH Regulation

and the RoHS Directive might occur when risk management measures are taken under REACH or RoHS for substances that are already regulated under one of the two. The **Common Understanding paper**[18], published by the Commission in 2014, identifies cases of potential overlaps between the two and outlines the agreed standard practice in those cases. A possibility highlighted by the paper to deal with overlaps is to exclude or remove EEE from the scope of REACH restrictions if the substance is included in Annex II to RoHS, or to exempt from the REACH authorisation requirement uses covered under the RoHS Directive. However, this approach assumes that RoHS provides the same level of protection as REACH, which can be challenged based on the fact that the RoHS Directive does not control the use of a substance in the manufacturing process of EEE or at the workplace (it only restricts the substance in the end product) and that several categories of EEE are excluded from the scope of RoHS. In general, the study found that the Common Understanding paper does not provide guidance on interactions between RoHS and REACH Annex XIV and Annex XVII with regards to EEE that are excluded from the scope of RoHS, such as military equipment. Consulted MoDs pointed at potential inconsistencies between REACH and RoHS for defence/military EEE excluded from the scope of RoHS.

Both MoDs and defence industries did not report significant impacts on defence equipment due to the use of the scope exclusion. However, the RoHS Directive can **negatively impact the availability of equipment necessary for the defence sector**, in spite of the scope exclusion, because the defence industry relies significantly on civil equipment and Commercial Off-The-Shelf (COTS) electronic components, which must be compliant with RoHS. This has reduced the availability of certain components (e.g., components coated with tin-lead solder alloy) and the **suitability of some components for defence applications**, resulting in **higher costs** for defence industries (e.g., higher costs of components specifically transformed for defence use, costs of stockpiling those components).

In addition, the defence sector might be affected by the upcoming inclusion of substances in Annex II to RoHS, such as Tetrabromobisphenol-A (TBBP-A) and Medium Chain Chlorinated Paraffins (MCCP), recommended for inclusion by the 2018 substance review[19], and other substances not recommended for inclusion but that are under increased scrutiny, such as diantimony trioxide (ATO). However, the concrete impacts still need to be fully assessed by the defence industry and MoDs.

The defence industries indicated that the scope exclusion remains critical for some uses for which proven alternatives are lacking, to meet defence safety requirements. However, it was also reported that the scope exclusion slowed down the uptake of suitable alternatives – for example suitable lead-free soldering alternatives for some uses – and perpetuated obsolete uses, which could be at risk of being impacted by REACH (as lead has been added to the Candidate List).

Recommendations

The recommendations developed in this study address the interactions between REACH and RoHS by proposing

- a **revision of the Common Understanding paper** issued by the Commission, to provide adequate guidance in relation to categories of EEEs excluded from the scope of RoHS;
- the drafting of **additional guidance** from the Commission about the differences in concentration values between REACH and RoHS.

They also address the impacts of the RoHS Directive on the availability of substances for the defence sector by proposing discussing those impacts, as well as possible collective actions at EDA level.

Recommendations finally address means to **foster substitution of restricted substances** in defence uses for which alternatives suitable for the defence sector exist by proposing to:

- harmonise national approaches towards requiring voluntary compliance with RoHS for EEE excluded from the scope of the Directive;
- raise awareness of alternatives to lead soldering and other uses of restricted substances under RoHS for which suitable alternatives exist.

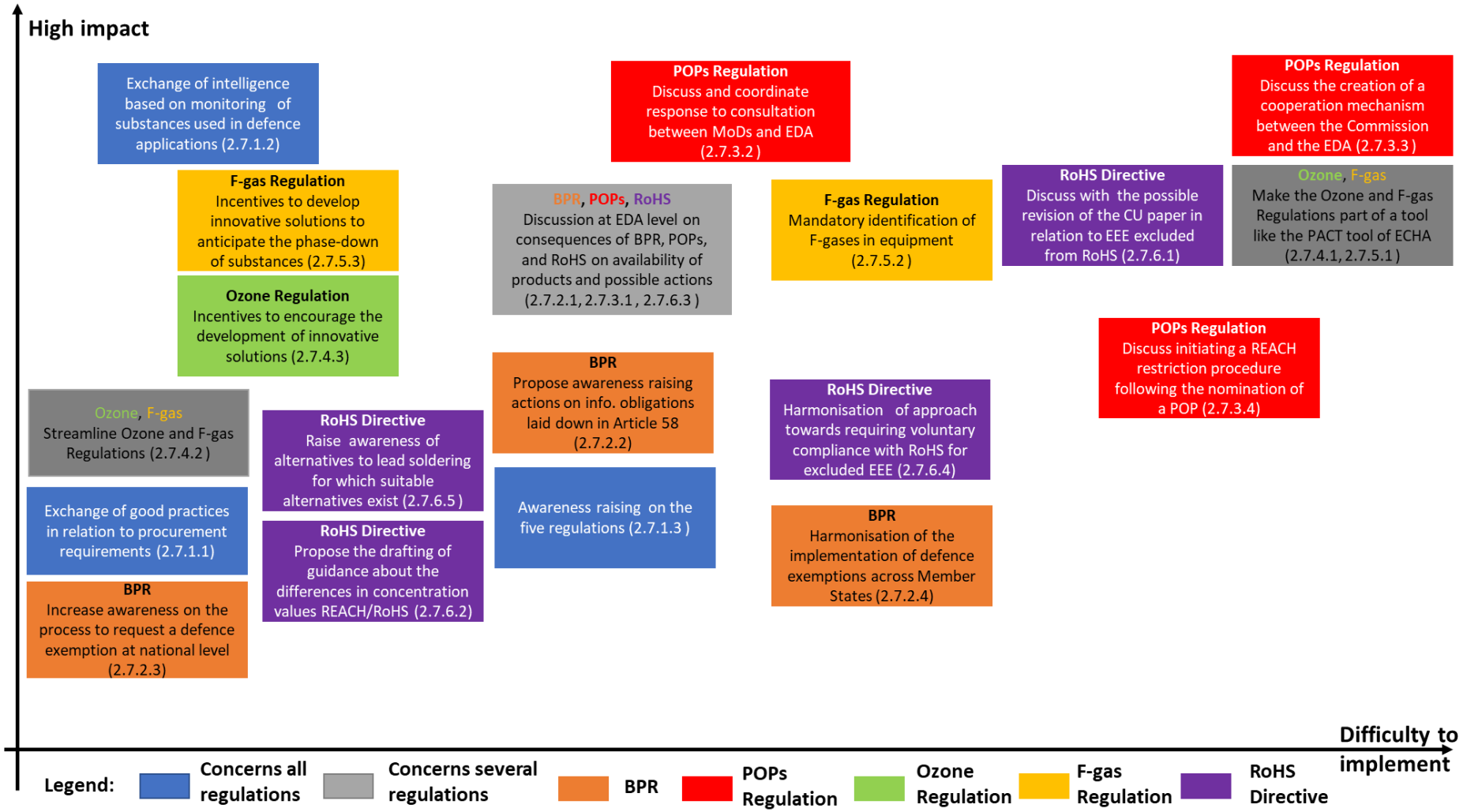
General recommendations for BPR, POPs, Ozone, F-gas, RoHS

The following recommendations have been developed applying to all the above-mentioned five regulations:

- Exchange of good practices in relation to procurement requirements;
- Monitoring of substances used in defence applications;
- Raising awareness on commonalities and differences as well as interactions between the different chemicals/waste regulations.
- Addressees of these recommendations are EDA and MoDs.

The priority of the recommendations is determined as a function of their implementation feasibility (difficulty) vs. the expected benefit (impact) for the European defence sector, as illustrated in an indicative way in the figure below.

Figure 1 – Recommendations for BPR, POPs, Ozone, F-gas, RoHS



WFD Article 9 / SCIP database

Requirements

The Waste Framework Directive 2008/98/EC (WFD), as revised by Directive (EU) 2018/851 which entered into force in July 2018, mandates the European Chemicals Agency (ECHA) to establish a database with information on articles containing Substances of Very High Concern (SVHCs)on the Candidate List established under Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). This database is named 'SCIP' (Substances of Concern In Products) database. EU Member States must ensure that any supplier of an article containing such SVHC(s) in a concentration above 0.1% weight by weight (w/w) provides the information pursuant to Article 33(1) of REACH to ECHA from 5 January 2021 – the so-called "**SCIP notification**". The SCIP database aims to ensure that the information about the presence of SVHCs is available throughout the whole lifecycle of products and materials, including at the waste stage. It was due to be established by 5 January 2020; the final database (SCIP v1.0) enabling the submission of SCIP notifications was launched on 28 October 2020, i.e., about two months in advance of the entry into application date of the SCIP notification requirement, subject to national transposition.

Article 9 WFD refers to Article 33(1) of REACH but the way SCIP is implemented at the EU level could potentially be interpreted as **going beyond the WFD/REACH legal text** in several aspects. This applies in particular to the **articles covered** (e.g., articles imported for own (final) use could be covered), and the **data to be provided**, especially category information, the product breakdown structure and related identifiers for complex object components to locate the SVHC(s). ECHA also requires information to be submitted via a specific format and is planning to publish the data submitted to the SCIP database on its website. With regards to the defence sector, the Commission (DG ENV) has clarified that a Member State may provide a specific exemption referring to Article 2(3) REACH or have recourse to Article 346(1)(a) of the Treaty on the Functioning of the European Union ("essential interests of its security").

The national transposition of Article 9(1)(i) WFD on SCIP notification is still pending in a number of Member States, in spite of the expiry of the transposition deadline on 5 July 2020. The analysis of national provisions in the area of defence shows that there are three different types of clauses: (1) Automatic exclusion from SCIP; (2) Case-by-case exemption upon request (cf. REACH Article 2(3)); (3) Upfront SCIP notification waiver.

Potential impacts

The study identifies potential impacts on MoDs from implementation of WFD Article 9 on SCIP in relation to the **setup and management of defence exemption processes** (where applicable), **potential security risks for MoDs in complex scenarios** and the possible existence of a SCIP notification duty for MoDs in some Member States consulted.

A survey conducted by the Aerospace and Defence Industries Association of Europe (ASD) amongst its membership in 2020 anticipates strong negative impacts on the aerospace and defence sector. It is estimated that more than 1 million notifications (comprising both civil and military business) will be submitted by the sector to the SCIP database in 2021. Notifications per company are expected to span from below 100 up to 200,000 per annum. The expected number of product declaration levels according to the SCIP requirements varies in average from 2 to 7 levels, with a typical value of 4 and a maximum of 12 (e.g., for the most complex objects like aircraft or armoured vehicles). It is expected, therefore, that not only SMEs will struggle with the **large scale and complexity of notifications** they need to make.

As a consequence, the defence industry (as reported by ASD) plans to analyse the national legal

implementations of WFD Article 9 in respect of defence exemptions as a first priority. For remaining notification obligations, the defence-sensitive / classified information and/or confidential business information (CBI) shall be protected in any case, notably through highly aggregated notifications.

As the provisions governing implementation of SCIP in the area of defence are to be implemented separately in each EU Member State, defence industry stakeholders consulted have expressed unanimously that their **harmonisation is of utmost importance** as supply chains are mostly transnational today and the industries involved cannot, or hardly, manage non-harmonised exemptions. According to anecdotal evidence from the defence industry consultation, precautionary SCIP notifications are envisaged for military products sold in the EU as of January 2021, unless there is a clear exemption.

Asked about the potential benefits of SCIP requirements from their perspective, defence industry stakeholders do support the overall intent of the circular economy, but have serious concerns linked to the SCIP database "one-size-fits-all" design and implementation. Defence products are not manufactured with the intention of being conventionally recycled, and they have bespoke instructions that determine how they should be disposed of.

For United States (US) military hardware supplied to the EU, the SCIP reporting requirements are found by the Aerospace Industries Association of America (AIA) to directly conflict with the requirement to safeguard product and technical information governed by the International Traffic in Arms Regulations (ITAR), to which the US defence industries are legally bound. The associated security risks may possibly pre-empt compliance with SCIP reporting requirements. According to AIA, therefore, the ability to provide US defence products to EU Member States could be impacted if defence exemptions cannot be secured.

The SCIP requirements / related views have been evolving during the study and are still evolving at EU (Commission and ECHA) and national levels (Member State transposition, including on defence-related provisions). SCIP notifications with view to the entry into application date for the notification duty as from 5 January 2021 according to WFD Article 9(1)(i) – subject to national transposition – have only started. Therefore, it is still very unclear how the system will finally work. Hence, the final impacts and implementation strategies of MoDs and the defence industry are still widely unclear or to be elaborated. The present SCIP analysis has been an important first step of a long process.

Recommendations

Recommendations within the realm of the study are primarily addressed to MoDs and/or EDA:

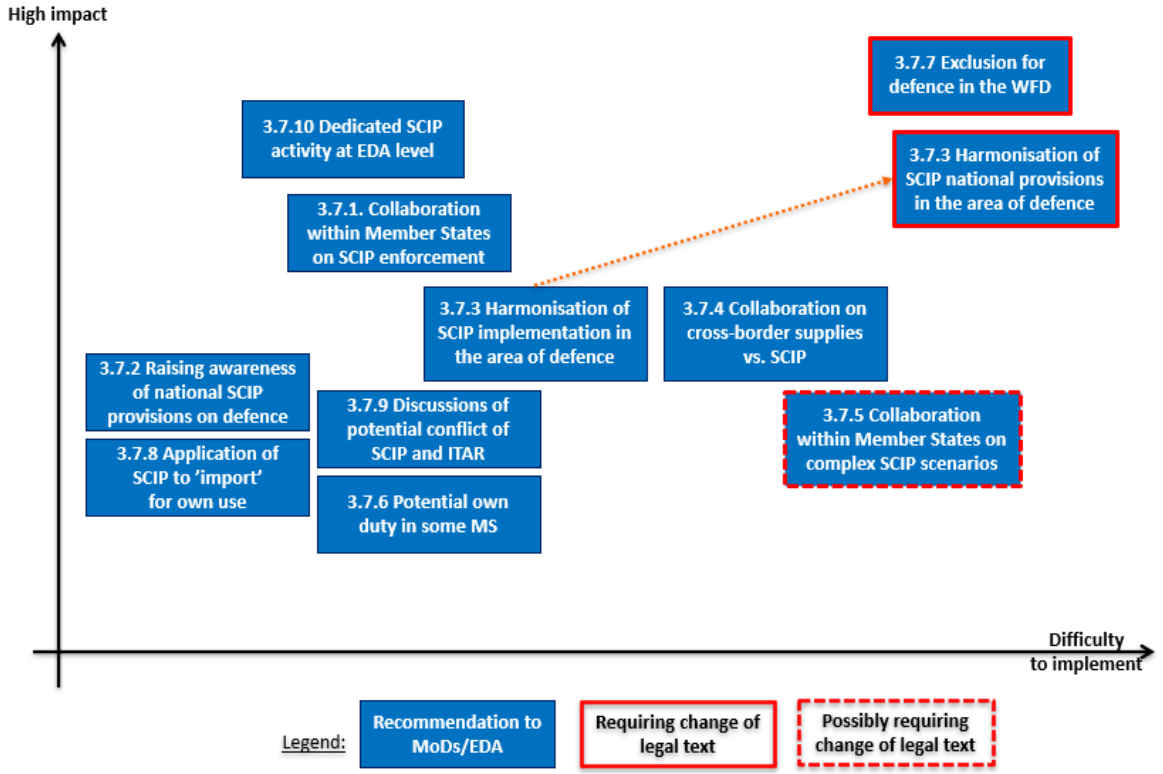
- Given the expected large scale and complexity of SCIP notification for defence (and related) industries and potential security risks for MoDs, **awareness raising with national enforcement authorities on specificities of defence products** with regards to SCIP is proposed.
- It is suggested to raise awareness of SCIP related provisions by adding to the **EDA website** information on national provisions governing SCIP implementation in the area of defence, including but not limited to defence exemption clauses, procedures and number of decisions.
- EDA with MoDs may consider possibilities to **harmonise the application of national provisions governing SCIP implementation in the area of defence**, including SCIP defence exemptions, where the Member State provisions are similar (e.g., a new EDA Code of Conduct to address WFD Article 9/SCIP database). If harmonisation within the existing national provisions cannot be achieved, possibilities to harmonise the legal provisions governing SCIP in the area of defence across Member States could be discussed.
- Collaboration between Member States is proposed in relation to **cross-border supplies**. It may result, for example, in 1) a joint exemption process for SCIP (where similar provisions

exist), and 2) recognition of exemptions in the Member State of origin.

- In cases of complex SCIP scenarios, in Member States where a security risk for an MoD is identified the MoD could enter discussions with the MSCA to obtain an **exemption from the SCIP notification**.
- Where applicable, MoDs are advised to identify actual cases where a **SCIP notification duty on their MoD/Armed Forces** is deemed to exist, and subsequently assess the use of SCIP defence exemptions.
- Follow up with the Commission (DG ENV) to obtain a **legal clarification** on whether SCIP notification based on WFD Article 9(1)(i) also applies to **'import' for own (final) use** is recommended.
- Together with MSCAs and the national defence industries, MoDs may assess further the necessity to propose to the Commission an **exclusion for defence from** the **SCIP** notification requirement **in the WFD legal text**.
- The **potential conflict of SCIP and ITAR requirements** for US military hardware could be discussed on a contract-by-contract basis between the MoDs concerned and their contractors. However, a discussion on possible solutions between EDA/MoDs and AIA should also be considered.
- The setup of a **dedicated SCIP activity at the EDA level** is recommended. As part of it the EDA, together with MoDs and in consultation with defence industry, EC and ECHA as appropriate, would further assess and elaborate solutions to mitigate the impacts of the evolving SCIP requirements for defence-related cases in the future, taking into account further experience gained in the meantime.

The priority of the recommendations is determined as a function of their implementation feasibility (difficulty) vs. the expected benefit (impact) for the European defence sector, as illustrated in an indicative way in the figure below.

Figure 2 - Recommendations SCIP



Recommendations addressing the **collaboration** on and **harmonisation** of SCIP implementation in the area of defence across different Member States and alleviation of possible adverse impacts to the defence industry are considered to be of the highest priority. At the same time, these recommendations contribute to the vital protection of **confidentiality** and avoidance of any supply disruptions in the defence sector due to SCIP. The recommendations addressing certain **legal issues** are also important to this end.