Monitoring the Impact of EU Exit on Chemicals Businesses

Final Report
for Defra

30 August 2019

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Risk & Policy Analysts

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Disclaimer

The views and propositions expressed herein are, unless otherwise stated, those of Risk & Policy Analysts and do not necessarily represent any official view of Defra or any other organisation mentioned in this report.

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Executive Summary

Background

In light of the outcome of the EU Referendum, negotiations are underway for the UK to exit the European Union. Although the UK Government has now defined 31st October 2019 as the exit date, at the time of writing, the details of policy regimes post EU Exit were still being defined.

Chemical substances manufactured or imported into the EU (including the UK) are currently regulated via the European Union regulation concerning the Registration, Evaluation, Authorisation and restriction of Chemicals (REACH) which aims to provide a high level of protection for human health and the environment.1 In the event of a No Deal Exit, the EU REACH Regulation would be brought into UK law by the European Union (Withdrawal) Act 2018. That Regulation, and related legislation, would be retained in the UK with the changes necessary to make it work in the domestic context, but the UK and the EU regulatory agencies would operate independently from each other, meaning that companies in the chemicals sector have had to prepare for a potentially extensive change.

This research involved in-depth interviews which were aimed at collecting baseline data on the operation of a diverse range of chemicals businesses to facilitate future assessment of the impact of any post EU Exit chemicals regulatory regime. The interviews were also seen as an opportunity to collect information on the ways that businesses were planning for EU Exit, and on the challenges and opportunities that they perceived. The research was conducted in the first quarter of 2019, at a time when both government and businesses were preparing intensively for the possibility of a No Deal Exit on 29th March. As a result, there was a focus on the challenges and opportunities presented by a No Deal scenario.

In December 2018, Defra commissioned a consortium led by Risk & Policy Analysts Ltd (RPA) to conduct this baseline research.

Methodology

The research is based on a diverse sample of 48 chemicals businesses, representing organisations of different sizes, chemical sub-sectors, and roles within supply chains. They included manufacturers, importers, Only Representatives, formulators, distributors and downstream users of chemical substances, with the majority occupying more than one of these roles. Participants were mainly recruited via trade associations and stakeholder events.

A semi-structured interview guide was developed to facilitate the in-depth discussions on the topics of interest while also collecting some quantitative data, for example, on the costs associated with regulatory compliance. Interviews were conducted face to face or by telephone.

Key findings

Interviewees were uncertain about what to do next: Many indicated that on-going uncertainty around EU exit had made planning difficult and limited the extent to which they had been able to commit to action. Some indicated that they expected the UK REACH system to mirror the EU system,

[1] https://www.hse.gov.uk/reach/whatisreach.htm

in the short term at least, but there was concern about the potential impacts related to longer term divergence.

Registration potentially not viable for the full range of EU REACH registered substances: While there was a clear intention among manufacturers and importers to register substances under UK REACH, it was identified that, particularly for substances where the value of the UK market is relatively small, this may not be a viable option for all substances and that, as a result, some substances (and mixtures/articles containing those substances) could be withdrawn from the UK market. In particular, distributors, formulators and downstream users indicated a reluctance to take on registration obligations due to a lack of familiarity, as well as the costs and resource implications.

Challenges around UK registration: Various potential challenges were identified with respect to the Registration process and associated IT system, relating to: the IT architecture and functionality; data access; stakeholders' ability to contact other potential registrants as part of a joint registration/SIEF process; the short timeframe for making Registrations; and whether the UK Agency would be adequately resourced to deal with the work that would need to be done within such a short timeframe. Some interviewees indicated that they anticipated having to pay (at least some costs) to access data in order to register under UK REACH, though many were hopeful that arrangements would be put in place to reduce the administrative burden on companies associated with testing and data sharing (i.e. UK SIEF arrangements). Many interviewees indicated that the UK should not seek to duplicate work that has already been done and should accept Registrations that are already in place (i.e. by grandfathering Registrations).

Concerns over potential tariffs: Many interviewees indicated that they were concerned about possible tariffs that might be applied to imports and/or exports. There was concern that, outside of the EU and the protection of EU customs tariffs, UK companies might not be able to compete with products produced within the EU, or imported to the EU from low cost economies such as China.

Potential for supply chain disruption: interviewees were concerned about potential supply chain disruption (e.g. resulting from delays/congestion at UK ports). While many indicated that they had already made efforts to speak with their suppliers/customers with the aim of mitigating the impacts of any supply chain disruption, ongoing uncertainty had made it difficult to plan. Several interviewees noted that they were increasing stocks of material/product (both in the UK and EU).

Effect on competitiveness: Potential loss of sales (e.g. resulting from higher tariffs, the costs of having to re-register substances, delays in moving goods, and/or loss of skilled workers) was also a key concern among the companies that were interviewed. Some were worried that UK manufacturing may no longer be competitive versus EU manufacturing and that a shock to the UK economy could reduce demand for chemicals within the UK.

Opportunities for efficiency: Some interviewees offered suggestions on opportunities for making a UK REACH more efficient, including:

- Put in place arrangements to reduce the administrative burden on companies associated with registration, testing and data sharing;
- Seek a mutual agreement to minimise costs of data sharing within existing EU SIEFS;
- Take an approach where full data submission is only required for substances of concern with a phased approach from most to least;

- Don't seek to duplicate work that has already been done and accept registrations that are already in place; and
- Adopt a more pragmatic approach than exists under the EU REACH regime by, for example, being more open to alternatives to animal testing and prioritising substances that are in the UK's national interest.

Stronger enforcement was also advocated by several of the interview participants, as was the possibility of adopting a more risk-based system.

Opportunities for gaining competitive or revenue advantage were mentioned by some interviewees in particular roles. They included:

- Opportunities for UK-based ORs with an affiliate in the EU to benefit from managing both UK and EU REACH compliance;
- Chemical distributors seeing an opportunity for short-term advantage if they could get a UK registration in place early and become a preferred supplier for UK manufacturers/suppliers; and
- Short-term increase in orders for some companies to build stock levels.

Potential for detrimental changes: Many interviewees remarked that the potential opportunities were outweighed by the risks that they faced under a 'no deal' EU Exit. Potentially detrimental changes included:

- If UK legislation is less stringent, then lower quality products might be able to enter the UK market;
- Divergence from EU REACH could lead to confusion and therefore lower levels of compliance;
- Duplication of requirements could lead to additional costs and additional bureaucracy for companies located in the UK and for EU companies which supply products to UK customers; and
- Additional animal testing might be required to meet the requirements of UK REACH.

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1 Background and Research Aims

1.1 Study context

Current regulation of the UK chemicals industry is largely based on EU legislation, implemented by the European Chemicals Agency (ECHA). Of particular importance is European Regulation No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). REACH addresses the production and use of chemical substances, and their potential impacts on both human health and the environment. It requires the identification of risks and safe management of chemicals and requires companies to register chemicals with ECHA before placing them on the market. REACH applies directly in all 28 Member States of the European Union, as well as to Iceland, Liechtenstein and Norway as member countries of the European Economic Area (EEA).

The UK's ambitions on the future chemicals regime are expressed in the White Paper[2] which identifies that "*the UK believes that manufacturers should only need to undergo one series of tests in either market, in order to place products in both markets….*" and that "*… the UK is seeking participation in these EU agencies* [including ECHA] *as an active participant".* It notes that "*The UK would want to secure access to relevant IT systems, ensuring the timely transfer of data between UK and EU authorities… ensuring UK businesses could continue to register chemical substances directly, rather than working through an EU-based representative*".

In the event that the UK does not achieve these specific ambitions during negotiations or there is No Deal, a UK equivalent system for registering chemicals would be put in place. The UK REACH system would aim to "*retain the key principles of the EU REACH Regulation, including its fundamental principle of 'no data, no market', and its provision for Only Representatives (ORs)*"[3].

The Department of the Environment, Food and Rural Affairs (Defra) is the lead government department with strategic responsibility for chemicals policy in England. Defra works together with BEIS (the Department for Business, Energy, and Industrial Strategy), which has responsibility for the support of chemicals business sectors, the Health and Safety Executive (HSE), the Environment Agency and the Devolved Administrations to deliver regulation ensuring the safety of chemicals, pesticides and biocides.

1.2 Research Aims

In 2018, the UK Government (led by Defra) planned to procure two research projects: a baseline project (pre EU Exit), and a follow-up project (post EU Exit). It was anticipated that this research would:

- assess the impact of EU Exit on the operation of a broad range of enterprises engaged with the chemicals sector; and
- inform future strategy for implementation and communication of regulatory changes that are developed post EU Exit.

[2] See paras 28 and 30 of "The future relationship between the United Kingdom and the European Union" https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/7866

[3] https://www.hse.gov.uk/brexit/reach.htm

In December 2018, Risk & Policy Analysts Ltd (RPA) together with Ramboll and PTJH Consulting were commissioned by Defra to carry out the baseline research. This report focuses solely on the baseline research. The research objectives for this stage were:

- to provide detailed information about the business relationships and financial planning of a diverse range of UK chemicals companies before EU Exit, placing this in the context of wider supply chains; and
- to gather information on how these businesses had been planning for EU Exit and what challenges and opportunities they perceived.

1.3 Organisation of report

The remainder of this report is organised as follows:

- **Section 2** provides a brief **overview of the research methods**;
- **Section 3** outlines the **current baseline** with respect to REACH and business relationships**;**
- **Section 4** outlines how companies have been **planning for EU Exit in the context of REACH;**
- **Section 5** elaborates on the **environmental and health benefits of REACH;**
- **Section 6** summarises **key concerns and opportunities of EU Exit** for UK chemicals companies; and
- **Section 7** provides **key messages and recommendations** for follow up.

2 Research Methods

2.1 Context

The project ran from December 2018 until the end of March 2019, coinciding with a critical time in the run up to the EU Exit deadline of 29 March. This was a period of political uncertainty, development and testing of the UK REACH system, and intensive dialogue between government departments and business stakeholders around preparations for a potential No Deal scenario.

2.2 Choice of qualitative method

Given the limited availability of data and lack of time available for the collection of information before the expected date of EU Exit, the research team adopted a qualitative approach involving in-depth interviews with representatives of (up to 50) chemicals businesses that operate in, or that trade with other companies that operate in, the UK. The lack of available contact information for all companies operating in the UK chemicals sector meant that it was not possible to construct a statistically representative sample. An attempt was made to broaden the range of information available by piloting an online survey using information from a commercially available database. The low response rate achieved in this pilot (less than 1%) clearly indicated that this was not a viable option at a time when potential respondents were focused on making preparations for a possible No Deal EU Exit on the 29th March 2019.

When interpreting the results of this report, it is important to bear in mind that the evidence is largely qualitative and that the sample from which information has been drawn is not statistically representative. The findings attempt to represent the range and diversity of experiences and views from a broad range of companies operating within the chemicals sector, but results should not be taken as generally representative of the national picture for companies with different characteristics. For example, it is possible to say that participants from smaller companies reported particular types of experiences, but it is not possible to conclude that these findings are applicable for all small companies.

2.3 Sampling strategy

The sampling strategy for this research was designed to capture a range of organisations of different sizes, chemical sub-sectors, and roles within supply chains. The aim was to represent the diversity of experiences and views across the broad range of companies that could potentially be impacted by changes to UK chemicals regulation as a result of EU Exit. The researchers set out to recruit participants for 50 in-depth interviews. In the end, 48 interviews were achieved. While time and resources did not allow for the implementation of a saturation approach to sampling, we are satisfied that a diverse sample was achieved. Further details of the participant profile are set out in Section 2.5 below.

2.4 Interview guide development

A semi-structured interview guide was developed to facilitate the in-depth discussions. The interview guide sought to capture qualitative information on the topics of interest whilst also collecting some quantitative data, for example, on the costs associated with regulatory compliance. The interview guide was designed to provide the flexibility to cover key topics of interest to companies with different roles in relation to REACH registered substances (manufacturers, importers, Only Representatives, distributors, formulators and downstream users).

2.5 Recruitment of participants

Participants were mainly recruited via trade associations and stakeholder events. A registration form was created and hosted on RPA's website to enable potential participants to register their interest. Interviews were conducted between 25 January and 27 March 2019, with most conducted by telephone (although a small number of face-to-face interviews were also carried out). To save time, most interviewees were sent the interview guide prior to the interview and were asked to complete some information in advance. Interviews lasted between 20 minutes and two hours, with most taking between 60 and 90 minutes.

Interviewees were able to answer all of the questions relevant to their company and its REACH "role" or only a subset if they did not wish to provide all information or if the time available to participate was limited. In cases where limited time was available for the interview, questions related to companies' planning for EU Exit, key concerns over EU Exit and views on opportunities were prioritised.

Participants were given the opportunity to review the notes from their interview and their anonymised responses have been used for the purposes of this report.

Approximately half of the research participants for this study were employed by large companies, four identified themselves as representing micro-enterprises and the remainder represented companies that are small or medium-sized[4]. Although small and medium-sized enterprises represent more than 99% of businesses in the EU[5], information from the European Chemicals Agency (ECHA) shows that most REACH registrants are large companies, defined as having 250 or more employees and either a turnover of more than 50 million euros or a balance sheet of plus or minus more than 43 million euros. Annex Table AI-1 shows that, according to this definition, 80% of UK companies with REACH registrations are large organisations, 17% are small or medium-sized and only 3% are microenterprises. The purposive sample of research participants for this study therefore included a higher representation of small and medium sized companies than would be considered representative. This choice was made to ensure that the views and experiences of small and medium sized enterprises were adequately captured.

Among the 35 participants who provided details of company ownership, 22 represented a UK company which is an entity within a larger group of global companies. The sample also included seven sole UK traders, one entity within a larger group of companies all located in the UK, and five entities within larger groups of companies including EU/EEA affiliates.

Just under one third of research participants held an Only Representative (OR) role, and this was often in combination with other roles such as manufacturer or importer. ECHA data presented in Annex Table AI-3 shows that, as of February 2019, more than half of UK REACH registrants are Only Representatives (ORs), with the others being manufacturers and importers. This research also included distributors, formulators and downstream users of REACH registered substances as all these groups could potentially be impacted by changes to regulation as a result of EU Exit.

Most research participants occupied multiple roles under REACH, but 18 out of 48 occupied a single role (two importers, two ORs, seven formulators, two distributors and five professional users). There were many different combinations of manufacturer, importer, OR, formulator, distributor and user roles. Manufacturers tended to have dual roles as importers (22 out of the 24 interviewed) with half

[4] Out of 41 interviewees answer this question, 23 were large, 4 were microenterprises, 7 were small and 7 were medium sized according to the EU definition.

[5] https://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition_en

of them also taking on an OR role. More detail is provided in Annex I. The fact that many companies identified themselves as having multiple roles under REACH highlights the complexity of the chemicals supply chain and the potential for any single company to be affected under UK REACH in multiple ways (e.g. distributors becoming an importer if they source substances and mixtures from EU/EEA manufacturers).

The research sample aimed to represent the diversity of activities carried out by companies fulfilling different roles with regard to REACH registered substances. Participants included manufacturers and formulators of: basic chemicals; pesticides and agrochemical products; paints, varnishes and similar coatings; printing ink and mastics; soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations; and other chemical products, as well as distributors of chemical products. The downstream users of chemical substances included manufacturers of pharmaceuticals, plastic products, iron and steel, and precious metals. A detailed description of participants' activities by NACE code is provided in Annex Table AI-4.

Supply chains within the chemicals sector are complex and diverse. With the limited number of interviews that could be carried out within the timeframe and resources allowed for this study, attempting to include several complete supply chains would have limited the sectoral diversity that could be achieved. It was decided that the best way to balance the need for diversity within the sample with the objective of exploring supply chain relationships was to include multiple representatives from one particular supply chain, linking interviews to form a case study. Aerospace was chosen based on the availability of existing contacts within this sector. A brief case study description is provided as Annex II.

3 REACH: From 2007 to the Present

3.1 Manufacturers and Importers

3.1.1 Numbers in total and by tonnage if available

22 of the manufacturers and importers provided information on EU REACH. 16 of these provided information on the number of substances for which they had a Registration, dividing them into those registered by UK versus EU registrants. Interviewees were also asked to indicate the percentage of these substances for which their organisation was the lead registrant. Ten said that their company was the lead registrant for a proportion of the substances. Data summarising the more detailed responses in the transcripts are provided in the table below.

Table 3-1: Interviewee substance registrations

	Total number of substances identified	Average number of substances per interviewee	Average % of substances for which interviewees were the lead registrant
Registered by legal entities in the UK			
> 1000 tpa	170	11	39%
> 100 tpa and< 1000 tpa	136	9	27%
> 10 tpa and < 100 tpa	150	9	43%
< 10 tpa	207	13	44%
Total across all tonnage bands	**663**		
Registered by legal entities in the EU			
> 1000 tpa	897	82	26%
> 100 tpa and< 1000 tpa	954	87	21%
> 10 tpa and < 100 tpa	915	83	22%
< 10 tpa	1453	132	42%
Total across all tonnage bands	**4219**		
Base	*16 REACH registrants*	*16 REACH registrants*	*10 lead registrants*
*tpa = tonnes per annum			

A number of the interviewees represented (larger) companies with a pan-European or global presence and these larger companies appeared more likely to act as lead registrant. The table shows that, among those interviewed for this study, a larger proportion of substances were registered by entities in the EU rather than in the UK. Smaller companies may not have acted as lead registrant for any substances.

For context, ECHA's website[6] provides data on the number of substances and Registrations in the EEA (including UK) and in the UK as at 1 February 2019 (Annex Table AI-5). A comparison of the numbers of substances covered by REACH registrations in the EEA and UK as a whole, with those covered by organisations in our sample, suggests that this small sample of organisations covered around 10% of UK registered substances (663/5993) and 20% of all substances registered under REACH in the EEA (4,219/24,177), as of 1 February 2019.

3.1.2 Number of substances subject to Authorisation, Restriction, Candidate List or RMOA

Substances subject to Authorisation

The majority of the manufacturer and importer interviewees (16 out of 22 that answered this question) did not manufacture or import substances that are subject to Authorisation under REACH. One interviewee indicated that it has an Authorisation for a site in the EU (but not the UK) and another used substances/mixtures produced under the terms of an Authorisation. Others were awaiting Authorisation decisions, and expressed concern over the status of these applications should decisions not be made at the EU level pre-Exit.

Substances subject to Restriction

13 respondents indicated that they had been affected by Restrictions or proposals for Restrictions. Some of those that had been impacted indicated that the effects on their company were minor, while others had been affected by more than one Restriction.

Substances currently on the Candidate List or subject to a RMOA

12 interviewees had not been affected by the addition of substances to the Candidate List or a Regulatory Management Options Analysis (RMOA). The remainder had been affected, in some cases by more than one candidate listing, while other identified the need for a RMOA for certain substances and uses of them.

3.1.3 Estimated costs

22 interviewees provided estimates of the total overall costs of EU REACH Registration obligations to their company (including providing data, joint registration/SIEF administrative costs, downstream user communication, and chemicals safety assessment). The total of the costs provided by these interviewees was £163,022,000 representing an average of around £7,411,000 per company. Clearly, these costs will vary significantly from one company to another depending on, for example, the number of substances registered, the tonnage band, and the split between joint and individual registrations. 14 interviewees provided data on the number of substances registered (as described in Section 3.1.1), and the calculated average cost per substance across these companies was £101,704 per registered substance where, again, this is the cost of all obligations under REACH and costs could be expected to vary widely between substances depending on factors including those identified above.

As information requirements vary from tonnage band to tonnage band, so does the cost of information and Registration, and interviewees were asked to provide estimates of the average costs of registering substances at each tonnage band. There is also substantial variation from one substance

[6] https://echa.europa.eu/registration-statistics-infograph#

to another with this depending on factors such as the properties of the substance (which dictate what additional testing is required), the number of other registrants (which influences both the extent of cost sharing for information between registrants but also costs of administering the joint Registration) and the availability of existing data versus the need for new test data. This was also apparent from the wide variation in interview responses providing estimated costs. The averages per tonnage band across the 16 respondents who were able to provide estimates are provided in the table below. As this was a purposive sample, these should not be taken as representative of UK registrants more generally.

Table 3-2: Costs of Registration and estimates of the value of information in a statistical dossier				
Tonnage band	**Cost per substance from survey responses (16)**	**Statistical average value of test information in dossiers (see Annex based on €1=£0.85)**		
		New studies – per substance	**Old studies – per substance**	**Total value new and old per substance**
> 1000 tpa*	£346,500	£105,560	£444,901	£550,460
> 100 tpa and < 1000 tpa	£169,111	£79,042	£133,689	£212,730
> 10 tpa and < 100 tpa	£84,000	£41,662	£74,276	£115,938
< 10 tpa	£33,282	£4,533	£13,707	£18,240
*tpa = tonnes per annum				

3.1.4 Manufacture in the UK, imports and exports

Manufacture and Import

Interviewees were asked to indicate the percentage of substances that their company manufactures in the UK and outside the UK. In terms of those substances manufactured in the UK, responses varied from one company to another (reflecting differences between businesses and operations). The range was wide, with between 0% and 100% manufactured in the UK. On average, across all 19 interviewees providing a response, 44% of substances were manufactured in the UK and 56% outside the UK.

Companies that are solely importers of substances into the UK indicated that on average 60% of substances were imported from the EU/EEA and 40% from outside the EU/EEA, with the most frequently mentioned countries of origin being USA, China, South Korea, Malaysia, Japan, Australia and India (14 respondents). Canada, South Africa and Thailand were also mentioned by a few of these as sources of important substances.

Markets

Manufacturers and importers were asked about the location of the companies to which they sell their registered substances and whether these were in the UK, the EU/EEA or outside the EU/EEA. None of the companies identified that they sell exclusively to only one of these markets, with all 17 interviewees indicating that they sell registered substances to customers in the EU/EEA and the UK. Only three interviewees indicated that they did not sell to markets outside the UK/EU/EEA. Averaging answers over all responses suggests that 20% of the registered substances placed on the market by these organisations were sold to UK companies, 60% to customers in the EU/EEA and 20% to customers outside the EU/EEA. The most frequently mentioned destinations for the sale of registered

substances outside the EU/EEA were Japan, USA, India and China, with Canada, Thailand, Singapore, Africa, India, Middle East, South America and Asia Pacific also cited.

3.2 Only Representatives

3.2.1 Number of clients: UK and EU

Only Representatives (ORs) under REACH act as the legal entity on behalf of importers of substances which are based outside the EU/EEA. They have the same responsibilities as importers under REACH with respect to the Registration of substances. 12 ORs provided answers to detailed questions in the interview, with all but one providing information on their client base and how this had changed over the last two years. Responses indicate that their client bases varied from two to 32 clients, and that each client could have multiple substances registered via the OR. There appears to have been little change in the ORs' client bases between 2017 and 2018, with no participants reporting a decrease and one reporting the addition of a single client. Two of the respondents reported that they had transferred client Registrations to EU legal entities as a result of EU Exit, one to an Irish branch of the company and another (acting as OR for US and Saudi affiliates) to a third party provider in the EU.

3.2.2 Number of substances registered by volume

Nine of the ORs provided data on the numbers of substances that they had registered. In total, 968 substances had been registered across the nine ORs who responded - an average of 107.6 per OR interviewed. This is significantly higher than the EU average across all ORs, which would be 4.2 Registrations per OR (with this average including UK based ORs)[7]. Eight of the interviewees provided a breakdown of Registrations by tonnage. These are summarised in the table below showing the total number and the average per respondent.

Table 3-3: Substances Registered by ORs in the UK

Tonnage band	Total number of Registrations (across 8 ORs)	Average per respondent
> 1000 tpa*	77	10
> 100 tpa and< 1000 tpa	91	11
> 10 tpa and < 100 tpa	353	44
< 10 tpa	441	55
*tpa = tonnes per annum		

3.2.3 Locations of companies represented

12 ORs provided information on the main countries where their customers were based. The most frequently mentioned countries were USA (11/12 ORs interviewed), Japan (5/12) and China (4/12), with, South Korea, Saudi Arabia, Mexico, Australia, Singapore, Canada, Brazil, Turkey, India, Switzerland and Taiwan also mentioned by one or two interviewees.

[7] ECHA data indicate that 5418 ORs submitted 22,825 Registrations.

3.3 Distributors

3.3.1 Numbers in total

The nine distributors interviewed all provided estimates of the numbers of substances and mixtures that they dealt with. Between them, they identified a total of approximately 1,710 substances being used in 61,334 different mixture products. This represents an estimated average of 194 substances and roughly 8,762 mixtures per distributor interviewed. Within this average, however, was a large variation, from one substance in four mixtures up to 100 substances in 9,000 mixtures. Several of these interviewees identified that it was difficult to be precise, both because of the number of substances involved and because the precise composition of many of the formulations was not known to them. Some interviewees also identified that some of the substances are outside of the scope of REACH owing to their low tonnage (i.e. <1 tonne per year).

3.3.2 Where are the substances/ mixtures sourced from

Distributors were asked where they sourced their substances and mixtures from. Nine distributors provided geographical information in respect of the substances that they used and seven also provided this information for the mixtures that they used. The following table summarises the interview responses. These figures suggest that the EU/EEA is the primary source (40% of substances and 50% of mixtures, with lower percentages accounted for by UK and non-EU/EEA suppliers). In terms of the non-EEA/EU sources, the following countries were listed by interviewees: Malaysia, Korea, Australia, Canada and Mexico and USA.

Table 3-4: Average percentage of substances/mixtures by source

Source	Substances (9 interviewees)	Mixtures (7 interviewees)
UK suppliers	30%	30%
EU/EEA suppliers	40%	50%
Non-EU/EEA suppliers	30%	10%

3.3.3 Markets for substances and mixtures

Eight distributors provided information on the locations of their customers for substances and mixtures. The following table provides the averages across the interviewees, and highlights that these UK distributors source a significant percentage of the substances that they market from EU/EEA companies. Although the interviewees' main market was the UK, around 30% of substances and mixtures were supplied to non-UK customers.

Table 3-5: Average percentage of substances/mixtures supplied to different locations

Location of customers	Substances (4 interviewees)	Mixtures (5 interviewees)
UK companies	40%	60%
EU/EEA companies	60%	20%
non-EU/EEA companies	0%	10%

3.4 Formulators

3.4.1 Numbers in total for both substances and mixtures

Formulators were asked to provide information on their products. The formulators interviewed for this research used a total of 16,276 substances in 14,697 different mixtures. This represents 740 substances and roughly 668 mixtures per formulator when averaged across the 22 formulators interviewed, with all providing information. As with distributors, these are estimates.

Given that the formulators interviewed for the research came from different sectors (e.g. paints and coatings, cleaning products, other chemical products), it is difficult to comment on the representativeness of these figures other than to note that it would not be unusual for paints and cleaning product manufacturers to use a wide range of input chemicals within their formulations and to produce large numbers of formulations that have small variations in their ingredients. For example, over 900 substances have been identified as being used in cleaning products by US manufacturers, and 300-400 raw materials are used in the manufacture of different types of paint[8].

3.4.2 Where substances / mixtures are sourced from

14 of the 22 formulators provided information on where substances and mixtures were sourced from. Table 3-6 summarises their responses to provide the average, which suggests that a significant percentage of substances and mixtures are supplied by EU/EEA suppliers. Note, however, that two of the 14 interviewees identified that many or all of the materials purchased from UK suppliers are likely to be of EEA/EU origin. One of these interviewees estimated that their UK supplies were 80% of EEA/EU origin with only 20% actually manufactured in the UK. It is therefore possible that a substantial proportion of the 40% of substances and mixtures supplied by UK sources, as indicated in the table, may be of EEA/EU origin. In terms of points of origin outside the EEA/EU, respondents identified China, USA, India and Korea.

Table 3-6: Average percentage of substances/mixtures sourced from different c locations

Source	Substances/mixtures (14 interviewees)
UK suppliers	40%
EU/EEA suppliers	54%
non-EU/EEA suppliers	6%

3.4.3 Markets for formulations

In terms of markets for UK produced formulations, 12 interviewees provided information on the geographic distribution of their markets as a percentage. The following table provides the averages across the 12 interviewees providing information. These suggest a fairly even spread weighted towards UK/EEA/EU, with around 29% being sold outside the UK/EEA/EU. The following non-EU/EEA countries/regions were identified as relevant markets: USA, Far East, Middle East, Asia, SE Asia, South America, Algeria, China, Taiwan, Korea, Turkey, Africa, India, Russia, and non-EU Eastern European countries.

[8] See for example: https://www.equitymaster.com/research-it/sector-info/paint/paint-inputs.html

Table 3-7: Average percentage of substances/mixtures supplied to different locations	
Location of customers	**Mixtures (12 interviewees)**
UK companies	34%
EU/EEA companies	37%
non-EU/EEA companies	29%

As regards the potential for increased trade post EU Exit, one of the 12 interviewees identified that if a company had a big enough market outside of the EU then it would open a manufacturing site outside of the EU. The interviewee noted that because formulations are more dilute than the source materials, once production is over 10 tonnes it is no longer practical to ship it to, for example, the USA. As a result, the formulation would be manufactured locally (in the USA in this example).

3.5 Downstream Users

3.5.1 Numbers in total

Six out of 18 industrial or professional downstream users interviewed provided data on numbers of substances and mixtures. Across these six interviewees, a total of 231 substances were indicated as being used in a total of 2,583 different mixtures. This represents an average of 46 substances and 517 mixtures per downstream user when averaged across the six interviewees. As with distributors and formulators, these are estimates. It is not possible to determine whether or not this is likely to be typical of most industrial downstream users; it is likely to be typical of those involved in the manufacture or maintenance of complex end products (e.g. aerospace related applications).

3.5.2 Where are the substances/ mixtures sourced from

Industrial or professional downstream users were also asked where substances and mixtures were sourced from and seven provided this information. The following table provides the averages across these seven interviewees. For these interviewees, UK suppliers are the primary source for substances, while mixtures appear to be sourced primarily from EU/EEA suppliers. Interestingly, these interviewees reported a greater reliance on non-EU/EEA suppliers of substances than did the distributors and formulators interviewed.

Three interviewees provided information on points of origin outside the EEA/EU identifying Canada, Japan and the USA (and Azerbaijan, but this was in relation to ores as a raw material).

Table 3-8: Average percentage of substances/mixtures sourced from different locations		
Source	**Substances (6 interviewees)**	**Mixtures (7 interviewees)**
UK suppliers	43%	41%
EU/EEA suppliers	33%	53%
non-EU/EEA suppliers	25%	6%

3.6 Employment aspects

3.6.1 Employees from the EU/EEA

All interviewees were asked to provide an indication of the percentage of their employees that are from EU/EEA countries. Only 24 of the 48 interviewees provided information on this aspect and some of them indicated that it was difficult to be precise. Across the 24 interviewees providing quantitative information, an average of 8% of UK-based employees originated from the EU/EEA, with a further 2% of employees originating from outside the EU/EEA.

3.6.2 Skills gaps now and concern into the future

33 out of 48 interviewees discussed the issue of current and future skills gaps. The most commonly mentioned roles seen as being difficult to fill were: regulatory compliance specialists, specialist material scientists, chemists, chemical engineers, and toxicologists. Bilingual or multilingual staff were preferred by some companies and these staff were proving more difficult to find. Some interviewees suggested that this could be partly related to EU Exit. Interviewees also highlighted concerns about a shortage of drivers qualified to transport hazardous chemicals after EU Exit.

Some respondents indicated that they had not found recruitment difficult for any particular roles.

3.6.3 Internal versus external resourcing

Manufacturers, importers and ORs were asked about the number of internal staff that worked on REACH. Interviewees found the question difficult to answer, explaining that most staff fulfilled multiple roles, and that REACH could be a large or very small part of an individual's activities.

External contractors were not employed by most of the interviewees, but some manufacturers and importers indicated that they did use external contractors in relation to REACH. Companies used external contractors from across the UK and EU and one had used a contractor in the USA. In one case, this involved the use of up to 20 additional personnel. The most commonly outsourced activities appear to be laboratory testing and dossier preparation and updates.

A subset of interviewees provided information on the costs of external contractors, with those supplying such information indicating that their company spent in the region of £15,000 to £25,000 per year.

3.6.4 Changes in staff numbers

While staff numbers involved in chemicals regulation varied between interviewees, it appears that staff numbers remained broadly stable over the last two years.[9] Some of the companies reported small changes in the numbers of employees, but in some cases factors other than EU Exit were responsible. Example responses are as follows:

- "We have been able to retain internal staff. The referendum result has not impacted this" [Interviewee 7];
- "Overall staff levels reduced, but purely due to internal organisational changes rather than REACH/EU Exit" [Interviewee 34];

[9] 20 manufacturers and importers and eight ORs answered questions on this issue.

- "…Registrations have been phased but, where work on collation and submission of dossiers has started to reduce, resources have moved to supporting evaluation, dossier management and consortium update activities" [Interviewee 25];
- "… have hired 3 additional employees to the regulatory team over the past year" [Interviewee 49].

4 REACH: Post EU Exit Planning

4.1 Sources of information

The majority of interviewees indicated that they were aware of, and had read, the guidance issued by the UK Government, including that provided by Defra and HSE, in the run-up to EU Exit. While most interviewees felt that this information had been of some help in planning for EU Exit, there were also comments that its usefulness had been limited due to ongoing uncertainty around the post EU Exit situation and a corresponding lack of detail in the guidance provided. Some interviewees commented that the guidance was too generic, did not consider every business sector, and did not reflect the complexity of supply chains. They would also have liked more guidance for scenarios other than No Deal EU Exit and additional information on the UK REACH IT system.

4.2 Manufacturers and Importers

4.2.1 Expectation of costs for re-registering chemicals with UK REACH

25 interviewees provided information on their expectations regarding the costs of re-registering chemicals under UK REACH, in the event of a No Deal EU Exit. Most indicated that costs would depend on arrangements for access to data and the costs of letters of access (LoA). For example:

> *"In a 'no deal' scenario, [the company] intends to re-register under UK REACH, but whether that is possible will depend on the associated cost. If it costs another £30-40k to re-register these substances in the UK, then it will be hard to justify. Customers would have to face an increase in price…. [The company] is not the data owner for the Registrations. For one of the products, data access would be outside of the existing contract, so the costs associated with having to re-register in the UK are still unknown."* [Interviewee 42]

> *"We expect additional LoA costs for substance Registration under UK REACH. We typically purchased access to data limited for use in EU REACH Registration. We expect data owners will not be willing to extend use also for UK REACH free of charge so it will create additional cost related to data access fees. Worst case this would lead to doubling the costs we have under existing EU REACH in case we are not data owner."* [Interviewee 38]

Many saw having to pay (again) for the data as a worst case, while others were hopeful that access would be granted for free (in a few cases this was allowed for under the original SIEF agreements), at low cost or at a lower cost than for the original EU Registration.

A small number of companies had already negotiated access to data for use in Registrations outside the EU (which would include the UK) for some substances. However, other companies indicated that, for some substances, this might not be possible and that they expected to have to pay the same/similar costs as for the original REACH Registration. One interviewee noted, however, that the Chemical Industries Association (CIA) and the European Chemical Industrial Council (CEFIC) were recommending that SIEF and Consortia should not charge current registrants for referring to data for UK-REACH compliance activities. The interviewee indicated that, if this guidance was adopted by the majority of companies, this would reduce the potential costs considerably.

Concern was expressed about the amount of elapsed time and the number of person days that could be required to complete the necessary tasks. Interviewees with larger product portfolios expected to face particular difficulties in meeting the proposed time frame due to the numbers of substances

involved. There was also uncertainty for importers on the fees that would be imposed and concern that registration fees would be as high as they were for ECHA; one interviewee noted that this would not be commensurate with the size of the UK versus EU markets.

As listed below, a number of interviewees provided estimates of the likely costs of meeting UK REACH Registration obligations. Mostly these are total costs (i.e. the number of substances this covers is not identified), however, a few of the examples are provided as a cost per substance:

- One interviewee estimated that it would be around 20% of the cost of EU-REACH, which was £1.0 – 1.5 million in their case;
- One interviewee's worst-case planning was for €2-3 million but they noted that there was a lot of uncertainty around data access;
- Another noted that their company would have over 200 Registrations to do in the UK for which they either had no REACH Registration (because they were currently a downstream user) or would need to rebuy the data for the purpose of re-registration in the UK. The interviewee expected it would incur a cost of roughly £4 to £5 million to cover the needs for its UK customers;
- An interviewee with a large set of substances estimated costs of between £30-40 million; while
- Another interviewee estimated €65 million euros for domestic and supply chains in and out of UK.

In contrast, another interviewee noted:

> *"As far as we understand, no cost if you already hold an EU Registration and the Consortia we are involved in are not requesting further fees for data access. Anticipate there will be admin costs involved with re-submitting."* [Interviewee 43]

More generally, the estimates range from costs of a few hundred thousand pounds for those companies only to a maximum of €65 million for those interviewees whose companies have large substance portfolios.

4.2.2 Intentions to register under UK Exit

In general, interviewees expressed the clear intention to register substances under a new UK regime. The number and choice of substances for reregistration was uncertain, however, depending on a number of factors including the likely cost of a UK Registration compared with the value of the UK market. If the UK market for a substance was small compared with the EU market, Registration in the UK might not be justified. Some interviewees also noted that they might reduce volumes supplied in the UK to below the Registration threshold.

This finding suggests that for the substances/mixtures with larger UK markets or which are sold in larger volumes to EU markets, UK Registration is likely; for lower value/less strategic substances UK Registration is more uncertain. Some substances will remain in the portfolios of companies with EU/EEA affiliates but not in the UK portfolio.

4.2.3 Intentions to use an OR for EU Registration

Overall, interviewees indicated that they intended to transfer current EU REACH Registrations to legal entities established for that purpose in the EU - existing affiliated companies or existing ORs. None of the responses implied that any of the current EU REACH Registrations would be surrendered.

4.2.4 Potential challenges of re-registration in UK via UK REACH IT

In relation to potential challenges with the UK REACH IT system, four main themes emerged.

IT architecture and functionality

In terms of the architecture, many did not foresee problems if UK REACH IT were essentially the same as EU REACH IT and worked with IUCLID such that files could be imported into it directly. At the same time, some expressed doubts that the IT system would have the same functionality, as EU REACH IT had a long lead in time and benefited from very considerable continuing investment (€10 million per year).

In relation to functionality, one particular issue raised by interviewees was that, at the time of launch, the UK REACH IT system would not have features that allow registrants to search for other registrants with a view to making arrangements for data sharing. Interviewees noted that there is no requirement for companies to form a SIEF under UK REACH to support One Substance One Registration (OSOR), and that this could lead to higher costs for new UK Registrants; these manufacturer and importer interviewees also expressed concern that because downstream users would become importers and because they have no experience with EU REACH IT, they are likely to face difficulties in using UK REACH IT (an issue that also arises in relation to the other headings below).

Data access

Interviewees were concerned that registrants would not be able to access the same data as previously. Registrants would have to approach the other companies who are part of an EU joint Registration (i.e. the SIEF) asking for access to the data. These companies might either say no or yes (for a fee, or for free). Where they say no, or the fee was unreasonable, registrants might be faced with the situation where they would have to generate their own data which could, in turn, lead to different results and a different classification and regulatory outcome. Regardless, negotiation on data access was likely to take time (one respondent identified that it took 3-4 years to negotiate 15-20 Registrations undertaken for Registration 2010) and noted that having to do this over 100 times in two years did not seem possible or likely (where this links with timeframe).

In addition, for formulations/mixtures imported from the EEA/EU, the compositions may be confidential and, as such, downstream users who become importers were unlikely to have access to the data necessary to make a submission (and the UK market might not be of sufficient value for an EEA/EU producer to make their own UK Registration).

Timeframe

The number of Registrations required within such a short timeframe was almost universally viewed as an issue, notably not one just associated with cost. For example, manufacturers and importers (MIs) identified that they would need to prioritise their submissions, selecting those substances that were of highest priority to their businesses to register (in the UK) first. The priorities of MIs may also not be the same as the priorities of downstream users. As such, some supply chains deemed less

important/valuable by MIs may be impacted by non-registration of substances of importance to them and their wider supply chain.

As noted by one interviewee:

> *"The sheer number of Registrations will be an issue in the short timeframe. We will have to prioritise. We will have to select our highest priority substances to re-register first and this could have an impact on some supply chains which we deem to be less important. If the UK is going to require full Registration, then longer time frames would be more appropriate…. If UK insists on having its own Registration system, then we need a longer volume-phased time frame (maybe 5-10 years). Many companies struggled to meet the deadlines for REACH as it is. We believe a longer timeframe is required so we can prioritise our high-volume substances. Having a longer time frame will also facilitate the one substance, one registration principle in REACH, which can be time-consuming to establish."* [Interviewee 4]

Regulator

Some interviewees observed that the UK Agency would need to be set up over a very short timeframe and questioned whether it would be in a position to handle all of the information it would receive immediately, given that it took many years (and significant budgets and staffing) for ECHA to be ready and to have developed the necessary guidance on processes and established procedures in relation to data sharing disputes, board of appeals, etc. The UK system would require these aspects very early in implementation.

4.2.5 Case study substances

Manufacturers and importers were asked to provide more detailed information for one case study substance in their portfolio. A total of 22 substances/groups of substances were considered in the 25 interviews held with participants in these roles. Some interviewees preferred not to respond with respect to a single substance/group of substances as the concern for them related to their overall portfolio.

With respect to the individual case study substances, they fell into the different tonnage bands as follows:

- >1000t: 10 substances for which companies had REACH Registrations and one where the company would need a UK Registration as they would become an importer;
- 100-1000t: four substances for which companies had REACH Registrations;
- 10-100t: four substances for which companies had REACH Registrations;
- Tonnage unknown, an intermediate, or not provided: three substances for which companies had REACH Registrations.

For 12 of the substances, the respondent was the lead registrant. In terms of whether the substance was registered by a UK versus an EU/EEA entity, the profile was as follows:

- Two substances registered in the EU (but not UK); The remainder (20) in both the UK and EU.

For 15 of the 22 substances/groups, information on contribution to company turnover was provided. The remaining interviewees either did not know or did not want to provide this level of detail (marking

it as confidential)[10]. In three of the cases, substances accounted for more the 50% of company turnover, in four cases it accounted for 40-50% and for the rest less than 30%.

4.2.6 Changes in price of key inputs

Around half of the manufacturers and importers interviewed (13 out of 25) provided an indication of the extent to which there had been increases or decreases in input prices over the last 3 years (with those not responding indicating that this was too commercially sensitive).

The majority of these interviewees (9 out of 13) identified increases in input prices, with most of these reporting increases below 15% and only one reporting an increase above 35%. Other interviewees said that input prices were either stable or had decreased by less than 5% (see also Annex I). Respondents were not willing to provide figures for the actual prices paid for key inputs over the last 3 to 5 years for reasons of commercial sensitivity.

From the interviews, it seems clear that these changes were considered to be associated with normal variation in other factors such as shortages in the supply chain, tariff increases with China, oil price changes, energy prices and exchange rates rather than EU Exit itself.

In terms of how prices might change in the future, there was some uncertainty: some interviewees expected prices to go up as a result of EU Exit; many were uncertain; and others identified that they could not say as the factors are complex and include a variety of drivers other than EU Exit (such as those listed above).

4.2.7 Actions taken to plan for EU Exit for the case study substances

Interviewees were asked whether, in the event of No Deal, they would re-register the case study substance in the UK and whether they planned to transfer existing Registrations to an EU legal entity. In total, 19 of 21 interviewees responding to this question indicated that they would re-register in the UK, with one indicating that they would not and another being uncertain. The majority also indicated that they would re-register in the EU, with only one indicating they would not (note that as discussed in Section 4.2.5, most of the substances are already registered in the EU and in some cases by multiple affiliated legal entities).

Most of these interviewees were the lead registrant for the EU Registration, with this potentially simplifying for them the need to register under UK REACH. The other interviewees were either not the lead registrant or did not know. In all but four of the cases, there were multiple registrants of the case study substances, highlighting the need for the companies to agree access to the EU Registration. For some of the case study substances, the number of EU registrants was estimated at greater than 100 raising potential concerns over SIEF negotiations.

Most of the interviewees for this research confirmed that there are restrictions on the use of data for the case study substance outside of EU REACH. Some had not yet explored this issue with the respective SIEFs and a few others noted that they were the original data owner so there would be no restrictions on the use of the original registration data for their case study substances. In one case, an interviewee noted that there would be no restrictions on the use of EU REACH Registration data as the Consortium had not placed any restrictions on the use of the data in its contractual agreements.

[10] See also Annex I for further details.

Those who indicated that there were no restrictions on the use of the original data believed there would be no fees involved.

For those needing to negotiate access to data, interviewees were generally unsure as to whether or not it would be granted (but, although uncertain, believed it should be possible). Some were confident that it would be. Most believed that it would/probably would, with one interviewee indicating an anticipated level of fees (30-50% of the original study cost). These figures are consistent with the costs estimates and comments made by interviewees more generally with respect to their broader expectations on access to data and the associated costs. As contact with the SIEFs on the case study substances to date seemed limited, the actual impacts are uncertain.

Almost all respondents indicated that they had (or would have by the deadline) put in place arrangements to transfer their EU REACH Registrations to an OR, partner or affiliate legal entity in the EU. The only one that indicated that they would not stated that they do not need an EU Registration because the substance is only used to manufacture another substance in the UK.

This level of transfer is consistent with data from ECHA [11] that indicates that the number of registrations for which a transfer was initiated from a UK-based registrant to an EU-27 based company was increasing over the period of the research, with the cumulative figure exceeding 4,800 by the end of March out of approximately 12,000 UK registrations in total. According to these data around 40% of registrations have already been transferred to the EU (or are in the process of being transferred).

4.3 Only Representatives

4.3.1 Manufacturers' intentions toward UK Exit registrations

As with manufacturers and importers, ORs were asked to identify case study substances for more detailed discussion. Eight provided answers on one or more case study substances.

In terms of the intentions of non-EU/EEA manufacturers towards UK REACH Registration, the picture was not clear. Some would register the case study substance in the UK and EU, while some would only hold an EU Registration. However, several were unsure of what their clients' intentions were with respect to the case study substances.[12]

Where substances would not be registered in the UK, the reasons given included that the client has no (or only a relatively small) UK market and therefore Registration may not be justifiable. For those identified as unsure, the reason was continuing uncertainty on the outcome of EU Exit.

4.3.2 Future service offering across the UK and EU

Most of the ORs that were interviewed had received enquiries and expressions of interest in relation to EU exit, including from companies seeking ORs within the EU that could act as their representative. Some were approached by companies seeking ORs in the UK in the event of a No Deal EU Exit, while others had not received any such enquiries.

In some cases, these were just discussions given that the political situation was unclear and with no legal text on UK REACH. This was considered to be limiting the extent to which companies could make

[11] https://echa.europa.eu/-/companies-recommended-to-transfer-registrations-before-the-uk-s-withdrawal 3 April 2019

[12] See also Annex I.

plans. All OR interviewees responding to the question indicated that they anticipated providing OR services in the UK and EU after EU Exit (whether through a new legal entity or through an affiliate). From the responses, it is clear that the situation remains uncertain and fluid.

In terms of whether the non-EEA manufacturer had already put in place contractual arrangements with an EU-based OR, some interviewees responded in the affirmative (with companies affiliated with their own). Others had either established arrangements but not yet 'pressed go' (at the time of the interview) or did not need to make arrangements.

4.3.3 Discussions with SIEFs on access to Registration data

Information from OR interviewees suggests that discussions with SIEFs, in general, had not taken place. Where attempts had been made to enter into discussions, the SIEFs were generally unwilling to engage owing to other demands on time. Some interviewees believe that the full price may need to be paid for the data and that, under such a scenario, the substance may not be registered in the UK. Some felt that a mechanism to develop UK SIEFs would be of value when there are other parties wanting to register, as SIEFs provide an effective mechanism for sharing costs.

4.3.4 Potential challenges of re-registration in the UK via UK REACH IT

In common with the manufacturers' and importers' responses, there were concerns about the UK REACH IT system and the OR interviewees had doubts that it would be ready or functioning in time. The 60 day notification period was identified as probably being adequate as long as the IT worked; although some identified that, with time running out, allowing only 60 days after departure to notify would be problematic owing to the large number of substances in client portfolios and an absence of detail on what information had to be provided and how this would be communicated[13].

Interviewees also identified contract issues associated with a lack of legislation and a date for implementation to attach to contracts. The two-year period for re-registration of substances was identified as not being feasible and there was concern that the IT would provide no platform for contacting other potential registrants as part of a joint Registration/SIEF process. One OR observed that some clients were very proactive in terms of compliance, as they are in heavily regulated industries, and that it was mostly these clients who are frustrated at not knowing what is going on. Smaller companies, they observed, were not so concerned possibly because they do not have the resources to know the real impact of EU Exit.

4.4 Distributors

4.4.1 Awareness of "importer" responsibilities

As described in Section 3.3.1, there were some 24,000 substances registered in the EEA of which some 6,000 were registered by UK entities as of February 2019, when this research was undertaken. Thus, there could be as many as 18,000 substances produced in the EEA and imported into the UK for use in chemical processes, or in the hundreds of thousands of mixtures or articles used by downstream users to produce goods. If these substances are not UK registered by the EEA producers then, for continued (legal) use in the UK, they would have to be UK registered by the downstream users themselves.

[13] Note that the 60 day notification period has since been extended to 120 days (this not as a direct result of the research).

All of the distributors that were interviewed were aware that, under a UK REACH, they would have the same responsibilities as an importer if distributing chemical products sourced from outside of the UK. One interviewee noted that this would make it impossible to operate and another indicated that they had not been able to get the advice they needed from Defra. It was also indicated that taking on importer responsibilities could be cost prohibitive for some.

Distributors were asked to identify case study substances/mixtures and answer questions in relation to a range of aspects. The distributors that answered indicated that they had either not contacted their suppliers to ask their intentions on future UK Registration or that they had explored the issue to some extent but suppliers were not ready to talk about the issue until the outcome of EU Exit is more certain. Accordingly, while many were aware that they may have an importer responsibility in the future, they were not clear on the extent of this.

Given the large number of substances and even larger number of mixtures involved, this is clearly of concern since, without UK registration, their use would no longer be permitted with knock-on effects for the UK production of goods and services that depend on them.

4.4.2 Future changes in prices of substances / mixtures

In all cases, distributors identified that the prices paid for formulations had increased over the past year. Various reasons for such increases were given including changes in the cost of raw materials, currency fluctuations and supply chain issues. The risks associated with EU Exit were listed as a factor in relation to the cost of raw materials. Interviewees anticipated that prices would rise even further in the future based on experience with implementation of new country specific regulation in other regions. Interviewees also commented that:

> *"…with Brexit they will go up a lot more. Any friction and currency movements will change the prices."* [Interviewee 30]

> *"May be costly if EU nationals are not allowed to stay in the country because job roles will need to be filled. Costs will increase considerably – maybe 50p by bottle of product – 10 to 15% increase in price to the customer."* [Interviewee 37]

> *"If UK REACH introduced, expect UK market to struggle due to reduction in availability of these substances and price changes associated with that"* [Interviewee 27]

Annual figures for prices paid were identified as confidential.

4.4.3 Future markets

Four distributor interviewees provided information on the geographies of their markets. For two, the UK was the only market, while two had markets in the UK and also exported to EU/EEA and non EEA/EU countries. When asked about future growth, interviewees were generally pessimistic, identifying that without EU Exit they would expect to grow but that, under a 'no deal' scenario and with UK REACH, they expected sales to decline. One identified that their customers may move manufacture out of the UK and into the EU so that finished goods could be imported back into the UK, with the volume of the substance in the finished goods being lower (assumed below the 1t per year threshold). The general consensus seemed to be that this would depend on whether a deal was reached or not (and whether participation in EU REACH continued). Thus, under a No Deal scenario, it was anticipated that volumes would decrease, markets would remain neutral if a deal is agreed and markets would increase if the UK remains in the EU.

4.4.4 Actions to be taken if substance not registered in UK after EU Exit

Distributors were asked what action they expect to take if the case study substances are not REACH registered in the UK by an EU/EEA Manufacturer or Importer (MI). Five responded and their responses suggest that, for distributors, registering substances as an importer is not high on their list of actions. Based on responses to other questions, however, respondents were generally unclear which substances they would (or would not) register in the UK. Until distributors have greater clarity, it seems unlikely that they would be able to make any informed decision on a course of action.

Respondents also unanimously identified that no contractual arrangements with an EU manufacturer had been put in place to cover the situation where a substance needed to be registered in the UK after EU Exit. One interviewee commented that:

> *"If the UK REACH does not work similar to EU REACH, it may be a case of relocating to Germany. Given the ongoing uncertainty in the UK, the company is guessing what to do. Biggest problem is they do not know what decisions are going to be made by UK Government."* [Interviewee 37]

4.5 Formulators

4.5.1 Manufacturers/Importers intentions to register under UK Exit

Formulators were also asked to identify case study substances/mixtures and answer questions in relation to these (12 provided case studies). Most of these interviewees indicated that they had contacted (at least some of) their suppliers regarding their intentions on Registration and EU Exit more generally. The general tone seemed to be that suppliers were considering their options and had not yet decided either way. There was also evidence that suppliers may be focussed on continuity of supply issues and short-term planning to address No Deal issues rather than on medium- to long-term considerations about future Registration.

4.5.2 Future changes in prices of substances/ mixtures

In terms of prices paid, most interviewees identified that these had remained stable, with others quoting price rises of up to 15% over the past year[14]. No interviewees identified these changes as being related to EU Exit, with one noting that changes for some of the substances/mixtures was related to REACH Registration (i.e. the 2018 for 1-100t substances).

In terms of how prices were expected to change in the future, almost all respondents indicated that they expected prices to increase and, in some cases, this was attributed to issues surrounding EU Exit (such as potential tariffs and new UK regulation) and the passing on of costs down the supply chain. One interviewee noted that they expected price fluctuations owing to China trade issues.

Most interviewees were unable, or unwilling, to provide actual prices paid in relation to the case study substances/mixtures.

[14] Eleven interviewees responded in total to this question: six formulators indicated stable prices, one indicated that prices had increased by 0-5% and four said that prices had increased by 5-15% over the past year.

4.5.3 Future markets

The main geographical market for products varied from one respondent to another but, in the main, markets were biased towards the UK/EU/EEA with one or two selling more exclusively to non-EEA/EU geographies.

Out of the 11 interviewees that responded, five indicated that volumes sold had increased over the last three years, three indicated that volumes had decreased and three said that volumes had remained stable. There was more of a tendency towards higher selling prices (six out of nine respondents indicated that prices had increased). Few respondents commented on their expectations for future changes in the markets. Those that did identified that they do not anticipate any change.

4.5.4 Actions to be taken if substance not registered in UK after EU exit

Formulators were asked what action they expected to take if the case study substances were not UK REACH registered by an EU/EEA MI. Their responses indicated that there would be little appetite for registering substances as an importer. Based on responses to other questions, however, (and as with the distributors) interviewees were unclear about what substances would (or would not) be registered in the UK. Without greater clarity, it seems unlikely that formulators would be able to make any informed decision on a course of action, whether to shift production out of the UK, close the business, or other.

Interviewees unanimously indicated that no contractual arrangements had been put in place with the general tone being that, especially considering the very large numbers of substances involved in formulations, it was too early to tell what would happen.

4.6 Downstream Users

4.6.1 MI Intentions to register

All of the professional and industrial users interviewed had contacted their suppliers regarding intentions and impacts. The general consensus was that everyone was confused and unable to decide yet what would and would not be registered and by whom; hence, nobody seems to know whether or not particular substances/mixtures would still be available.

4.6.2 Future changes in prices of substances/ mixtures

All five interviewees that provided information on this topic indicated that they expect prices to increase. One noted a connection with inflation, while a couple indicated that increasing regulatory burdens (which could arise from EU Exit, but also via regulation in other regions such as the US) could lead to increased costs.

4.6.3 Future markets

Professional and industrial downstream users had differing geographical markets. Some were focussed wholly or mainly on the UK, some on a combination of the UK and non-EEA/EU, and some on the rest of the world and not the UK. The five interviewees that provided information generally indicated that they expect the market would remain the same, or would not change significantly, in future.

4.6.4 Actions to be taken if substance not registered in UK after EU exit

Professional and industrial downstream users were asked what actions they expect to take if the case study substances were not UK REACH registered by an EU/EEA MI. Their responses suggested little appetite for registering substances as an importer and a preference for finding someone else to register or ceasing operations that rely on non-registered substances.

5 Environmental and Health Benefits of REACH

5.1 Actions to reduce worker exposures or environmental emissions

Some interviewees indicated that they had taken little, if any, action in relation to worker safety, protecting human health and/or the environment as a direct result of REACH. Some clarified that they did not take any specific action because they were already adequately regulated by pre-existing legislation in the UK. Of the interviewees that indicated they had taken action, several noted that REACH had required them to generate (and/or review) additional information on how substances should be handled and that they had taken the requisite action where required.

Interviewees also indicated that REACH had helped industry to develop a better understanding of the substances they are handling (e.g. exposure scenarios), increased the focus on having appropriate risk management measures in place and ensured that information on substances is passed down through the supply chain (e.g. by means of the extended Safety Data Sheets). Interviewees also indicated that REACH had helped to provide a more consistent and harmonized approach (e.g. in terms of how data are collected and communicated).

Several interviewees indicated that they had reviewed their controls against Safety Data Sheets and had implemented the necessary risk management measures (e.g. by making capital investments to reduce exposure and/or provide training to workers). Some had also taken products off the market as a result of REACH (e.g. products that contain Substances of Very High Concern (SVHC)).

5.2 Compliance costs

Companies that participated in the interviews were asked what costs, if any, they had incurred as a result of taking action to reduce worker exposure, protect human health and/or the environment as a result of REACH. In answer to this question, some indicated that the costs incurred were minimal, at most. Others, however, indicated that their company incurred quite substantial costs. For instance:

- One interviewee noted that their company had incurred capital expenditure (CAPEX) costs of between €200,000 and €400,000 (approximately £170,000 to £345,000) as a result of improving local exhaust ventilation on two sites;
- An interviewee stated that their company had incurred CAPEX costs of around £250,000 over the last 3-4 years as a result of having to install new extraction systems to minimise worker exposure (via inhalation) at their site;
- One interviewee noted that their company had carried out some long-term testing on a substance and had seen unexpected adverse effects. As a result, the company changed some of its handling protocols; and withdrew some of the applications from the market (due to reproductive-toxicity effects). The company incurred costs of £1 million;
- Another interviewee noted that their company had implemented a new labelling system and classification system Safety Data Sheets and that the associated costs for software packages was around £8,000;[15]
- Similarly, one interviewee noted that their company uses external consultants to manage Safety Data Sheets and raw material tracking, at a cost of £110,000 annually; and

[15] It should be noted that some of these costs may be more appropriately assigned to implementation of Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures (CLP).

- One interviewee estimated that their company had incurred costs of €10,000 to €20,000 for training and implementing a new IT tool.

5.3 Changes in chemical inputs – substitution, withdrawal of substances due to Authorisation or Restriction

Around half of the companies that participated in the interviews had withdrawn a product from the market, or reformulated a product, due to REACH Authorisation, the Candidate Listing of a substance and/or the classification of a substance as a SVHC. Several interviewees indicated that their company had tried to move away from using SVHCs, where possible.

5.4 Innovation, research and development

There was a split in opinion among those interviewed as to whether REACH had promoted or stifled innovation. On the one hand, some interviewees indicated that REACH had stimulated companies to substitute away from hazardous substances. For example, one interviewee explained that they regularly looked for opportunities to avoid SVHCs when undertaking research and development. On the other hand, some interviewees indicated that REACH had been costly and that the money spent on compliance might have been better spent on innovation.

One interviewee suggested that REACH had increased people's confidence in the quality of products being purchased, because they knew that these had been subject to rigorous testing and the components were declared. Another noted that REACH had helped to improve the drive away from animal testing, with animal testing considered as a last resort.

A couple of interviewees indicated that onerous REACH requirements for novel products might, in some instances, have stifled innovation. For instance, an example was given of a novel (algae-based) product that had been developed. The interviewee explained that until people started to buy the product, the company producing it could not guarantee that it would recoup the cost of REACH testing requirements; without the necessary test data, the company could not place the product on the market at an adequate tonnage. As a result, the interviewee argued that REACH rules on substance identity and testing at high tonnage were too onerous in such cases, with the outcome that the company that developed this product had ceased trading.

5.5 Opportunities for UK REACH

Many interviewees put forward the view that, under a UK REACH, arrangements should be put in place to reduce the administrative burden on companies associated with Registration, testing and data sharing. For instance, one interviewee suggested that the UK could take an approach (like Korea, the USA or Canada) where full data submission is only required for substances of concern, with a phased approach from most to least concern, rather than requesting data on all substances and deciding which are of concern at a later date. It was also suggested that some sort of mutual agreement to minimise costs of data sharing within existing EU SIEFS would help to minimise the cost of supplying data to support UK REACH. Indeed, as illustrated by the following quotes from the consultation, multiple interviewees indicated that the UK should not seek to duplicate work that has already been done and should accept Registrations that are already in place:

> *"Grandfather everything from EU REACH into UK REACH, as well as only UK registrations to reduce duplication of activities."* [Interviewee 29]

"Not duplicating the data requirements for UK REACH, especially regarding animal testing which should only be done when necessary." [Interviewee 19]

Some interviewees suggested that the UK should adopt a more pragmatic approach than currently exists under the EU REACH regime. For example, it was suggested that the UK could be more open to alternatives to animal testing and could prioritise substances that would be in the UK's national interest. Stronger enforcement was also advocated by several of the interview participants, as was the possibility of adopting a more risk-based system.

5.6 Challenges in retaining benefits

Some interviewees indicated that they expect the UK system to mirror the EU system, in the short term at least, so they were not expecting any immediate impacts (positive or negative) on human health or the environment. In the longer term, however, some interviewees noted that they expected some divergence in the regulatory regimes. While some saw this as a potential opportunity (e.g. due to the UK being able to adopt a more pragmatic approach towards regulation, and potentially being able to make regulatory changes more quickly), a larger number identified that this could be of detriment. For example, it was noted that:

- If UK legislation is less stringent, then lower quality products may be able to enter the UK market;
- Divergence from EU REACH could lead to confusion, and therefore lower levels of compliance, which could be detrimental to human health and the environment;
- Duplication of requirements could lead to additional costs and additional bureaucracy for companies located in the UK and for EU companies which supply products to UK customers;
- ECHA guidance was very comprehensive, but the UK did not yet have the same level of guidance available; this may be an issue for new UK REACH registrants.

Some companies were also concerned that additional animal testing could be required to meet the requirements of UK REACH.

6 The Future: Key Concerns and Opportunities

6.1 Prices and tariffs

During the interviews, it was noted that the UK chemicals sector imports a large proportion of its inputs from the EU/EEA or from outside the EU. Several interviewees identified that exchange rate fluctuations could have a significant impact on the cost of imports and that, if sterling weakens, this would increase import costs. Concern was also raised that there could be a reduction in the number of competitively priced suppliers, that disruption at UK ports could lead to an increase in freight prices and that increased regulatory burden could lead to increased costs, impacting on prices.

Many interviewees indicated that they were concerned about possible tariffs that might be applied to imports and/or exports to/from the UK, and the impacts that this would have on imported substances and mixtures. As noted by one interviewee:

> *"...have investigated which tariffs would apply and the finance department have estimated tariff cost to our UK enterprise of £2 million annually."* [Interviewee 29]

Several interviewees indicated that they expected to face tariffs in the region of 3% to 7%. Similarly, companies exporting to the EU were concerned that EU customs tariffs would be applied to their products and that this would reduce their competitiveness versus EU companies.

Some interviewees, representing companies with more complex supply chains, were concerned that they may be hit twice with tariffs if they are importing substances/mixtures from the EU, formulating and then exporting back to the EU.

After the research interviews took place, the UK Government announced a tariff liberalisation policy which addresses some of the issues. It might not, however, address the concern raised by some that, outside of the EU and the protection of EU customs tariffs, UK companies would not be able to compete with products imported to the EU from low cost economies, such as China.

6.2 Supply chain disruption

Many interviewees expressed a high level of concern over potential supply chain disruption and the knock-on effects of this. While some had already made efforts to speak with their suppliers and customers with the aim of mitigating potential impacts, there was still significant uncertainty. Several interviewees indicated that they were concerned about the physical movement of raw materials and products and at the potential for knock-on effect of delays caused by congestion and customs checks at port. It was noted that even a relatively short delay in the supply of one critical input to production could cause disruption across the whole downstream supply chain. One company explained that it is currently importing all of its global shipments into the UK, which enables it to use full containers and achieve the lowest freight costs. Following EU Exit, the company expected that it would have to bypass the UK when importing products into the EU and would therefore need to split its shipments into three separate supply chains – one to the UK, one to the Netherlands and one to Poland. The interviewee explained that, consequently, product destined for the EU would bypass the company's UK-based controls and warehouse checks, leading to an increased probability of the product being lost or damaged, as well as increased work and costs.

Several interviewees noted that they were increasing stock of materials or products (both in the UK and EU), either internally or using external warehousing. One noted that external warehousing costs

£1.25 per pallet or IBC per day, plus administrative costs and transport costs to/from the warehouse. Another interviewee commented that their company has:

> *"Started to stock up – increased stock by £500,000 to try and mitigate against supply chain disruption. This has cash flow problems."* [Interviewee 36]

One interviewee explained that, if they have to find a new supplier for the substances they use, then they would need to spend additional time and money testing potential new supplies to check whether the replacement substances would be a suitable substitute. Another interviewee similarly noted that they may need to reformulate products if key ingredients are no longer available.

It was also noted that fewer EU hauliers might be prepared to transport to or within the UK due to additional cost, time and complexity following EU Exit and that a large proportion of UK-based Hazchem qualified drivers are currently EU nationals. Concern was also raised that hauliers may not have access to the parts necessary to service their vehicles and that this could lead to supply chain disruption.

6.3 Loss of sales and product quality

Loss of sales as a result of EU Exit was a major concern for many of the companies that participated in the interviews. Many interviewees were concerned that, as a result of higher tariffs, having to reregister substances and/or loss of skilled workers, they would be forced to increase their product prices with knock-on effects in terms of loss of sales. Some interviewees were concerned that a shock to the UK economy and industry moving production out of the UK could reduce demand for their products. There was also concern that delays in moving goods could have consequential impacts in terms of loss of sales.

As illustrated by the following quote, the majority of interviewees did not have any concerns (or had limited concern) about potential impacts on product quality:

> *"Can control [product quality], so not a big concern"* [Interviewee 40]

Nevertheless, a few interviewees were very concerned. Loss of skilled workers was mentioned as a factor that might affect product quality (e.g. it was noted that if companies need to rely on agency staff, or a third party, due to a lack of skilled workers, this could lead to a reduction in product quality). One interviewee also commented that:

> *"In a no deal scenario, likelihood of supplier availability will be reduced which may have its impact on quality as it may not be of the same quality as what we could have sourced from the EU. We would still be able to manufacture, but maybe not to the same quality."* [Interviewee 27]

One interviewee identified that delays during transit could affect the quality of materials. Furthermore, one interviewee explained that if companies have to relabel products, this could increase the chances of damage or mix-ups.

6.4 Loss of skilled workers

As illustrated by the following quote, most interviewees expressed relatively low levels of concern over the potential loss of skilled workers.

"… about 97% of employees are UK nationals and so unlikely to be impacted. Not losing people in general – been able to replace 2 employees who left after Brexit with UK nationals". [Interviewee 36]

Nevertheless, a small number of interviewees expressed significant concern. For example, one interviewee stated that:

"14% of our UK workforce are skilled Polish nationals. We need them to manage R&D for our Polish sales, HR for our Polish workforce, and shipments from the UK to Poland. Losing these skilled workers would be detrimental to our business and our ability to benefit from our sales activities in Poland…" [Interviewee 14]

6.5 Impacts from dual regulatory approaches

Interviewees indicated that they could foresee that there would be divergence over time between the UK and EU's regulatory approaches and many identified this as a key concern. Some interviewees stated that having to comply with two sets of regulations would lead to a duplication of work and increased administrative burden. For example, one interviewee commented that:

"Duplication of (existing) EU Registration will not enhance safety of chemical substances in the EU and UK. The only effect is that additional costs and additional bureaucracy will be generated for companies located in the UK and EU companies which supply products to UK/EU customers. Therefore, a harmonized approach between EU and UK would be the best option including mutual recognition of Registrations." [Interviewee 38]

As previously noted, some interviewees expressed their hope that the UK system would mirror the EU system and that existing Registrations would be grandfathered under UK REACH.

On the other hand, some interviewees indicated that they were not too concerned at the present time. As articulated by one interviewee:

"…assumption that EU REACH will be copied over to UK system directly, so low concern in the immediate future." [Interviewee 47]

6.6 Opportunities for UK businesses

When asked what opportunities could arise for UK chemicals businesses from a No Deal EU Exit and/or the introduction of UK REACH, most interviewees said that they could not, or would struggle to, identify any opportunities. Some identified potential changes in approach and opportunities for gaining competitive or revenue advantage, although these tended to be outweighed by associated risks.

- Potential advantages of moving to a more risk-based approach were discussed along with concerns this could result in a divergence in approach from the EU, which would be problematic.
- Opportunity to put in place less burdensome requirements for UK companies (e.g. enabling companies to produce larger volumes of a substance without having to provide a high-volume dossier for ECHA). However, since companies would still need to comply with EU legislation in order to export to the EU, this benefit could be negligible.

- Opportunity for the UK to become a preferred place to do business for some operations, if the UK took a more pragmatic approach towards REACH-like regulation and assessment.
- Opportunity for the UK to have its own decision-making abilities on aspects like substance classifications and be more pragmatic in substance assessments. Companies may have greater ability to lobby regulators more effectively.
- Opportunity to allow for faster implementation of Restrictions, affecting only the UK market.
- UK-based ORs with an affiliate in the EU could benefit from being able to manage both UK and EU REACH compliance for different businesses. Similarly, it was noted that there could be opportunities for consultants.
- Chemical distributors could be at an advantage if they could get a UK Registration in place early, as they might become a preferred source of material for UK manufacturers and suppliers.
- Contingency planning by UK companies had led to an increase in orders from some companies.

6.7 Changes that could enable UK companies to take advantage of opportunities

When asked what changes may need to be made for UK companies to take advantage of the opportunities, should a UK REACH regime be put in place:

- Some interviewees mentioned that the UK could adopt a more pragmatic approach, rather than simply replicate everything that happens in the EU system;
- Some interviewees noted that current REACH Registrations should be accepted and recognised by the UK Chemicals Agency and that this would help to reduce duplication of work, and the associated costs and animal testing that would be required;
- Some interviewees suggested that new legislation would need to be phased in and that free support should be given to ensure that companies understand the new requirements;
- One interviewee suggested that the UK should abandon requirements to submit full dossiers for UK REACH, simplify the notification procedure and allow a longer period for notification;
- Some interviewees suggested that enforcement should be improved, and that this may lead to opportunities for UK companies within the UK.

It was also suggested that the UK government should be more open to stakeholder input and the concerns raised by industry associations.

7 Key Messages

1) Many interviewees indicated that on-going uncertainty around EU exit has made planning difficult and limited the extent to which they have been able to commit to action.

2) Some indicated that they expected the UK system would mirror the EU system, in the short term at least, although there was concern that there could be divergence in the longer term. While some interviewees identified that divergence from the EU system may provide an opportunity, many were concerned that two sets of regulations would lead *inter alia* to a duplication of work, increased administrative burden and increased potential for confusion.

3) There was a clear intention amongst manufacturers and importers to register substances under UK REACH. Which substances would be registered was more uncertain and would depend on a number of factors including the cost of UK Registration compared with the value of the UK market. For substances with a large UK market or supplying larger EU markets, consultation suggests that UK Registration would be likely. However, for lower value/less strategic substances, UK Registration is uncertain and some substances (and mixtures or articles containing those substances) may be withdrawn from the UK market. There was little appetite amongst distributors, formulators or downstream users (who are not also manufacturers) to register substances under UK REACH. Therefore, substances/mixtures where no Registration would be sponsored by manufacturers or importers may be withdrawn from the UK market.

4) Various potential challenges were identified in relation to the UK REACH IT system and associated Registration process, including concerns about the IT architecture and functionality and data access. Concern was also expressed about the short timeframe for making Registrations and whether the UK Agency would be adequately resourced to deal with the volume of work to be completed within this short timeframe. Several interviewees identified that the two-year period for re-registration of substances was not feasible and that there would not be a platform to contact other potential registrants as part of a joint Registration/SIEF process.

5) Some interviewees indicated that they anticipate having to pay (at least some costs) for access to data in order to register under UK REACH. Nevertheless, interviewees were hopeful that arrangements would be put in place to reduce the administrative burden on companies associated with testing and data sharing for the purposes of UK REACH (i.e. UK SIEF arrangements). Many interviewees indicated that the UK should not seek to duplicate work that has already been done and should accept Registrations that are already in place (i.e. by grandfathering Registrations).

6) The distributors that were interviewed were aware that, under UK REACH, they would have the same responsibilities as an importer if distributing chemical products sourced from outside of the UK. However, some felt that they would not be able to take on these obligations due to the cost and resource implications of doing so given the large portfolios of substances they handle.

7) Many interviewees indicated that they were concerned about possible tariffs that might be applied to imports to, and exports from, the UK. There was also concern that, outside of the EU and the protection of EU customs tariffs, UK companies would not be able to compete with products produced within the EU, or imported to the EU from low cost economies such as China.

8) Potential loss of sales (e.g. resulting from higher tariffs, the costs of having to re-register substances, delays in moving goods, and/or loss of skilled workers) was also a key concern among the companies that were interviewed. There was concern that UK manufacturing would no longer be competitive versus EU manufacturing and that a shock to the UK economy could reduce demand for chemicals within the UK.

9) There was a high level of concern over potential supply chain disruption, including any that could be caused by the knock-on effects of delays caused by congestion at UK ports. While many interviewees indicated that they had already made efforts to speak with their suppliers/customers with the aim of mitigating potential impacts of supply chain disruption, it was noted that uncertainty around EU Exit had made it difficult to plan. In terms of mitigation strategies, several interviewees noted that they had been increasing stock of material/product (both in the UK and EU).

10) Interviewees generally expressed relatively low levels of concern over the potential loss of skilled workers although this was a significant concern for a minority of companies.

11) Interviewees found it difficult to identify opportunities that could arise for UK chemicals businesses from a No Deal EU Exit and introduction of UK REACH.

12) However, some interviewees offered suggestions for making a UK REACH more efficient:

- Arrangements should be put in place to reduce the administrative burden on companies associated with registration, testing and data sharing;
- Some sort of mutual agreement to minimise costs of data sharing within existing EU SIEFS would help to minimise the cost of supplying data to support UK REACH;
- The UK could take an approach where full data submission is only required for substances of concern with a phased approach from most to least concern (similar to Korea, USA or Canada);
- The UK should not seek to duplicate work that has already been done and should accept registrations that are already in place;
- The UK should adopt a more pragmatic approach than exists under the EU REACH regime, for example, by being more open to alternatives to animal testing and by prioritising substances that are in the UK's national interest; and
- Stronger enforcement was also advocated by several of the interview participants, as was the possibility of adopting a more risk-based system.

Some interviewees identified opportunities for gaining some competitive or revenue advantage from a No Deal EU Exit, which would need to be balanced against risks:

- Opportunity to put in place less burdensome requirements for UK companies. At the same time, UK companies would still need to comply with EU legislation in order to export to the EU so there are trade-offs;
- UK-based ORs with an affiliate in the EU may benefit from managing both UK and EU REACH compliance;
- Chemical distributors could gain short-term advantage if they get a UK registration in place early and become a preferred supplier for UK manufacturers; and
- Short-term increase in orders for some companies.

Annex I: Supporting Information

Size distribution of UK companies registering substances under EU REACH

Table A1-1: Number of companies by size (from data refreshed by ECHA on 8 February 2019[16])				
Company size as defined by EU Recommendation 2003/361/EC	UK		EEA	
	Number	Percentage	Number	Percentage
Large	1,420	80%	10,592	73%
Medium	151	8%	1,660	11%
Small	163	9%	1,492	10%
Micro	52	3%	831	6%
Total	**1,786**		**14,575**	
https://echa.europa.eu/registration-statistics-infograph, February 2019				

Role distribution of EU and UK companies registering substances under EU REACH

Table A1-2: Number of companies by REACH role (from data refreshed by ECHA on 8 February 2019)				
Company role	UK		EEA	
	Number	Percentage	Number	Percentage
Manufacturer	191	47%	3,586	62%
Manufacturer & importer	159		1,927	
Importer	441		3,197	
Only representative	877	53%	5,418	38%
Total	**1,668**		**14,128**	
https://echa.europa.eu/registration-statistics-infograph#, accessed 8 February 2019				

Distribution of research participant roles under REACH

Participants were asked to describe the roles of their company under REACH, highlighting the main role where multiple roles were held and a main role was identifiable.

[16] It should be noted that ECHA periodically updates these statistics. Since the report and analysis was first presented ECHA has updated the statistics. This suggests that the number of UK companies registering has reduced by 107 from the 1,786 in the table to 1,679 in the latest update (27 March 2019). This is likely to be as a result of UK registrations being migrated to the EU with most (85) of the change amongst large companies.

Table A1-3: Main role under REACH		
	Number indicating a role (of 48)	Number identifying a main role where multiple roles exist (24 interviewees)
Manufacturer	24	8
Importer	28	4
Only Representative	15	3
Downstream user - formulator	21	5
Downstream user - distributor	14	1
Downstream user – industrial or professional uses	18	3
Total number identifying a main role where multiple exist		**24**

Research participant activities

26 of the interviewees were able to indicate the Nomenclature of Economic Activities (NACE) code(s) for their company's activities. Others provided a summary of their key activities and from these it has been possible to identify the most likely NACE codes. The table below provides a summary of the diversity of roles and sectors represented by participants in the study. Companies undertaking a range of activities have multiple classifications.

Table A1-4: Participant activities		
NACE	Eurostat classification of economic activities – NACE Rev. 2	Frequency
Blank		4
C20	Manufacture of chemicals and chemical products	16
C20.1	Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms	2
C20.1.4		2
C20.2	Manufacture of pesticides and other agrochemical products	2
C20.3	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	3
C20.4	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	1
C20.4.2	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	2
C20.5	Manufacture of other chemical products	1
C21.1	Manufacture of basic pharmaceutical products	2
C22.2.9	Manufacture of other plastic products	2
C24	Manufacture of basic metals	1
C24.1	Manufacture of basic iron and steel and of ferro-alloys	2
C24.2	Manufacture of tubes, pipes, hollow profiles and related fittings, of steel	1
C25.6.2	Machining	1

Table A1-4: Participant activities		
NACE	**Eurostat classification of economic activities – NACE Rev. 2**	**Frequency**
C25.6.1	Treatment and coating of metals	1
C30.3	Manufacture of air and spacecraft and related machinery	3
C30.4	Manufacture of military fighting vehicles	1
C33.1.4	Repair of electrical equipment	1
C33.1.6	Repair and maintenance of aircraft and spacecraft	3
C33.1.7	Repair and maintenance of other transport equipment	1
C33.1.9	Repair of other equipment	2
E	Water supply; sewerage; waste management and remediation activities	1
G46.1.2	Agents involved in the sale of fuels, ores, metals and industrial chemicals	11
G46.4.6	Wholesale of pharmaceutical goods	1
G46.7.5	Wholesale of chemical products	4
M70.2.2	Business and other management consultancy activities	9
M72.1	Research and experimental development on natural sciences and engineering	1
M74.9	Other professional, scientific and technical activities n.e.c.	7
S95.2.1	Repair of consumer electronics	1
Base number of participants		**48**

REACH registered substances and REACH registrations in the EEA (including UK) and the UK, February 2019

Table A1-5: Substances and Registrations in the EEA (including UK) and UK registering under REACH as at 1 February 2019				
Registration type	**Substances**		**Registrations**	
	UK	**EEA**	**UK**	**EEA**
Full Registration	5,050	15,626	9,139	69,077
Intermediate	943	8,551	1,144	16,581
	5,993	**24,177**	**10,283**	**85,658**
Registrations in Joint submissions	3,793	15,141		
Individual Registrations under REACH	2,110	8,227		
	5,903	**23,368**		
Phase-in (Old substances for which no registration was done before REACH)	3,871	15,666		
Non phase-in (Newly developed substances since REACH)	160	1,386		

Table A1-5: Substances and Registrations in the EEA (including UK) and UK registering under REACH as at 1 February 2019				
Registration type	**Substances**		**Registrations**	
	UK	**EEA**	**UK**	**EEA**
NONS (Substances for which a notification was done under the preREACH legislation and they are considered already registered under REACH)	1,768	5,067		
	5,799	**22,119**		
Manufacturer			1,826	26,411
Manufacturer & importer			558	8,030
Importer			3,144	28,727
Only representative			4,755	22,480
			10,283	**85,648**
Source: ECHA website, February 2019.				

Manufacturers: Case study substance specificities

For 15 of the case study substances, information on contribution to company turnover was provided with the profile being as in the table below. The remaining interviewees either did not know or did not want to provide this level of detail (marking it as confidential).

Table A1-6: Case study substances by percentage of company turnover	
Percentage of company turnover	**Number of case study substances**
<10%	3
10% - 20%	5
20% - 30%	3
30% - 40%	0
40% - 50%	1
>50%	3

In terms of changes in the prices faced by companies for their chemical inputs, those that provided information on the question (13) indicated a level of increase/decrease as follows:

- Input prices increased >35% = 1
- Input prices increased >25-35% = 2
- Input prices increased >5-15% = 4
- Input prices increased 0-5% = 2
- Input prices decreased 0-5% = 1
- Input prices remained stable 0-5% = 3

Interviewees were also asked whether, in the event of 'no deal', they would re-register the case study substance in the UK and whether they plan to transfer existing Registrations to an EU legal entity. 21 responded to the question and their responses are summarised in the table below.

Table A1-7: Interviewee responses: registration intentions in the event of a 'no deal' scenario	
	Number of respondents
Yes, would register in UK	19
No, not in UK	1
Yes, would register in EU	13
No, not in EU	1
Unsure	3

Only Representatives: Case study substance specificities

ORs were also asked to identify case study substances and answer questions in relation to a range of aspects. In terms of the intentions of non-EU/EEA manufacturers as regards UK REACH Registration, the table below provides an overview of the responses.

Table A1-8: Only Representatives registration intentions	
OR client's Registration intentions	Substances
Yes, UK	3
Yes, EU	4
No, UK	2
No, EU	2
Unsure	4

Distributors: Case study specificities

Distributors were asked what action they expect to take if the case study substances are not REACH registered in the UK by an EU/EEA MI. Five responded; their responses are summarised in the table below.

Table A1-9: Distributor intentions toward non REACH registered substances	
Actions to be taken by distributors if a substances is not registered in the UK after EU Exit	**Responses for case study substances**
No action, we would import the substance at below 1 tonne per year	0
Become sole registrant as an importer	1
Become joint registrant as an importer	2
Switch to a UK-based supplier if one exists	0
Encourage EU/EEA supplier to appoint a UK-based OR	1
Establish a new legal entity in the EU/EEA	2
Shift activities to an affiliate in the EU/EEA	1
Cease operations relying on the substance	2
Merge with an EU company	0
Other	1

Formulators: Case study specificities

The main geographical market for products varied from one respondent to another but, in the main, was biased towards the UK/EU/EEA with one or two selling more exclusively to non-EEA/EU geographies. Across the sample, the average distribution was as follows:

- UK = 30%
- EU/EEA = 40%
- Non-EU/EEA = 20%

Formulators were asked what action they expect to take if the case study substances will not be UK REACH registered by an EU/EEA MI. Their responses are summarised in the table below.

Table A1-10: Formulator intentions toward non REACH registered substances	
Actions to be taken by distributors if a substance is not registered in the UK after EU Exit	**Responses for case study substances**
No action, we would import the substance at below 1 tonne per year	0
Become sole registrant as an importer	0
Become joint registrant as an importer	3
Switch to a UK-based supplier if one exists	1
Encourage EU/EEA supplier to appoint a UK-based OR	5
Establish a new legal entity in the EU/EEA	0
Shift activities to an affiliate in the EU/EEA	1
Cease operations relying on the substance	0
Merge with an EU company	0
Other	6

Downstream users: Case study specificities

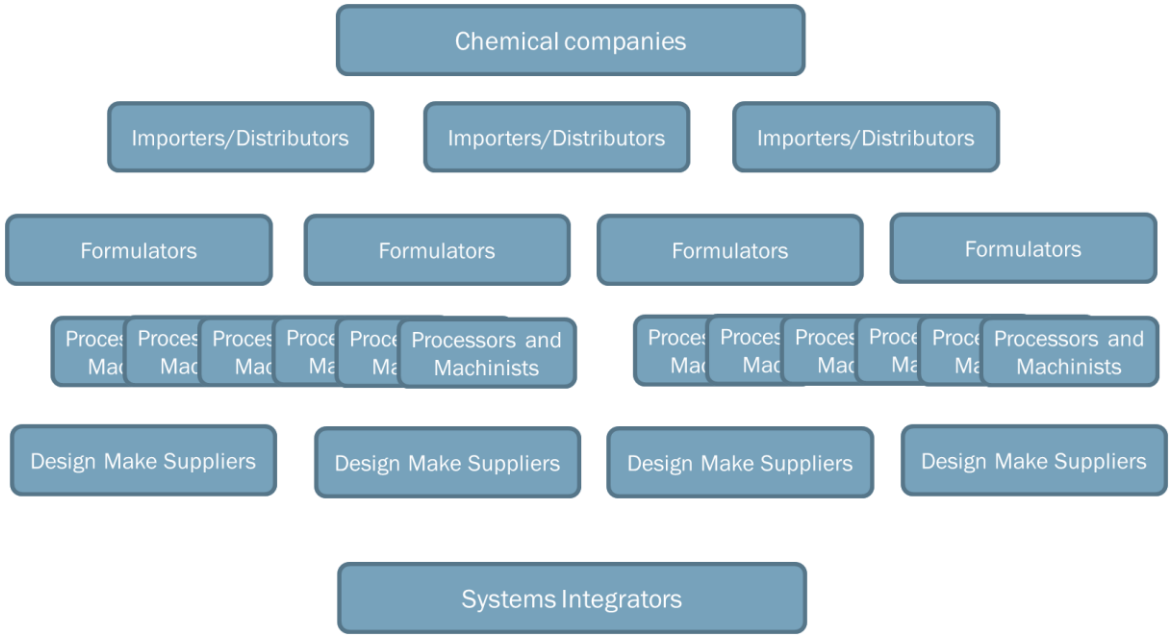
Professional and industrial downstream users were asked what action they expect to take if the case study substances are not UK REACH registered by an EU/EEA MI. Their responses are summarised in the table below.

Table A1-11: Downstream user intentions toward non REACH registered substances	
Actions to be taken by distributors if a substance is not registered in the UK after EU Exit	**Responses for case study substances**
No action, we would import the substance at below 1 tonne per year	0
Become sole registrant as an importer	0
Become joint registrant as an importer	1
Switch to a UK-based supplier if one exists	3
Encourage EU/EEA supplier to appoint a UK-based OR	1
Establish a new legal entity in the EU/EEA	0
Shift activities to an affiliate in the EU/EEA	0
Cease operations relying on the substance	2
Merge with an EU company	0
Other	2

Annex II: Summary Report on the Aerospace and Defence Supply Chain

The Aerospace and Defence supply chain is extremely complex, global and diverse. It has multiple levels and cannot be easily mapped or understood, even by its own downstream users and original equipment manufacturers (OEMs).

The primary relationship when considering chemical regulation is between the system integrator and design authority (and the formulator). Taking the example of an aero engine or airframe designer, they will collaborate for many years with key formulators to develop, test and validate formulations for use in the manufacture of its products. These formulations are mostly proprietary to the formulator and technically specified by the design authority, any actor in the supply chain that makes parts using the formulation has little or no influence on the source or how it is used.



Chemical companies are mainly outside of the UK, some in the EU and some in the USA.

There only a few distributors and formulators involved due to the high cost of entry and validation costs.

Processors and machinists use products qualified by the OEMs from sources approved by the OEMs so don't see REACH as their problem.

Design/make suppliers jealously guard their design and IP and therefore are reluctant to talk about the product content and supply chain.

There are only a handful of systems integrators in the UK Aerospace & Defence (A&D) industry but they are key to the continuity of the UK A&D Industry, as are the major US systems integrators who have substantial investments in the UK and EU.

Chemical Companies

No chemical manufacture companies were interviewed as the UK and EU supply chains start with the importer/distributors.

Formulators

There are four major UK based formulators that support the A&D industry two of those agreed to be interviewed and contributed case studies.

Importers/Distributors

There are three major distributor/integrators in the UK, all were approached, one has been interviewed to date and one is still considering responding.

Processors and Machinists

We have not approached this part of the supply chain as they either have no influence over the chemicals and formulations they use or they have already indicated that they don't wish to share their data. Those spoken to did express concerns over the potential reduced availability and increased cost of products post EU Exit.

Design/Make Suppliers

Design/Make suppliers are OEM's in their own right who design and make parts to meet a requirement specified by the Systems Integrator. They own the design and its content and are therefore within their rights to protect that design and its content. They are therefore reluctant to reveal what chemicals and formulations are contained within them. We do know, as a result of their membership of significant Authorisation consortia, that they are reliant on hexavalent chrome for certain applications, and utilise key formulations provided by companies interviewed in this survey.

Systems Integrators

We have interviewed two key UK systems integrators and one US systems integrator with significant UK investment. All of these companies also "own" product companies within their and other System Integrator's supply chains, both in the UK and in the EU.

How the Aerospace and Defence supply chain is responding

As with the introduction of EU REACH, the major companies are attempting to mitigate potential risk by communicating with its upstream suppliers and advising them to increase stock of key substances and formulations. They are also actively doing this in their own facilities. There is a concern that the full implications of a 'no deal' exit are not understood and that things will "fall through the net". There is a significant concern about Annex XIV Authorisations that are still in the pipeline and have not yet been granted by the EU. This is no fault of the A&D companies or their suppliers, who submitted the applications on time and correctly. If these applications are not recognised by the UK in its new regulations then there could be significant and irreparable damage to the industry and its supply chain.

Case Study Key Messages

- We have case study contributions from each stage of the supply chain apart from pure chemical manufacturers that are not UK based.
- Virtually all chose chromates or other SVHC substances on or proposed for Annex XIV.
- All see Authorisation, particularly those applied for in the EU but not yet granted as significant concerns to the success of UK REACH.
- There is concern over the lack of time to contact registrants and obtain data for UK Registrations, particularly when the lead registrant in the EU is a competitor.
- There is a concern that there is no facility to create SIEFs for joint Registrations.
- Many would like a pre-registration period in order to develop new dossiers.
- All are concerned over the potential cost of compliance to the new UK legislation.

Annex III: Interview Topic Guide

1 Background

1.1 Context for the interviewer

This document provides a list of topics that we would like you to cover and for which the questions should be used as guides, together with a more fixed list of questions that we would also like answers to if possible. The aim of this approach is to provide flexibility to the interviewers so that you can respond to the issues that turn out to be important for the participant. Interviewers are expected to use their knowledge of REACH together with their skill and experience as an interviewer to probe around the topic areas.

Timings given are for a 60 to 90 minute interview. Please adapt to time available while ensuring that you cover all sections.

1.2 Introductory script – *read as appropriate*

Defra has appointed Risk and Policy Analysts Ltd (RPA), Ramboll and PTJH Consulting Ltd as research contractors to undertake in-depth interviews of representatives of businesses which are manufacturing, distributing and using chemicals. RPA has a long history of working in the field of chemicals policy for UK, EU and other national authorities, and will be known to many of the relevant UK industry associations as well as to individual companies. Ramboll is a technical consultancy operating in the field of REACH and brings a detailed understanding of how REACH registration and authorisation requirements affect companies. PTJH has experience in working with complex supply chains on REACH related issues.

The aim of these interviews is to collect detailed information on the way that UK chemicals companies and downstream users of chemicals in other sectors engage with REACH and other chemicals regulations. The intention is to conduct further interviews after EU Exit to learn more about what changes take place as a result of this.

Whatever the final result of the EU Exit negotiations, Defra and BEIS want to fully understand the implications for the wide range of businesses working within the chemicals sector and other business that are reliant on the chemicals sector. As a result, we will be interviewing a range of different types of businesses, including manufacturers, importers, Only Representatives, distributors, formulators and downstream chemical users in key industry sectors. You have been selected as a representative of one or more of these groups.

Scope of the interview

The interview will last for approximately 60 to 90 minutes. Participation in this interview is voluntary and you may decline from answering any of the questions that we wish to discuss. Our discussion today will focus on your use of REACH registered chemicals. We will ask you about:

- your company and its products;
- supply chains;
- product markets and exports; and
- ensuring human and environmental safety.

Before this interview, we sent you a set of questions that were aimed at collecting some financial information, to inform Defra's economic assessments and models.

- *I can see that you have completed and returned that information already, thank you for that. We will want to check a few of those responses….*

Or

- *As part of the interview, we would like to go through these questions if you have the data available or to help explain what information we are looking for in more detail so that you can provide your responses after the interview. As indicated above, participation is voluntary and you are not required to answer all questions.*

1.3 Confidential information – mandatory

This information will also have been sent to them after they have been selected for interview. Interviewer to check first if they are happy with how the information from the interview will be used and stored.

You are participating in this interview on a voluntary basis. If there are any questions that you prefer not to answer, or if you would like to stop the interview, please let us know.

All information that you provide will be held securely by RPA, in a password protected file with access limited to the immediate study team, as set out on the consent document that you will be asked to complete as a basis for carrying out the interview. We will provide you with a copy of the written notes from the interview so that you can check these for both accuracy and commercial sensitivity.

As part of the outputs from this research and with your agreement, we will provide anonymised notes of the interviews to Defra. You will have the opportunity to review the notes for accuracy before sharing them. We will also be asking you for permission to share your contact details with Defra. Contact details will be kept separately from the interview notes and would only be used if needed to contact you about participating in the follow up research. All data will be held in a secure, encrypted folder on RPA's server. In addition, individual responses will be password protected before being saved on the server.

For formal reporting purposes, a light touch analysis to pull out key themes from the anonymised information collected through the interviews will be prepared for Defra and this may be published at some point. With your permission, the full interview notes will be provided to Defra and used to inform economic modelling, policy development and negotiation strategies for Government departments, including Defra and BEIS.

For interviews involving recording equipment (face to face or webinar based):

In order that we can capture the full detail of what you tell us today, we would like to ask for your consent to record the discussion. The recording will be transcribed to written notes. We are happy to share these notes with you so that you can suggest amendments if needed and indicate anything that you do not want us to share. The recording will be deleted once these notes have been agreed.

Are you happy for the discussion to be audio-recorded today? [Complete consent sheet accordingly]

If consent is given, ask if it is OK to turn on the recorder.

If consent not given:

With your consent, we will take written notes of our discussion today and will share our summary with you so that you can suggest amendments if needed and indicate anything that you do not want us to share. [Complete consent sheet and terminate interview if consent not given]

Check participant is happy for discussion to start.

2 Background Information on the Company

Notes to Interviewer (5 minutes)

Some of the information required for this section should already be available from the "Interview registration form". Please check that the information provided below is correct and add details of those participating in the interview. Allow roughly 5 minutes for these questions

About your company

1. Name of interviewee(s), title and role in the company

Name	
Title	
Role	

2. Company's main activities and NACE code under which these fall

NACE code:	

3. Company ownership structure

Sole UK trader	
Entity within a larger group of companies all located in the UK	
Entity within a larger group of companies including EU/EEA affiliates	
Entity within a larger group of global companies	
If entity is part of a larger EU/EEA or global group, what proportion of turnover is based in the UK (estimate)	%

4. Size of the company / legal entity (Micro, small, medium, large) in the UK – please indicate the size that best reflects your company:

	Number of employees	Turnover
Micro-enterprise: fewer than 10 persons, turnover < EUR 2 million		
Small enterprise: fewer than 50 persons, turnover < EUR 10 million		

Medium sized enterprise: fewer than 250 persons, turnover < EUR 50 million		
Large enterprise: more than 250 persons, turnover > EUR 50 million		

5. Are there any special skills required of your employees that are hard to fill? (e.g. chemical engineering/manufacturing, regulatory compliance, laboratory, EHS, IT, training, sales, management, training etc.)

6. What percentage of your UK-based employees originate from the EU/EEA (excluding the UK) or from outside the EU/EEA?

From the EU/EEA (excluding the UK)	
From outside the EU/EEA (excluding the UK)	

3 REACH Registrations

Notes to interviewer

This part of the survey asks for general data on numbers of substances registered under REACH, etc. and these will be sent prior to the interview as they can be completed beforehand. If the company has not collected the information in advance, go through the questions to try and get best estimates. Or, agree to allow them to provide responses as part of follow-up when also agreeing the notes of the interview.

Allow between 10 – 20 minutes, as data should have been collected beforehand.

Interview questions - REACH registered products

1. What is the role of your company under REACH? *Please tick all that apply and if more than one applies which is your main role? Go to….*

Manufacturer		Q2
Importer		Q2
Only Representative		Q13
Downstream user - formulator		Q21
Downstream user - distributor		Q24
Downstream user – industrial or professional uses		Q27
Main role if multiple exist		

For Manufacturers and Importers

2. How many substances did your company register under REACH and, if possible, can you indicate what percentages were registered in each of the different tonnage bands in terms of the UK legal entity, and if relevant, EU affiliates? Please also indicate for how many of these substances you were the lead registrant.

	UK legal entity		EU affiliate	
	Number by tonnage registered by legal entities in the UK	Percentage for which you were lead registrant	Number by tonnage registered by legal entities in the EU	Percentage for which you were lead registrant
> 1000 tpa				
> 100 tpa and < 1000 tpa				
> 10 tpa and < 100 tpa				
< 10 tpa				

3. What was the overall cost of meeting these registration obligations?

Total cost across all registered substances	

4. What was the average cost per substance – please tick the cost band that best reflects the average cost per substance for each tonnage category?

	Average £ per substance registered
>1000 tpa	
> 100 tpa and < 1000 tpa	
> 10 tpa and < 100 tpa	
<10 tpa	

5. What is your expectation regarding the costs of re-registering chemicals with UK REACH? (e.g. total cost across all registered substances or cost per substance)

6. If you are a UK manufacturer, what percentage of the products that you place on the market do you manufacture in the UK and what percentage do you import from outside the UK (e.g. if they are manufactured by one of your affiliates in the EU/EEA our outside the EU/EEA)?

	Percentage of products	Main countries/regions
% Manufactured in the UK		
% Manufactured outside the UK		

7. If you are an importer only of substances, what percentages of the products that you place on the market do you import from the EU/EEA and from outside the EU/EEA?

	Percentage of products	Main countries/regions
% Imported from EU/EEA		
% Imported from outside the EU/EEA		

8. What percentages of the products that you place on the market do you sell in the following:

	Percentage of products	Main countries/regions
% sold only in the UK		
% sold in the UK and EU/EEA		
% sold in the UK and non-EU		
% sold only in the EU/EEA		

% sold only outside the EU/EEA		
% sold in the EU and outside of EU		

9. What is the current number/cost of staff involved in managing REACH registrations (internally and external contractors/experts)?

	Number	Cost
Number of internal staff		
External contractors		

10. Have staff numbers changed? Have you been able to you retain internal staff? Did you use UK or EU/EEA contractors and has this changed recently?

Has the number of staff involved in managing REACH changed over the last two years? If yes, please describe.	
Have internal staff been retained?	
Did you use external contractors in the past? If yes were these UK or EU/EEA based?	
Are you currently using external contractors and are these UK or EU/EEA based?	

11. Have any of the substances that you manufacture or import been subject to Authorisation or Restriction under REACH? If so, please indicate which substance(s).

Substances subject to Authorisation	
Substances subject to Restriction	
Are any currently on the Candidate List or subject to a RMOA	

12. What percentages of the REACH registered substances that you manufacture or import are supplied to UK companies, EU companies and non-EU/EEA companies?

	Percentage of products	Main countries/regions
% supplied to UK companies		
% supplied to EU/EEA companies		
% supplied to non EU/EEA companies		

For Only Representatives

13. For how many companies do you act as an Only Representative under REACH? How has the number of companies you represent changed over the past year?

Number of clients 2017	
Number of clients 2018	

13. If the number of non-EU manufacturers represented last year changed, do you know the reasons for this change?

14. How many substances did you register under REACH on behalf of your clients? If possible can you indicate what percentages were registered in each of the different tonnage bands?

Total number of registered substances	

	Number by tonnage band
>1000 tpa	
> 100 tpa and < 1000 tpa	
> 10 tpa and < 100 tpa	
<10 tpa	

15. What are the main country locations of the companies that you represent?

16. What is the current number/cost of staff involved in managing REACH registrations (internally and external contractors/experts)?

	Number	Cost
Number of internal staff		
External contractors		

17. Have staff numbers changed? Have you been able to you retain internal staff? Did you use UK or EU/EEA contractors and has this changed recently?

Has the number of staff involved in managing REACH changed over the last two years? If yes, please describe.	

Have internal staff been retained?	
Did you use external contractors in the past? If yes were these UK or EU/EEA based?	
Are you currently using external contractors and are these UK or EU/EEA based?	

18. Have you been approached by any EU/EEA companies seeking ORs in the UK in the event of a no deal scenario with respect to EU REACH? If so, how many queries have you had?

19. Do you anticipate providing OR services in EU and UK after Brexit?

For Formulators as Downstream Users

20. Roughly how many different substances as defined by REACH do you use in your formulations?

Number of substances as inputs to formulations	

21. What percentages of the substances that you use are sourced from UK suppliers, from EU suppliers and from non-EU/EEA suppliers?

	Percentage of products	Main countries/regions
% sourced from UK suppliers		
% sourced from EU/EEA suppliers		
% sourced from non-EU/EEA suppliers		

22. What percentages of your formulation are supplied to UK downstream users, EU downstream users and non-EU/EEA downstream users?

	Percentage of products	Main countries/regions
% supplied to UK downstream users		
% supplied to EU/EEA downstream users		
% supplied to non EU/EEA downstream users		

For Distributors as Downstream Users

23. As a distributor, roughly how many different substances as defined by REACH do you handle?

Number of substances	

24. What percentages of the substances that you handle are sourced from UK suppliers, from EU suppliers and from non-EU/EEA suppliers?

	Percentage of substances handled	Main countries/regions
% sourced from UK suppliers		
% sourced from EU/EEA suppliers		
% sourced from non-EU/EEA suppliers		

25. What percentages of the substances that you handle are supplied to UK companies, EU companies and non-EU/EEA companies?

	Percentage of products	Main countries/regions
% supplied to UK companies		
% supplied to EU/EEA companies		
% supplied to non EU/EEA companies		

For Industrial or Professional Downstream Users

26. As a downstream user, from where do you source most of the substances and mixtures that you use?

	Percentage of substances and mixtures sourced from each location	Main countries/regions
% sourced from UK suppliers		
% sourced from EU/EEA suppliers		
% sourced from non-EU/EEA suppliers		

4 Case study substance(s) - Key REACH registered products

Notes to interviewer

In this part of the interview you should identify with the interviewee, in order of importance for the company, 1 or up to 3 key products which either have been Registered under REACH (i.e. are a substance) or involve a REACH registered substance. These products will then be considered in more detail.

The questions vary depending on the role of the interviewee. There are separate sets of questions for:

- *UK manufacturers*
- *Importers*
- *Only representatives*
- *Formulators and Distributors*
- *Industrial and professional downstream users.*

Allow between 30 – 45 minutes, as data should have been collected beforehand.

UK Manufacturers and Importers

Meeting REACH obligations Pre-EU Exit

1. What is the name of the case study substance, its CAS number and HS code if available

Substance Name	
CAS number	
HS Code (if available)	

2. Why have you chosen this substance as a key product?

At what tonnage is it registered under REACH?	
Is it REACH registered in the UK or in the EU?	
Is it a product of chemical synthesis? If so, what are the precursor chemicals?	
Is it important for downstream UK industries?	
Other reasons for choosing the product	

3. Were you the lead registrant? If not did you contribute data to the registration dossier? Or do you only hold a Letter of Access?

Lead registrant?	
How many other Registrants were there?	
Did you input data to the registration process, or do you only hold a Letter of Access to the registration dossier?	

4. How was the SIEF organised contractually? Potential questions for probing SIEF related issues are set out below.

Are there restrictions on use of the data other than for EU REACH purposes?	
Will it be possible to negotiate access to the data?	
Will access entail new fees?	
Other key points on the SIEF?	

5. What was the cost of meeting REACH obligations for this substance under REACH?

What were the costs of REACH Registration?	
Costs of any updates to your Registration preEU Exit?	
Costs of any Authorisation activities related to this substance?	
Costs of feeding information into proposed Restrictions on this substance?	
Other costs	

6. Were the above costs one-off costs or do you also currently incur regular costs of complying with REACH for this substance (or on a substance by substance basis)?

7. If REACH registration costs were one-off and you answered yes to the above question, is this because the substance is on the CORAP, has been subject to harmonised classification and labelling, or has been subject to other regulatory decisions?

8. What percentage of your turnover is related to this substance?

<10%	
10% - 20%	
20% - 30%	
30% - 40%	
40% - 50%	
>50%	

Meeting REACH obligations Post EU-Exit

9. In a scenario involving a negotiated outcome with the EU, the UK would be seeking participation in ECHA and continuity in terms of EU REACH. In a 'no deal' scenario, however, the UK would no longer be a member of ECHA and there would be a need for UK REACH. In the event of a 'no deal' scenario, would you re-register this substance both in the UK and would you transfer your existing registration to an EU legal entity?

Yes, would register in UK	Yes, would register in EU
No, not in UK – go to Q8	No, not in EU
Unsure	

10. If yes to an EU registration, have they already put in place contractual arrangements with a potential Only Representative should they need to trigger such a registration on March 30th 2019? Or will they / have they transferred their existing registration to an affiliate located in the EU? (If the latter, was this affiliate set up due to EU Exit?)

11. **To be asked to all who answer No to an EU Registration in Question 7** : If you would not transfer your EU registration to an OR or an affiliate, why not?

12. Have you held any discussions with the SIEF regarding access to data for UK REACH registration purposes? Have you discussed the costs of accessing data for UK REACH purposes? Can you indicate what anticipate as the data and time costs of re-registering this same chemical using UK REACH IT should this be necessary? Assume that UK REACH IT operates in the same manner as ECHA's IT system (IUCLID)

Estimated cost (£)	
What items have you included in the above estimate?	
Would you have to buy new access to key studies?	
How much time would be involved?	
Would you need to use consultants to re-register the substance or could you do this in-house?	
Are you aware of other UK registrants with whom you might be able to share costs if this was allowed?	
Would a mechanism to develop UK SIEFs be of value?	

13. If you would not register the substance in the UK, why not? What would you do instead?

14. Do you foresee any potential challenges of re-registration in the UK via UK REACH IT? Do you have any suggested alternative solutions?

Chemical inputs

15. For the case study substance, can you indicate what the CAS numbers and names are for the main/critical chemical inputs to the key product you manufacture?

Key input	Name	CAS number

16. Where are your current suppliers for these chemical inputs located?

	Number of suppliers	Location(s)	% of raw materials sourced from each
UK suppliers			
EU/EEA suppliers			

Non-EEA suppliers (if yes, what country/countries?)			

17. If your current suppliers are located outside the UK, are there also UK suppliers? Yes / No

18. If your current suppliers are located outside the UK and EU/EEA, can you indicate what level of tariffs are levied on these imports? Do you know the HS code for the chemical inputs you are importing?

19. Have the prices that you pay for your chemical inputs increased, decreased or remained stable over the past 3 years? (What % change do they consider significant?)

	0-5%	>5-15%	>15-25%	>25-35%	>35%
Increased					
Decreased					
Remained stable					

20. Can you provide annual average figures for the prices that you have paid for these key inputs over the last 3 to 5 years?

21. How do you expect prices to change in the future, and why?

Your production and sales

22. What is the main geographical market for the case study substance? Can you indicate roughly what percentage is sold in each of these markets?

Main geographical market	

	% sold in each of these markets
UK customers	
EU/EEA customers	
Non-EEA customers	

23. Have the volumes that you sell of the key product changed significantly over the last 3 years? Has the price at which you sell your product changed significantly over the last two years? Can you provide an annual average over the last 3 years?

	Volumes (%)					Prices (%)				
	0-5	>5-15	>15-25	>25-35	>35	0-5	>5-15	>15-25	>25-35	>35
Increase										
Decreased										
Remained stable										

24. What were the reasons for these changes in volumes sold and / or the prices at which you sell your product?

Your supply chain

25. Can you describe your downstream supply chain? We are interested in the following:

Do you sell mainly to formulators or distributors? Or to industrial or professional users directly?	
What industry sectors use the substance or formulations based on it?	
Are these downstream users mainly located in the UK, EU/EEA or outside the EU/EEA? If so, where?	
If your customers are located outside the EU, what levels of tariffs do they currently pay?	

26. How do you expect markets for your key product to change in the future?

27. Would you be happy for us to talk to one of your downstream users? Yes (get details).

UK Only Representatives

28. What is the name of the case study substance, its CAS number and HS code if available?

Substance Name	
CAS number	
HS Code (if available)	

29. Why have you chosen this substance as a key product?

At what tonnage is it registered under REACH?	
Is it imported into the EU through the UK, or through other EU Member States?	
Is it important for downstream UK industries?	
Other reasons for choosing the product	

30. What was the cost to the non-EU/EEA manufacturer of meeting REACH obligations for this substance under REACH?

Was it also registered by UK manufacturers?	
How many other Registrants were there?	
What were the costs of REACH Registration?	
What were the costs of any updates to the Registration?	
Has the substance gone through Authorisation?	
Other costs	

31. Were the above costs one-off costs or are there also regular costs of complying with REACH for this substance (or on a substance by substance basis)?

Meeting REACH obligations Post EU-Exit

32. Would the non-EU/EEA manufacturer register this substance in the UK in the future?

Yes, UK	Yes, EU
No, UK	No, EU
Unsure	

33. If not (or unsure), why not?

34. Has the non-EEA manufacturer already put in place contractual arrangements with an EU-based OR? Is this an affiliate of yours, or a separate organisation (If the latter, was this affiliate set up due to EU Exit?)

35. Have you or the non-EEA manufacturer held any discussions with the SIEF regarding access to data for UK REACH registration purposes? Have you discussed the costs of data access? Can you indicate what anticipate as the data and time costs of re-registering this same chemical using UK REACH IT should this be necessary? Assume that UK REACH IT operates in the same manner as ECHA's IT system (IUCLID)

Estimated cost (£)	
What items have you included in the above estimate?	
Would you have to buy new access to key studies?	
How much time would be involved?	
Would you need to use consultants to re-register the substance or could you do this in-house?	
Are you aware of other UK registrants with whom you might be able to share costs if this was allowed?	
Would a mechanism to develop UK SIEFs be of value?	

36. As an OR, do you foresee any potential challenges of re-registration in the UK via UK REACH IT and do you have any suggested alternative solutions?

Chemical imports

37. What is the country of origin when this substance is imported into the EU? Do you know what level of tariff is levied on this substance when imported? Do you know the HS code for the chemical inputs you are importing?

Country of origin	
Import tariff to the EU	
HS code	

38. Do you have any information on whether imports have increased, decreased or remained stable over the past 3 years?

	0-5%	>5-15%	>15-25%	>25-35%	>35%
Increased					
Decreased					
Remained stable					

39. Do you have any information on what the main geographical market is for the case study substance?

	Main countries/regions
UK customers	
EU/EEA customers	
Non-EEA customers	

The case study supply chain

40. Do you know what the downstream supply chain is for the case study substance?

Are imports sold mainly to formulators or distributors? Or to industrial or professional users directly?	
What industry sectors use the substance or formulations based on it?	
Are these downstream users mainly located in the UK, EU/EEA or outside the EU/EEA? If so, where?	

Formulators and Distributors (may need to modify language slightly for distributors)

Meeting REACH obligations Pre-EU Exit

1. What is the name of the case study substance, its CAS number and HS code if available?

Substance Name	
CAS number	
HS Code (if available)	

2. Why have you chosen this substance as a key product?

Do you know if it is REACH registered by a UK manufacturer or importer, or by EU/EEA manufacturers / importers?	
Why is it important to you? How do your activities rely on this substance?	
Are there other reasons for choosing the product	

3. Do you incur any costs in ensuring compliance with REACH in relation to this substance? If yes, please describe.

4. What percentage of your turnover is related to the use of this substance?

<10%	
10% - 20%	
20% - 30%	
30% - 40%	
40% - 50%	
>50%	

REACH obligations Post EU-Exit

5. Do you obtain this substance from a REACH registered manufacturer or importer, or do you obtain it from a distributor, or is it contained in formulations that you use?

6. If you obtain this substance from an EU/EEA manufacturer or importer and it was not registered in the UK post EU Exit, what action would you expect to take and why? (probe and describe these reasons)?

No action, we would import the substance at below 1 tonne per year	
Become sole registrant as an importer	
Become joint registrant as an importer	
Switch to a UK-based supplier if one exists	
Encourage EU/EEA supplier to appoint a UK-based OR	

Establish a new legal entity in the EU/EEA	
Shift activities to an affiliate in the EU/EEA	
Cease operations relying on the substance	
Merge with an EU company	
Other	

7. If you would act as an importer, have you already put in place contractual arrangements with an EU manufacturer should the substance need to be registered in the UK come March 30th 2019?

8. Have you contacted your supplier (manufacturer or importer) to ask their intentions regarding the registration of this substance in the future?

9. If you obtain the substance from a distributor or a formulator, have you discussed the future availability of this substance, and what their intentions are regarding UK REACH Registration?

Imports of formulations

10. If your current suppliers of the formulation are located outside the UK and EU/EEA, can you indicate what level of tariffs are levied on these imports? Do you know the HS code – if one exists - for the products you are importing?

11. Have you had to deal with rules of origin when making these imports?

Yes:	No:
Please describe your experiences:	

12. Have the prices that you pay for the formulation increased, decreased or remained stable over the past year?

	0-5%	>5-15%	>15-25%	>25-35%	>35%
Increased					
Decreased					

Remained stable	

13. Can you provide annual average figures for the prices that you have paid for these key inputs over the last 3 to 5 years?

14. How do you expect prices to change in the future, and why?

Your production and sales

15. What is the main geographical market for the products you sell using the formulations that contain the case study substance? Can you indicate roughly what percentage is sold in each of these markets?

UK customers	
EU/EEA customers	
Non-EEA customers	

16. Have the volumes that you sell of the key product / formulations product changed significantly over the last 3 years? Has the price at which you sell your product changed significantly over the last two years? Can you provide an annual average over the last 3 years?

	Volumes	Prices
Increased		
Decreased		
Remained stable		

17. What were the reasons for these changes in volumes sold and / or the prices at which you sell your product?

Your supply chain

18. Can you describe your downstream supply chain? We are interested in the following:

Do you sell mainly to (other) formulators or distributors? Or to industrial or professional users directly?	
What industry sectors use the substance or formulations based on it?	
Are these downstream users mainly located in the UK, EU/EEA or outside the EU/EEA? If so, where?	

19. How do you expect markets for your key product to change in the future?

20. Would you be happy for us to talk to one of your downstream users? Yes (get details).

Downstream users: Industrial or professional

Meeting REACH obligations Pre-EU Exit

1. What is the name of the case study substance, its CAS number and HS code if available

Substance Name	
CAS number	
HS Code (if available)	

2. Why have you chosen this substance as a key product?

Do you know if it is REACH registered by a UK manufacturer or importer, or by EU/EEA manufacturers / importers?	
Why is it important to you? How do your activities rely on this substance?	
Are there other reasons for choosing the product	

3. Do you incur any costs in ensuring compliance with REACH in relation to this substance? If yes, please describe.

4. What percentage of your turnover is related to the use of this substance?

<10%	
10% - 20%	
20% - 30%	
30% - 40%	
40% - 50%	
>50%	

REACH obligations Post EU-Exit

5. Do you obtain this substance from a REACH manufacturer or importer, or do you obtain it from a distributor, or is it contained in formulations that you use?

6. If you obtain this substance from an EU/EEA manufacturer or importer and it was not registered in the UK post EU Exit, what action would you expect to take and why? (probe and describe these reasons)?

No action, we would import the substance at below 1 tonne per year	
Become sole registrant as an importer	
Become joint registrant as an importer	
Switch to a UK-based supplier if one exists	
Encourage EU/EEA supplier to appoint a UK-based OR	
Establish a new legal entity in the EU/EEA	
Shift activities to an affiliate in the EU/EEA	
Cease operations relying on the substance	
Merge with an EU company	
Other	

a. If you would act as an importer, have you already put in place contractual arrangements with an EU manufacturer should the substance need to be registered in the UK come March 30th 2019?

b. Have you contacted your supplier (manufacturer or importer) to ask their intentions regarding the registration of this substance in the future?

7. If you obtain the substance from a distributor or a formulator, have you discussed the future availability of this substance, and what their intentions are regarding UK REACH Registration?

Imports of formulations

8. If your current suppliers of the formulation are located outside the UK and EU/EEA, can you indicate what level of tariffs are levied on these imports? Do you know the HS code – if one exists - for the products you are importing?

9. Have you had to deal with rules of origin when making these imports?

Yes:	No:
Please describe your experiences:	

10. Have the prices that you pay for the formulation increased, decreased or remained stable over the past year?

	0-5%	>5-15%	>15-25%	>25-35%	>35%
Increased					
Decreased					
Remained stable					

11. Can you provide annual average figures for the prices that you have paid for these key inputs over the last 3 to 5 years?

12. How do you expect prices to change in the future, and why?

Your production and sales

13. What is the main geographical market for the products you sell using the formulations that contain the case study substance? Can you indicate roughly what percentage is sold in each of these markets?

UK customers	
EU/EEA customers	
Non-EEA customers	

14. Have the volumes/quantities that you sell of the key product changed significantly over the last 3 years? Has the price at which you sell your product changed significantly over the last two years? Can you provide an annual average over the last 3 years?

	Volumes/quantities	Prices
Increased		
Decreased		
Remained stable		

15. What were the reasons for these changes in volumes/quantities sold and / or the prices at which you sell your product?

Your supply chain

16. Can you describe your downstream supply chain? We are interested in the following:

Do you sell mainly to product manufacturers, to other professionals or to end consumers?	
If product manufacturers or other professionals, what industry sectors are these in?	
Are these downstream customers mainly located in the UK, EU/EEA or outside the EU/EEA? If so, where?	

17. How do you expect markets for your key product to change in the future?

18. Would you be happy for us to talk to one of your downstream users? Yes (get details).

5 Costs and benefits of the REACH registration system

Notes to interviewer

This part of the interview is aimed at identifying what types of benefits EU REACH has brought about and whether these may be either lost in the event of a No Deal EU Exit or whether there are opportunities to improve upon the benefits.

The questions do not vary by the role of the interviewee.

Allow around 5 - 10 minutes

1. What kind of actions have you taken in relation to worker safety, and / or protecting human health and the environment as a result of REACH? *Prompt: For example, took action to reduce worker exposures, or emissions to the environment. Worked with downstream customers to improve their risk management measures, etc.*

2. What compliance costs did you incur in undertaking these actions?

3. Have you withdrawn any substances from the market due to REACH Authorisation or the Candidate Listing of the substance? *OR: Have you stopped using an SVHC due to REACH Authorisation?*

4. More generally, we would like to know what you think the human health and environmental benefits have been from the introduction of EU REACH? *Prompt: For example, what benefits has REACH delivered in terms of e.g. in terms of worker's health, general public' health (humans/man via the environment), consumer health and safety? What environmental benefits has it delivered?*

5. Have there been other benefits from the introduction of EU REACH? *Prompt: For example, through the substitution of substances of very high concern? Through shifts in demand for certain types of substances? Through increased innovation and emphasis on green chemistry?*

6. What do you think the potential impacts on these health and/or environmental benefits might be under a no deal EU Exit? And, why?

7. Are there ways in which the UK could improve upon these benefits under UK REACH, under a no deal EU Exit?

8. Will there be challenges to retaining these benefits under UK REACH should we end up needing to implement this? If so, how could the UK ensure that the benefits of EU REACH are not lost?

6 EU Exit Challenges

Notes to interviewer

This part of the interview is aimed at identifying what types of benefits EU REACH has brought about and whether these may be either lost in the event of a No Deal EU Exit or whether there are opportunities to improve upon the benefits.

The questions do not vary by the role of the interviewee.

Allow around 15 - 20 minutes

1. How have you used the information being provided by the government, for example Defra and HSE, in the run-up to EU-Exit? How has this helped you plan for EU-Exit? How have you dealt with the uncertainty surrounding what might be required in the future? What additional guidance would you find helpful?

2. What plans does your company have in place to respond to EU-Exit? We are interested in what types of contractual arrangements you may have put in place, whether you have or are planning to establish a new EU legal entity and any other actions.

3. If you have not yet taken any action, what factors are preventing you from acting?

4. Can you please indicate to what extent you are concerned over the following post EU-Exit? Can you please explain what is driving these concerns? *Prompt using "concerns" and possible drivers below if necessary.*

Concern	Rating 1-5, where 5 is a high level of concern	And reason for concern?
Concerns over feedstock prices?		
Concerns over increases in the costs of mixtures?		
Concerns over tariffs?		
Concerns over upstream supply chain disruption and the knock-on effects of this?		
Concerns over loss of sales?		*Due to? increases in materials prices? Tariffs? Loss of skilled workers and the knock-on effects of this? Other factors leading to a decrease in UK competitiveness?*
Concerns over supply chain disruption?		*Due to? some companies ceasing to do business in the UK, delays in customs clearance, complexity of the supply chain or level of integration?*
Concerns over product quality?		*Due to? The loss of EU suppliers in the future, the loss of skilled workers?*
Concerns over loss of skilled workers?		
Impacts arising from dual regulatory approaches		*Due to? Inconsistency, cost? Divergence over time?*

5. What opportunities do you believe could arise from a no deal EU-Exit for chemical businesses from the introduction of UK REACH legislation?

6. What changes might be needed in order for UK companies to take advantages of these opportunities, should a UK REACH regime be put in place?

7. Do you have any other comments you would like to make? Are there any important issues that we have not touched on in this interview?

Thank participant and check that consent form has been fully completed.

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