Chemicals Sector Report

1. This is a report for the House of Commons Committee on Exiting the European Union following the motion passed at the Opposition Day debate on 1 November, which called on the Government to provide the Committee with impact assessments arising from the sectoral analysis it has conducted with regards to the list of 58 sectors referred to in the answer of 26 June 2017 to Question 239.

2. As the Government has already made clear, it is not the case that 58 sectoral impact assessments exist. The Government's sectoral analysis is a wide mix of qualitative and quantitative analysis contained in a range of documents developed at different times since the referendum. This report brings together information about the sector in a way that is accessible and informative. Some reports aggregate some sectors in order to either avoid repetition of information or because of the strong interlinkages between some of these sectors.

3. This report covers: a description of the sector, the current EU regulatory regime, existing frameworks for how trade is facilitated between countries in this sector, and sector views. It does not contain commercially-, market- or negotiation-sensitive information.

Description of sector

Introduction

4. The UK chemicals sector is highly diverse, including the manufacture of commodity/bulk chemicals, speciality chemicals, polymers (plastics) and consumer chemicals (e.g. personal care and cleaning products). It is principally comprised of approximately 2,500 Small and Medium Enterprises (SMEs) and microbusinesses (employing less than 250 people); these make up 97 per cent of the sector (see employment table below) with a handful of large multinational companies comprising the other three per cent.¹

5. Geographical clustering is important as companies can be located close to both suppliers of their feedstocks and end-users of their outputs, as well as the large number of support services (engineering, R&D, electricity, effluent treatment) required. Chemical production is concentrated in four main clusters – Hull, Teesside, Runcorn and Grangemouth. There are varying levels of business integration between the four main clusters but they all are connected by pipeline for a key input (feedstock), ethylene, which is one of the main building blocks of the industry.

¹ ONS Business Registers and Employment Data
6. Our analysis of the sector is broken into the following sub-sectors:

a. Sub-sectors of strategic significance, sitting at the top of UK chemicals supply chains, and which have a large UK employment and investment footprint:

i. Petrochemicals and basic inorganics which make up large-scale bulk commodities used in chemical sub-sectors further downstream;

ii. Polymers and consumer chemicals supplying high-value downstream sectors e.g. aerospace, automotive, pharmaceuticals.

b. High-growth sub-sectors which have increasing revenues and trade surpluses:

i. Specialty chemicals are high-value and supply growing downstream markets e.g. healthcare, services, agriculture, and niche markets that are not catered for by low-cost economies e.g. China, the Middle East, which tend to focus on producing bulk chemicals. The UK has a competitive advantage in innovative and high value products due to its strong R&D base.

Figure 1- How chemicals sectors contribute to GVA, employment and trade

Value of the chemicals sector

7. The UK chemicals sector accounted for £12.1 billion of the UK economy’s Gross Value Added (GVA) and 99,000 direct jobs in 2016. While the EU and UK share of the global market shrank last year, the UK chemicals sector grew 3.6 per cent. Chemicals and chemical products account for 6.8 per cent of UK manufacturing

---

2 ONS Annual Business Survey 2016, ONS Trade in goods figures, ITC trade statistics, IBISWorld
3 GDP(O) Low Level Aggregates National Accounts, ONS, 2017
4 'Employee Jobs by Industry’, ONS, September 2017
5 https://www.ons.gov.uk/economy/grossdomesticproductgdp/datasets/ukgdpolowlevelaggregates ONS 25 October 2017
Exports of chemicals and chemical products accounted for 4.5 per cent of UK goods and services exports by value in 2016. The sector inputs to a range of sectors such as aerospace and automotive through the provision of coatings, adhesives, rubbers and plastics, as well as providing intermediary ingredients to the pharmaceutical, cosmetics, agrochemical, personal care, paint and home care sectors.

The sector is highly competitive but also faces a number of challenges. These include increasing global competition (particularly from the United States and China), very high operating costs (as an energy intensive industry combined with high costs of complying with environmental regulations), difficulty in attracting investment from global parent companies, and skills shortages.

Employment

Overall employment in 2016 was 99,000.

As well as production jobs, the sector also directly supports capabilities in plant overhaul, apprenticeships, R&D and logistics.

Table 1 - Just over half of chemicals enterprises employ fewer than five people

<table>
<thead>
<tr>
<th>Number of People Employed at Firm</th>
<th>Proportion of Chemicals Sector Enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-4</td>
<td>50%</td>
</tr>
<tr>
<td>5-49</td>
<td>36%</td>
</tr>
<tr>
<td>50-99</td>
<td>7%</td>
</tr>
<tr>
<td>100-249</td>
<td>4%</td>
</tr>
<tr>
<td>Over 250</td>
<td>3%</td>
</tr>
</tbody>
</table>

Table 2 - Geographical distribution of sector GVA and employment in 2014

<table>
<thead>
<tr>
<th>UK Country</th>
<th>GVA</th>
<th>Proportion of sector employment</th>
</tr>
</thead>
<tbody>
<tr>
<td>England</td>
<td>87%</td>
<td>86%</td>
</tr>
<tr>
<td>Scotland</td>
<td>7%</td>
<td>5% (largely concentrated in Grangemouth)</td>
</tr>
<tr>
<td>Wales</td>
<td>4%</td>
<td>5%</td>
</tr>
<tr>
<td>N. Ireland</td>
<td>2%</td>
<td>2%</td>
</tr>
</tbody>
</table>

There are four main geographical clusters of employment in England and Scotland.

---

6 GDP(O) Low Level Aggregates National Accounts, ONS, 2017
7 Estimation based on calculations from multiple ONS sources
8 Employee Jobs by Industry, ONS, September 2017
9 Estimates based on calculations from National accounts, Regional gross Value Added and Regional Annual Business Survey ONS
10 ONS Business Registers and Employment Data
Table 3 - 2014 total chemicals employment split between four main sector clusters

<table>
<thead>
<tr>
<th>UK Region/Country</th>
<th>Sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yorkshire &amp; Humberside</td>
<td>12% of sector employment</td>
</tr>
<tr>
<td>North East</td>
<td>11% of sector employment</td>
</tr>
<tr>
<td>North West</td>
<td>21% of sector employment</td>
</tr>
<tr>
<td>Scotland</td>
<td>5% of sector employment</td>
</tr>
<tr>
<td>UK wide (i.e. outside of the four main clusters)</td>
<td>51% of sector employment</td>
</tr>
</tbody>
</table>

Chemicals skills

13. The chemicals sector relies on highly qualified individuals. The chemicals sector invests in skills, such as recruiting graduates and apprentices. The bulk commodity end of the sector is capital-intensive, rather than labour-intensive, but also relies on qualified technicians (of which there have been shortages reported\(^{12}\)). The speciality end often relies on highly qualified chemists and biochemists from all over the world, who are internationally mobile. The sector can struggle to retain its skilled labour, losing out for example to the higher paying finance sector. Chemical engineers have been in short supply in the past, but this has lessened due to recent low oil prices, with UK oil companies reducing staff and taking on fewer graduates.\(^{13}\)

14. The sector requires a highly dynamic workforce which can keep up with new technological innovations, in order to keep best manufacturing practices and drive growth.

15. While not chemicals specific, recent data from the Science Industry Partnership (SIP) suggests that between 180,000 and 260,000 new scientific staff will be required for science based industries by 2025 in the UK and that experienced staff as well as graduate level intake will be required.\(^{14}\)

16. There is a range of activity underway to address the sector’s skills needs, including through the SIP Skills Strategy which sets out the skills required through to 2025. This will provide recommendations on the actions needed to address the skills shortages and challenges faced by the science industries sector.

Trade patterns and interdependencies

Business interdependencies

17. Interdependencies between upstream and downstream producers have encouraged clustering. Production plants are often co-located and physically connected through pipelines, enabling producers to benefit from the synergies of buying and selling their

---

\(^{11}\) BEIS analysis of ONS Business Registers and Employment Data  
\(^{12}\) Technician roles, skills and training in the UK chemical industry: An analysis  
\(^{13}\) The Demand for Skills in the UK Science Economy  
\(^{14}\) Skills Strategy 2025, Science Industry Partnership
bi- and waste products to one another as feedstocks. An example is Teesside below.

Figure 2 - Co-location at the Teesside Chemicals Cluster

![Figure 2 - Co-location at the Teesside Chemicals Cluster](image)

**Trade patterns**

18. The biggest customers of the UK chemicals sector are the chemical and pharmaceutical manufacturing sectors themselves. UK producers exported 67 per cent of output in 2013 (most recent figures available), and, in 2016, 59 per cent of total exports were to the EU. The industry imports supplies of feedstocks and intermediate products from the EU.

19. The sector has complex supply chain flows with multiple border crossings of intermediate products in the supply chain. For example, companies which are active in the specialty chemicals sector often source the raw materials they require from EU based companies, using them to make a further product which is then exported. According to Organisation for Economic Cooperation and Development (OECD) data, 16 per cent of the value embodied in UK chemical sector exports comes from EU-27 inputs - taken together, Germany, France, Spain, Ireland, Belgium, the Netherlands and Italy account for around 27 per cent of all foreign value-added in UK chemical exports.

---

15 ONS 2013 Analytical Supply Use Intermediate Demand
16 ONS 2013 Analytical Supply Use tables
17 ONS UK Trade in Goods by Classification of Product by Activity
18 ‘Trade in Value Added (TiVA): Origin of Value Added in gross exports’, OECD
20. Trade figures are set out in Table 4 (exports) and Table 5 (imports). The UK’s top (by value) trading partners are set out in Table 6. The EU is the UK’s top (by value) trading bloc, while the USA, Singapore, Canada, China and Brazil are important trading partners too.¹⁹

Table 4 - UK chemicals exports 2016²⁰

<table>
<thead>
<tr>
<th>EXPORTS 2016</th>
<th>Total Value 2016 £m</th>
<th>EU £m</th>
<th>% EU</th>
<th>Non-EU £m</th>
<th>% Non-EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Chemicals &amp; Chemical Products</td>
<td>24,861</td>
<td>14,714</td>
<td>59.2%</td>
<td>10,147</td>
<td>40.8%</td>
</tr>
<tr>
<td>Industrial gases</td>
<td>27</td>
<td>18</td>
<td>66.7%</td>
<td>9</td>
<td>33.3%</td>
</tr>
<tr>
<td>Dyes &amp; pigments</td>
<td>806</td>
<td>518</td>
<td>64.3%</td>
<td>288</td>
<td>35.7%</td>
</tr>
<tr>
<td>Other inorganic basic chemicals</td>
<td>1,658</td>
<td>916</td>
<td>55.2%</td>
<td>742</td>
<td>44.8%</td>
</tr>
<tr>
<td>Other organic basic chemicals</td>
<td>6,266</td>
<td>3,063</td>
<td>48.9%</td>
<td>3,203</td>
<td>51.1%</td>
</tr>
<tr>
<td>Fertilisers &amp; nitrogen compounds</td>
<td>314</td>
<td>191</td>
<td>60.8%</td>
<td>123</td>
<td>39.2%</td>
</tr>
<tr>
<td>Plastics in primary forms</td>
<td>2,966</td>
<td>2,048</td>
<td>69.0%</td>
<td>918</td>
<td>31.0%</td>
</tr>
<tr>
<td>Synthetic rubber</td>
<td>214</td>
<td>144</td>
<td>67.3%</td>
<td>70</td>
<td>32.7%</td>
</tr>
<tr>
<td>Pesticides &amp; other agrochemicals</td>
<td>953</td>
<td>540</td>
<td>56.7%</td>
<td>413</td>
<td>43.3%</td>
</tr>
<tr>
<td>Paints, varnishes &amp; printing ink</td>
<td>1,357</td>
<td>799</td>
<td>58.9%</td>
<td>558</td>
<td>41.1%</td>
</tr>
<tr>
<td>Cleaning and polishing preparations</td>
<td>4,788</td>
<td>3,172</td>
<td>66.2%</td>
<td>1616</td>
<td>33.8%</td>
</tr>
<tr>
<td>Other chemical products: wide range inc. glues, explosives, reagents, antifreeze, hydraulic fluids</td>
<td>5,077</td>
<td>2,965</td>
<td>58.4%</td>
<td>2,112</td>
<td>41.6%</td>
</tr>
<tr>
<td>Man-made fibres</td>
<td>435</td>
<td>340</td>
<td>78.2%</td>
<td>95</td>
<td>21.8%</td>
</tr>
</tbody>
</table>

¹⁹ Source: HMRC uktradeinfo and ITC trade statistics
²⁰ Source ONS Trade in Goods classified by CPA08, prepared on Balance of Payments basis, note that some sources of trade data include pharmaceuticals and plastic products within chemicals, they are not included in this dataset. Organic basic chemicals: the key petrochemicals category, important in the supply chain of many industrial processes
Table 5 - UK chemicals imports 2016

<table>
<thead>
<tr>
<th>IMPORTS 2016</th>
<th>Total Value 2016 £m</th>
<th>EU £m</th>
<th>% EU</th>
<th>Non-EU £m</th>
<th>% Non-EU</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Chemicals &amp; Chemical Products</td>
<td>25,022</td>
<td>18,120</td>
<td>72.4%</td>
<td>6,902</td>
<td>27.6%</td>
</tr>
<tr>
<td>Industrial gases</td>
<td>99</td>
<td>62</td>
<td>62.6%</td>
<td>37</td>
<td>37.4%</td>
</tr>
<tr>
<td>Dyes &amp; pigments</td>
<td>555</td>
<td>339</td>
<td>61.1%</td>
<td>216</td>
<td>38.9%</td>
</tr>
<tr>
<td>Other inorganic basic chemicals</td>
<td>1,537</td>
<td>941</td>
<td>61.2%</td>
<td>596</td>
<td>38.8%</td>
</tr>
<tr>
<td>Other organic basic chemicals</td>
<td>5,546</td>
<td>3732</td>
<td>67.3%</td>
<td>1,814</td>
<td>32.7%</td>
</tr>
<tr>
<td>Fertilisers &amp; nitrogen compounds</td>
<td>708</td>
<td>481</td>
<td>67.9%</td>
<td>227</td>
<td>32.1%</td>
</tr>
<tr>
<td>Plastics in primary forms</td>
<td>4,860</td>
<td>4,051</td>
<td>83.4%</td>
<td>809</td>
<td>16.6%</td>
</tr>
<tr>
<td>Synthetic rubber</td>
<td>183</td>
<td>129</td>
<td>70.5%</td>
<td>54</td>
<td>29.5%</td>
</tr>
<tr>
<td>Pesticides &amp; other agrochemicals</td>
<td>650</td>
<td>535</td>
<td>82.3%</td>
<td>115</td>
<td>17.7%</td>
</tr>
<tr>
<td>Paints, varnishes &amp; printing ink</td>
<td>1,189</td>
<td>986</td>
<td>82.9%</td>
<td>203</td>
<td>17.1%</td>
</tr>
<tr>
<td>Cleaning and polishing preparations</td>
<td>5,054</td>
<td>3,639</td>
<td>72.0%</td>
<td>1,415</td>
<td>28.0%</td>
</tr>
<tr>
<td>Other chemical products: wide range inc. glues,</td>
<td>4,181</td>
<td>2,984</td>
<td>71.4%</td>
<td>1,197</td>
<td>28.6%</td>
</tr>
<tr>
<td>explosives, reagents, antifreeze, hydraulic fluids</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Man-made fibres</td>
<td>460</td>
<td>241</td>
<td>52.4%</td>
<td>219</td>
<td>47.6%</td>
</tr>
</tbody>
</table>

Source ONS Trade in Goods classified by CPA08, prepared on Balance of Payments basis, note that some sources of trade data include pharmaceuticals and plastic products within chemicals, they are not included in this dataset. Some imports such as cleaning products may be used directly by consumers, while others such as paints and plastics in primary forms are used by consumers and by other industries, others, such as basic chemicals, are used directly by the chemicals and other industries.
Table 6 - UK’s highest value trading partners for the chemicals sector 2016

<table>
<thead>
<tr>
<th>2016</th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petrochemicals</td>
<td>USA, Germany, Netherlands</td>
<td>Netherlands, Germany, Belgium</td>
</tr>
<tr>
<td>Polymers</td>
<td>Germany, Belgium, France,</td>
<td>Belgium, Germany, Netherlands</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Basic inorganics</td>
<td>France, Germany, Netherlands</td>
<td>Germany, Netherlands, USA</td>
</tr>
<tr>
<td>Specialty chemicals</td>
<td>Germany, USA, Netherlands</td>
<td>Germany, Netherlands, France</td>
</tr>
<tr>
<td>Consumer chemicals</td>
<td>Ireland, Germany, Belgium</td>
<td>France, Germany, USA</td>
</tr>
</tbody>
</table>

21. The global market for Chemicals imports, excluding the UK, was worth around £1,182 billion in 2016. Countries other than the 27 other EU Member States accounted for £781 billion, or 66 per cent, of this global market.\(^{23}\)

Growth and investment

22. The sector has been growing steadily. The major employers and investors at the top of the supply chain concentrate on price-sensitive commodity chemicals. Large multi-nationals generally operate on long-term, lump-sum investment cycles. Many of their UK installations are capital-intensive and highly regulated (e.g. by the EU Emissions Trading Scheme, and the EU Industrial Emissions Directive). UK subsidiaries compete for capital investments from their parent companies against subsidiaries outside the EU.

Table 7 - GVA for the chemicals sector since 2011

<table>
<thead>
<tr>
<th>Year</th>
<th>CP GVA £m</th>
<th>% change from previous year</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>7,294</td>
<td>-16.9%</td>
</tr>
<tr>
<td>2012</td>
<td>8,043</td>
<td>+10.3%</td>
</tr>
<tr>
<td>2013</td>
<td>8,962</td>
<td>+11.4%</td>
</tr>
<tr>
<td>2014</td>
<td>9,486</td>
<td>+5.8%</td>
</tr>
<tr>
<td>2015</td>
<td>11,646</td>
<td>+22.8%</td>
</tr>
<tr>
<td>2016</td>
<td>12,064</td>
<td>+3.6%</td>
</tr>
</tbody>
</table>

HMRC uktradeinfo database. Levels of exports to/imports from Belgium or Netherlands will be affected by “the Rotterdam effect” (i.e. where a large proportion of UK exports go via these ports for trans-shipment to a final destination but are counted in the stats as exports to BE / NL); exact data is not known.

Data obtained from ITC, which is based on UN COMTRADE statistics. The value of the global market is defined as the sum of every country’s imports for whom data was available, minus the value of the UK imports. As a rough approximation, the chemicals sector has here been taken to comprise HS chapters 28, 29, and 31-40.

GDP(O) Low Level Aggregates National Accounts, ONS, 2017
The current EU regulatory regime

23. The chemicals industry in the UK is regulated through a framework that is largely based on EU legislation. The European Chemicals Agency (ECHA) implements the EU's chemicals legislation. One of the main pieces of EU chemicals legislation is REACH 1907/2006/EC - Registration, Evaluation, Authorisation and Restriction of Chemicals. This primarily affects manufacturers and importers of chemicals and other substances with a focus on identifying risk. Applying appropriate risk management measures is a duty on manufacturers, importers and users of the chemicals to ensure their safe management. REACH requires companies to register their chemicals with ECHA before placing it on the market and also provides for additional regulatory controls on the most dangerous chemicals. Those producing and exporting chemicals from outside the EU must comply with REACH either by procuring the services of an Only Representative who take on their legal duties under REACH or by ensuring that the EU based importer they are supplying fulfil the REACH requirements.

24. The ECHA also facilitates the following EU chemicals regulation:

a. The EU Classification, Labelling and Packaging (CLP) Regulation 2008 requires the identification and labelling of the hazardous properties of chemicals as well as appropriate packaging to ensure a high level of protection to human health and the environment. CLP and REACH work together and alongside the regulations implementing a wide-range of United Nations multilateral agreements (MEAs), restricting the use of the most hazardous chemicals from the market.

b. The EU Biocidal Products Regulation 528/2012 (BPR), which establishes the procedures for an EU-level assessment of active substances before they can be approved and authorised for use in biocidal products on the market.

c. The Export and Import of Hazardous Chemicals EU Regulation No 649/2012 (commonly referred to as the ‘Prior Informed Consent’ Regulation or PIC) requires information exchange between the countries of exporters and importers so that the hazardous properties of the chemical are known to trading parties. A subset of these chemicals is subject to the “prior informed consent” procedure established by the UN Rotterdam Convention and a smaller subset is banned under the UN Stockholm Convention. PIC is marked as EEA relevant by the EU but is considered by the EEA EFTA States not to be relevant for incorporation into the EEA Agreement. Besides covering the 44 substances currently listed in the Rotterdam Convention, the Regulation also applies various trade controls on some 350 other hazardous substances.

25. Separately, there are EU regulations concerning the placing of plant protection products (pesticides) on the market and setting rules for maximum residue levels in food and feed (Regulation 1107/2009; Regulation 396/2005) as well as a framework for the sustainable use of pesticides (Directive 2009/128/EC). A final strand of EU
chemicals legislation comes from Directives made under the worker protection parts of the EU Treaty (the Occupational Safety and Health acquis). There are Directives dealing with chemical agents (which include indicative exposure limits to protect workers involved in chemical production), carcinogens and mutagens, asbestos and biological agents.

26. The Health and Safety Executive (HSE) is the Competent Authority (CA) for the safety of chemicals, pesticides and biocides. HSE’s regulatory focus is on human health and the environment but it draws on Environment Agency’s (EA) expertise in environmental science in relation to REACH. The Environment Agency is the CA for the implementation of UN multilateral environment agreements (MEAs). HSE is the CA for the PIC Regulation which implements the Rotterdam Convention MEA.

**Wider EU legislation applicable to the sector**

**Free movement of goods**

27. Articles 28-37 of the Treaty on the Functioning of the European Union (TFEU) set out the Treaty provisions on the free movement of goods, including the establishment of the Customs Union. The rules on the free movement of goods mean that goods from one EU Member State can be freely exported to, and imported from, another. This has been achieved by establishing the Customs Union, preventing Member States imposing customs duties and customs formalities on goods imported from other Member States. In addition, these rules prevent Member States imposing restrictions on the quantity of imports and exports of a particular item (e.g. quotas or an import or export ban).

28. This legal framework also prevents non-tariff barriers that may restrict the free movement of goods across the EU market in less direct ways. For example, it prevents Member States applying product standards and regulations that make it harder in practice for goods coming from one Member State to be sold within another. The Treaty provisions on the free movement of goods also introduce the ‘mutual recognition’ principle (when goods which are not covered by EU product standards and regulations have been lawfully manufactured and marketed in one Member State, another Member State cannot then require it to comply with additional rules). Finally, goods imported from other Member States must be treated in the same way as goods produced nationally.

**Free movement of services**

29. Articles 49, 56 and 57 TFEU set out the Treaty provisions on the free movement of services. This is split into 2 areas: freedom of establishment and free movement of services. Generally, the principle of freedom of establishment provides that companies and self-employed individuals may conduct business in another Member State on a permanent basis. The freedom to provide services covers the situation where a service, provided for remuneration, is provided on a temporary basis.
30. Also important to the free movement of services is the Recognition of Professional Qualifications Directive (2005/36/EC). This requires Member States to recognise the professional qualifications of nationals from other Member States, which makes it easier for professionals to move to another Member State and practise their profession there on a temporary or established basis. It provides for a system of automatic recognition of qualifications on the basis of agreed minimum training standards in a number of specific professions. Automatic recognition is also extended to certain industrial, craft and commercial professions on the basis of professional experience.

31. A “general system” of recognition applies to professionals not covered by automatic recognition and allows for compensatory measures to be taken to address where there may be differences between national requirements for professional training.

Safety and Health at Work, 1989


Seveso III Directive

33. The production, storage and use of dangerous substances with particular hazards and at quantities above specific thresholds are controlled by Directive 2012/18/EU (the EU “Seveso” III Directive), implemented in the UK by the Control of Major Accident Hazards Regulations 2015 (COMAH). The Directive builds on a regulatory system that has been in place across the EU for thirty years and ensures that there are common EU safety standards for high hazard sectors such as the chemicals industry.


34. The EU Waste Directive lays down basic waste management principles: it requires that waste be managed without endangering human health and harming the environment, and in particular without risk to water, air, soil, plants or animals, without causing a nuisance through noise or odours, and without adversely affecting the countryside or places of special interest.
Industrial Emissions Directive (IED), 2010

35. All chemical production installations are subject to the Industrial Emissions Directive (IED), regardless of size. The IED commits EU Member States to control and reduce the impact of industrial emissions on the environment.

IED measures

36. A review of “Best Available Technique (BAT) Reference” (BREF) documents applicable to the chemicals sector is currently underway, including the proposed introduction of a new BREF on Waste Gas Treatment in the Chemicals Sector (WGC) to deal with air pollutants common to the chemical industry.


37. Phase IV is currently under negotiation. EU ETS establishes a scheme for greenhouse gas emission trading within the Community. This Directive has been amended a number of times and tertiary legislation has been adopted to further implement the provisions in the Directive. The ETS is the main policy lever implemented to meet the EU’s 2020 target and will contribute about 50% of the emissions reductions needed to meet the UK’s Carbon Budgets between 2013 and 2020.

EU Circular Economy Package

38. The Circular Economy Package is currently under negotiation. It seeks to effect a transition to an economy where the value of products, materials and resources is maintained in the economy for as long as possible and the generation of waste is minimised. It consists of an Action Plan and the Waste Package. The Action Plan lays out a suite of proposals on circularity and resource efficiency which will each be taken forward on an individual basis (e.g. the revision of the Fertilisers Regulation mentioned below). The Waste Package is a series of legislative proposals to amend a number of directives, including the Waste Directive mentioned above. Negotiations began in early 2016 and are likely to continue well into 2018.

International rules and standards

39. There is also a series of international rules and standards that are relevant to the chemicals sector, such as those listed below.

UN Globally Harmonised Systems (GHS) of classification and labelling of chemicals

40. The UN Globally Harmonised System (GHS) of Classification and Labelling of Chemicals is an internationally agreed-upon system adopted across the EU by the Classification, Labelling and Packaging (CLP) Regulation.
41. There are also common areas of concern that are shared between GHS and the “UN Recommendations on the Transport of Dangerous Goods - Model Regulations” (TDG), such as hazard communication, labelling and packaging. GHS and TDG also share common texts such as the UN Manual of Tests and Criteria.

OEC
d guidelines for the testing of chemicals

42. These OECD guidelines are a tool for assessing the potential effects of chemicals on human health and the environment. These are usually adopted by the EU into the REACH Test Methods Regulation with no or little amendment.

Stockholm Convention

43. The Stockholm Convention is a multilateral environmental agreement to which the UK is a Party in its own right. Effective from May 2004, it aims to eliminate or restrict the production and use of persistent organic pollutants (POPs). It is implemented by the EU regulation on POPs.

Rotterdam convention

44. The Rotterdam Convention is a multilateral environmental agreement that promotes shared responsibilities in relation to importation of hazardous chemicals. The Parties to the agreement, of which the UK is one in its own right, can decide whether to allow or ban the importation of chemicals listed in the convention, and exporting countries are obliged to make sure that producers within their jurisdiction comply. The Prior Informed Consent Regulation (EU) 649/2012 implements the Rotterdam Convention in the EU.

Basel convention

45. The Basel Convention is a multilateral environmental agreement that aims to reduce the movements of hazardous waste - which includes discarded chemicals - between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries. This is implemented in the EU by Regulation (EC) No 1013/2006.

Minamata convention

46. The Minamata Convention is a multilateral agreement that is designed to protect human health and the environment from anthropogenic emissions of mercury. This is implemented in the EU by Regulation 2017/852, coming into force on 1 January 2018, with additional UK implementing regulations being put in place to enable the UK to ratify the Convention in its own right in early 2018.
**The Chemical Weapons Convention**

47. The Chemical Weapons Act 1996 fulfils the UK’s obligations under the Chemical Weapons Convention. It requires sites manufacturing, using, or consuming those chemicals covered by the Convention to record their usage, imports, exports etc. Sites exceeding set amounts are subject to international verification procedures carried out by the Organisation for the Prohibition of Chemical Weapons.

*Figure 3 - The main international agreements and EU laws and the relationships between them*\(^{25}\).

---

**Existing frameworks for how trade is facilitated between countries in this sector**

48. The arrangements described in this section are examples of existing arrangements between countries. They should not be taken to represent the options being considered by the Government for the future economic relationship between the UK and the EU. The Government has been clear that it is seeking pragmatic and innovative solutions to issues related to the future deep and special partnership that we want with the EU.

---

\(^{25}\) Relationship between United Nations multilateral agreement obligations/systems and EU laws (note there are some additional security regulations governing the sector that are not covered in the graphic).
49. There are a number of existing arrangements which govern the way in which non-EU Member States trade in chemicals with the EU. Around the world, other countries have also created arrangements for trading specific categories of manufactured goods.

50. Manufacturers from outside of the EU wishing to export manufactured goods to the EU need to meet the requirements set out in EU legislation. Companies in third countries wishing to export to the EU must seek an EU based importer or Only Representative to register the chemical with the European Chemicals Agency (ECHA). These manufacturers would also need to comply with legislative requirements in their home country, and any other countries, where they intend to market products.

51. The EU has established bilateral agreements with other countries to facilitate the development of trade in different aspects of chemicals and ensure a high level of protection of public health and environment. The EU has concluded a Mutual Recognition Agreement with Switzerland for biocidal products. The agreement enables the Swiss Competent Authority to grant the union authorisation procedure for biocidal products, which enables biocidal products to be placed on the EU market and vice versa. It also enables an applicant to appoint the Swiss Competent Authority to evaluate its application.

52. The EU-South Korea FTA contained an annex on chemicals which outlined the parties’ shared objectives in the context of chemicals including to foster mutually beneficial development in trade and ensuring a high level of protection of public health and the environment. The agreement also established a forum to meet at least once every two years to support cooperation and the delivery of the shared objectives.

53. In terms of cooperation agreements with regulatory agencies in third countries, the European Chemicals Agency has cooperation agreements (Memorandum of Understanding or Statement of Intent) with regulatory agencies in Australia, Canada, Japan and the USA. The agreements support sharing information, best practice and scientific knowledge.

54. To reduce the burden on companies testing chemicals numerous times to provide data to different the regulators, the OECD adopted the Mutual Acceptance of Data (MAD) to avoid duplicative testing of chemicals to meet regulatory requirements. MAD requires that test data generated in any member country in accordance with OECD Test Guidelines and Principles of Good Laboratory Practice (GLP) shall be accepted in other member countries for assessment purposes and other uses relating to the protection of human health and the environment. The EU has adopted the OECD GLP principles and the revised OECD Guides for Compliance Monitoring Procedures for GLP as annexes to two EU GLP Directives. The EU has subsequently concluded Mutual Recognition Agreements for GLP with Israel, Japan, and Switzerland.
55. Common principles for GLP also facilitate the exchange of information and prevents the emergence of non-tariff barriers to trade, while contributing to the protection of human health and the environment.

56. Trade in manufactured goods can be facilitated through the use of international standards, which are voluntary agreements on best practice for a given process or product. The United Nations has developed a ‘Globally Harmonised System’ (GHS) on classification and labelling of chemicals, which is a voluntary system for classifying and communicating the hazardous properties of industrial and consumer chemicals.

57. The UN GHS aims to ensure that information on the hazardous properties of chemicals is available throughout the world in order to enhance the protection of human health and the environment during the handling, transport and use of chemicals. GHS also provides the basis for harmonising regulations on chemicals at national, regional and worldwide level, which can facilitate trade.

**Customs**

58. There are many customs facilitation arrangements in international agreements. These include the EU’s agreements with a number of third countries, such as Canada, Korea, and Switzerland. These agreements differ in the depth and scope of customs facilitation offered. Examples of customs facilitations include: simplifying customs procedures, advance electronic submission and processing of information before physical arrival of goods, and mutual recognition of inspections and documents certifying compliance with the other parties’ rules.

**Tariffs**

59. In the absence of a preferential trade agreement, goods imported into the EU from non-EU countries must pay a tariff. Tariffs are custom duties levied on imported goods. Under WTO Most Favoured Nation (MFN), a country’s tariff schedule must be consistent for all countries it trades with, except those where a preferential trade agreement exists. EU MFN tariff rates vary depending on the good. The EU’s simple average of MFN applied duties is 4.5 per cent for chemicals. The EU has agreements with a range of trading partners that amend the tariff rates applied to goods.

60. There are a number of EU free trade agreements with 3rd countries that the UK chemicals sector currently benefits from:

   a. Switzerland - FTA (2.8 per cent of chemical exports in 2014, 1.4 per cent of chemical imports in 2014) – value to the sector from key exports in fine chemicals for pharmaceutical production & Perfumes/cosmetics;

   b. South Korea - FTA (1.4 per cent of chemical exports, 0.8 per cent of chemical imports) – value to the sector from key exports in radioactive materials; and
key imports of PTA for PET production;

c. Singapore - FTA negotiated but not adopted (1 per cent of chemical exports, 0.4 per cent of chemical imports) - value to the sector from key exports in fine chemicals for pharmaceutical production;

d. Canada - FTA negotiated but not adopted (0.9 per cent of chemical exports, 1.6 per cent of chemical imports) – value for some specialty organic chemicals; and

e. Norway - FTA (0.8 per cent of chemical exports, 1.4 per cent of chemical imports) – value to the sector from key exports in perfumes/cosmetics, and from key imports of Vinyl chloride.

Rules Of Origin

61. The EU includes rules of origin in all of its FTAs, which are restrictions on the originating content of products that exporters must comply with to gain tariff preferences. These rules typically reflect both the supply chains of both the EU and its FTA partner. Many of the EU’s rules of origin arrangements are based on the Regional Convention on Pan-Euro-Mediterranean Preferential Rules of Origin, which includes provisions that allow producers to treat content from some third countries as if it comes from their own country. Several arrangements aim to reduce the administrative requirements associated with origin certification, including the EU’s Registered Exporter (REX) system, which lets businesses register for self-certification of origin using an online system, avoiding paper certificates.

Sector views

[This information was provided by the Government to the Committee, but the Committee has decided not to publish this section]
Annex: Stakeholder Engagement on European Union Exit (EU Exit) in the Department for Business, Energy and Industrial Strategy

[This information was provided by the Government to the Committee, but the Committee has decided not to publish this section]