Department of Agriculture, Environment and Rural Affairs of Northern Ireland (DAERA)

Scoping study for analysis of the chemicals sector in Northern Ireland

Executive Summary (accompanying the final report)

WSP UK Limited – June 2023

Report for

Department of Agriculture, Environment and Rural Affairs (DAERA)
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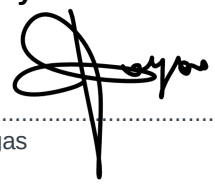

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Document revisions

No.	Details	Date
1	Executive Summary (for revised final report)	05/06/2023

Executive Summary

Background and purpose of the study

This report has been developed by WSP, with support from RSM, under the scoping study to support DAERA with an analysis of the chemical industry in Northern Ireland (NI) (ID 4525458). The report aims to provide an overview of the chemical industry in NI, looking at the manufacturing, use, and trade and supply of chemicals in NI across sectors. Secondly, the report investigates the potential regulatory divergence between EU and UK chemical regulations and the potential impacts of this divergence on the NI chemical industry.

Methodology

The project involved a literature review, web search (e.g. for public datasets), and consultation to gather information related to four research questions: 1. What are the key demographics of the NI chemical industry? 2. What is the scale of use of chemicals across NI? 3. What is the nature of trade and supply of chemicals in NI? 4. What are the costs of divergence between EU and GB regulatory requirements to NI chemical suppliers?

These questions were investigated for the chemical and pharmaceutical industries overall (SIC code 20 and 21), and for six economically important subsectors within SIC code 20. These subsectors were prioritised based on trade data and number of businesses which indicated economic importance of the subsectors to NI[1]. These subsectors make up approximately 80% of the businesses in the chemical manufacturing industry in NI.

Primarily, the report is based on data from the ONS, NISRA, and HMRC. Limited information was identified from the literature. Furthermore, out of 132 chemical suppliers, trade associations, and other stakeholders contacted, only seven completed and returned the questionnaire. 18 of the stakeholders contacted were invited to interview, but no stakeholders agreed to interview.

Demographics of the Northern Ireland chemical industry

The chemical manufacturing industry in NI is made up of approximately 85 businesses and between 2,700 and 2,850 employees, with a GVA of approximately £293 million. The pharmaceutical manufacturing industry (only 20 businesses) has fewer companies than the chemical industry, but a greater estimated GVA (£296 million) and number of employees (between 2,800 and 3,100).

Both the chemical and pharmaceutical industries in NI are dominated by SMEs. In the chemical industry, there are no reported companies in statistical databases with more than 50 employees. The pharmaceutical industry has a larger distribution profile, with 25% of companies reported as large, which likely explains the difference in GVA and number of employees.

[1] Prioritised sectors include: manufacture of plastics in primary forms; manufacture of fertilisers and nitrogen compounds; manufacture of soap and detergents, cleaning, and polishing preparations; manufacture of other organic basic chemicals; manufacture of paints, varnishes and similar coatings, printing ink and mastics; manufacture of perfumes and toilet preparations.
Other sectors (not prioritised) include: manufacture of industrial gases; manufacture of dyes and pigments; manufacture of other inorganic basic chemicals; manufacture of pesticides and other agrochemical products; manufacture of man-made fibres; and manufacture of other chemical products n.e.c..

It was challenging to identify the most economically important chemical manufacturing subsectors in NI because of the lack of sector-specific data, e.g. on turnover and GVA. Based on number of businesses and number of employees, the following subsectors may be most important:

- Plastics in primary forms (approximately 10 businesses, between 76 and 126 employees)
- Soap and detergents, cleaning, and polishing preparations (approximately 25 businesses and roughly 100 employees).

Across the whole UK, the two sectors mentioned above (plastics in primary forms and soap, detergents, cleaning and polishing preparations) had the highest financial turnover out of all priority sectors in the chemical manufacturing industry in 2021 (£5.6 billion and £5.0 billion respectively). This further suggests their potential economic importance in NI. Other sectors with relatively high turnovers in the UK in 2021 included: paints, varnishes and similar coatings, printing ink and mastics (£4.2 billion) and perfumes and toilet preparations (£3.2 billion). The turnover of the pharmaceutical manufacturing industry in the UK was £19.1 billion.

Scale of use of chemicals across Northern Ireland

Overall, the scale of the use of different chemicals has been difficult to gauge for NI due to lack of data and literature on the topic. Information from the ONS input and output tables (showing the value of domestically produced products used in different sectors in the UK) is described below to approximate the importance of downstream use sectors in NI.

In 2019, petrochemicals were most used in the manufacturing of chemical products, including: rubber and plastic products (£1.8 billion); paints, varnishes and similar coatings (£255 million); and other chemical products (£228 million). “Architectural and engineering activities - technical testing and analysis” (SIC 71.20)[2] was also a significant industry (£376 million), as well as the manufacturing of vehicles (£345 million). Other industries listed with high use of petrochemicals (> £100 million) included: manufacture of coke and refined petroleum products; manufacture of basic pharmaceuticals and pharmaceutical products; scientific research and development; and manufacture of textiles.

Agrochemicals were listed in a separate product type to petrochemicals and were used mostly in “crop and animal production, hunting and related service activities” (£1.6 billion), likely due to their role in plant protection products and fertiliser products.

The industry with highest value use of pharmaceuticals was human health activities (£5.1 billion), followed by manufacture of basic pharmaceuticals (£650 million), scientific research and development (£537 million), and veterinary activities (£352 million).

Trade and supply of chemicals in NI

In 2021, £1.3 billion worth of imports and £1.1 billion worth of exports of chemicals and pharmaceuticals to and from NI are recorded (excluding intra-UK trade with GB). The most significant trade partners according to this data include, for example:

- Ireland (contributed £623 million to NI chemicals and pharmaceuticals imports to NI in 2021, received £286 million worth of exports from NI in the same year);
- United States (contributed £131 million to NI chemicals and pharmaceuticals imports to NI in 2021, received £244 million worth of exports from NI in the same year); and

[2] Including, for example, performance testing of complete machinery, testing and measuring of environmental indicators, and testing of physical characteristics and performance of materials.

- Germany (contributed £135 million to NI chemicals and pharmaceuticals imports to NI in 2021, received £37 million worth of exports from NI in the same year.

Overall, and excluding GB trade flows, 81% of chemical and pharmaceutical imports to NI were from the EU, while 46% of exports from NI were to the EU.

Pharmaceuticals account for a large share of the trade data (nearly £600 million worth of exports from NI and £440 million worth of imports to NI in 2021). The perfumes and toilet preparations subsector appears to have the highest value of exported products from NI (£54 million)[3], while plastics in primary forms accounted for the most significant share of imports to NI out of all priority sectors (£254 million worth of imports).

The lack of data on trade with GB represents a significant data gap given that sales of goods and services from NI to GB accounted for a significant share of sales from NI (17%, worth £12.8 billion) in 2021. Exports from GB to NI are also significant, as the ONS highlights that 30% of goods and services purchased in NI in 2021 were from GB.

Divergence in regulatory requirements

In the EU, a revision of EU REACH is currently ongoing and is likely to result in changes to information requirements under registration, simplifications to authorisation and restriction procedures, simplifications to communication in the supply chains, revisions to provisions for dossier and substance evaluation, and revisions to provisions for control and enforcement.

Despite the lack of clarity at the time of writing on the expected degree of divergence between UK and EU REACH, NI's retention in the EU single market will likely result in most significant impacts for manufacturers and suppliers of chemicals in NI who export to GB. For example, administrative costs to familiarise themselves with both EU and UK REACH requirements. Furthermore, if any UK REACH requirements are introduced that go beyond EU REACH requirements, manufacturers and suppliers may need to respond in a variety of ways. Although this cannot be predicted with certainty, responses could include withdrawal of certain chemicals, reformulation of certain chemical products, and/or updates to registration dossiers.

Similarly, importers to NI from GB may be affected by changes in UK regulations, for example if new restrictions result in disruption to supply chains, e.g. if GB supply of a substance used in NI changes.

At the time of writing, anticipated UK restrictions and additions to the Authorisation List do not seem to go beyond the EU provisions. Therefore, companies may naturally comply with changes in UK REACH if they are less stringent or similar to EU REACH. However, a key element of uncertainty and potential difficulty is divergence in the scope of restrictions of the same substances. This divergence has not been identified in this report; however, this is likely because not much information on the scope of anticipated UK restrictions was identified.

Beyond REACH, NI companies may be affected by changes to other chemicals legislation in the EU and UK. Although some of the expected changes to EU regulations are described in section 6 of this report, it is not possible to predict the extent to which these will diverge from current EU provisions and UK provisions over time. Given the breadth of chemicals legislation in both the UK and EU (e.g. over 40 pieces of legislation in the EU), continual changes and improvements in regulations are likely to occur, regardless of their exact nature. This will have some implications for NI companies conducting trade with GB, in terms of administrative burden and potentially other costs (as described above in the context of REACH).

[3] Including essential oils, which are assumed to be negligible as zero businesses are reported in the manufacture of essential oils by the ONS and NISRA.

Limitations and information gaps

Information by SIC code for the subsectors of the NI chemical industry was not broadly available, both from publicly available data and from consultation. For example, many databases collect the relevant information for the chemical industry as a whole, but do not sufficiently disaggregate the data between subsectors of the chemical industry.

There are several limitations due to use of the SIC classification system to analyse chemical subsectors. For example, some of the product categories included in SIC code 20 are not chemical products. SIC code 20.15 includes non-chemical fertilisers (animal or vegetable fertilisers) as well as chemical fertilisers. Similarly, SIC code 21 does not only include medications made up of chemicals, but also products such as blood for therapeutic uses.

Another limitation generally observed in the data reviewed under this project was the lack of transparency about uncertainty of data. While some ONS and NISRA sources (from the BRES survey) reported standard error / confidence intervals, this information was not often available. For example, the data on trends in number of employees from the ONS and NISRA are inconsistent with each other, therefore could benefit from an indication of accuracy / data quality.

For each research question, data could only partly be gathered. Critical gaps include:

- **Number of businesses** - There are discrepancies between sources for the number of businesses and the number of employees in different subsectors and for the chemical industry as a whole.
- **Absence of trade data between GB and NI** - Although trade data between NI and the rest of the world are available and comprehensive, even to the level of trade between NI and specific countries in South America and Africa, no trade data between GB and NI were identified.
- **Absence of financial turnover data** - Only turnover for the overall chemical industry in the UK was identified, limiting the comparison of relative economic importance of the sectors in NI.
- **Lack of engagement of stakeholders** - Although the chemical industry in NI is reported to employ over 2,700 people, the level of response to consultation in the project was extremely low.

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