



JRC TECHNICAL REPORT

# Kazakhstan's trade in non-food raw materials

*Focus on EU-Kazakhstan trade relations*

Unguru, M., Georgitzikis, K.,  
Ciupagea, C., Garbossa, E

2023

This publication is a Technical report by the Joint Research Centre (JRC), the European Commission's science and knowledge service. It aims to provide evidence-based scientific support to the European policymaking process. The scientific output expressed does not imply a policy position of the European Commission. Neither the European Commission nor any person acting on behalf of the Commission is responsible for the use that might be made of this publication. For information on the methodology and quality underlying the data used in this publication for which the source is neither Eurostat nor other Commission services, users should contact the referenced source. The designations employed and the presentation of material on the maps do not imply the expression of any opinion whatsoever on the part of the European Union concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

#### Contact information

Name: EU Science Hub, Raw Materials Information System

Address: <https://rmis.jrc.ec.europa.eu/>

Email: [ec-rmis@ec.europa.eu](mailto:ec-rmis@ec.europa.eu)

#### EU Science Hub

[https://joint-research-centre.ec.europa.eu/index\\_en](https://joint-research-centre.ec.europa.eu/index_en)

JRC132746

EUR 31571 EN

PDF ISBN 978-92-68-05044-6 ISSN 1831-9424 [doi:10.2760/320262](https://doi.org/10.2760/320262) KJ-NA-31-571-EN-N

Luxembourg: Publications Office of the European Union, 2023

© European Union, 2023



The reuse policy of the European Commission is implemented by the Commission Decision 2011/833/EU of 12 December 2011 on the reuse of Commission documents (OJ L 330, 14.12.2011, p. 39). Except otherwise noted, the reuse of this document is authorised under the Creative Commons Attribution 4.0 International (CC BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>). This means that reuse is allowed provided appropriate credit is given and any changes are indicated.

For any use or reproduction of photos or other material that is not owned by the EU, permission must be sought directly from the copyright holders.

How to cite this report: Unguru, M., Georgitzikis, K., Ciupagea, C., Garbossa, E., *Kazakhstan' trade in non-food raw materials - Focus on EU-Kazakhstan trade relations*, Publications Office of the European Union, Luxembourg, 2023, doi:10.2760/320262, JRC132746.

**Contents**

Abstract ..... 1

Acknowledgements ..... 2

1 Introduction..... 3

2 EU-Kazakhstan trade in non-food raw materials ..... 4

    2.1 EU trade with Kazakhstan by Standard Product Group ( ) ..... 4

    2.2 EU trade with Kazakhstan by broad categories of non-food raw materials (upstream and secondary)7

        2.2.1 Main NFNE raw materials imported by the EU from Kazakhstan ..... 8

        2.2.2 EU exports of NFNE raw materials to Kazakhstan ..... 10

3 Kazakhstan’s trade patterns and the relative position of the EU as a trading partner ..... 12

    3.1 Kazakhstan’s total trade by Standard Product Group..... 12

    3.2 Kazakhstan’s total trade by broad categories of non-food raw materials (upstream and secondary) 13

    3.3 Trade by non-food raw materials..... 15

4 Economic aspects ..... 19

    4.1 The EU import unit values for selected materials ..... 19

    4.2 Contribution of natural resources to the Kazakh economy ..... 19

5 Conclusions ..... 21

Methodological notes ..... 22

References ..... 24

List of abbreviations and definitions ..... 25

List of figures ..... 26

List of tables ..... 27

Annex ..... 28

## Abstract

This report is a factsheet developed as part of a series of country-level trade fiches feeding into a module of the Raw Materials Information System ([RMIS](#)) dedicated to raw materials analysis in the context of Russia's aggression against Ukraine and its impact on the EU's strategic dependencies. It provides a data-driven overview of Kazakhstan's trade in primary, processed and secondary non-food materials, focusing on its trade relations with the EU.

The novelty is the product coverage for non-food raw materials, which we have defined by allocating the trade flows available in the COMTRADE database at the HS 6-digit level to a Material/Product aggregate sorted out of downstream commodities and corresponding to the broad categories of *Abiotic*, *Biotic* and *Energy*.

Kazakhstan is a net exporter of non-food raw materials and its trade is dominated by exports of Energy commodities, which are directed mainly to the EU. However, in 2020, China (USD 5 billion) and Russia (USD 3.2 billion) were the main destinations for the Kazakhstan's exports of Abiotic raw materials, while the EU accounted for only USD 0.7 billion.

In addition to Energy products, Kazakhstan is also an important EU supplier of several Biotic and Abiotic raw materials, including critical ones such as *phosphorus*, *titanium* and *platinum*. Among the EU suppliers of non-food raw materials, Kazakhstan ranks second for phosphorus and chromium and sixth for silicon.

## **Acknowledgements**

Bonollo Bianca for the contributions to building the correspondence table of 'Materials/Product aggregates' to the trade codes of the relevant commodities, as well as to the Methodological notes.

### **Authors**

Unguru Manuela

Georgitzikis Konstantinos

Ciupagea Constantin

Garbossa Elisa

# 1 Introduction

Kazakhstan is the world's leading producer of uranium. It produced almost 23 000 tonnes in 2020, or almost 41 % of global production <sup>(1)</sup>. It is also the world's second largest producer of chromium, with a global share of 16.5 % <sup>(2)</sup>. The country is also a major producer of other minerals, including copper, zinc and lead. Kazakhstan, along with other Central Asian countries, is re-emerging as a rare earths elements (REEs) producing region <sup>(3)</sup>.

Kazakhstan is the first Asian country to sign an Enhanced Partnership and Cooperation Agreement (EPCA) with the EU, that entered into force in 2020 <sup>(4)</sup>. The agreement creates a better regulatory environment for business in several sectors, including raw materials and energy. In addition, the Memorandum of Understanding establishing a partnership between the EU and Kazakhstan (2022) aims to ensure the development of a secure and sustainable supply of raw and refined materials <sup>(5)</sup>.

This report has been developed within the RM4Trade project <sup>(6)</sup>, as part of a series of trade fiches feeding into a module of the Raw Materials Information System (RMIS) dedicated to raw materials analysis in the context of Russia's aggression against Ukraine <sup>(7)</sup>.

Most of the existing trade-related country profiles (trade fiches) include economy-wide indicators on the country's trade in goods and services, as well as related economic indicators <sup>(8)</sup>. This report narrows the focus to Kazakhstan's trade in **non-food raw materials**, covering three **broad categories: Abiotic, Biotic and Energy** that include "Materials/Product aggregates" to which we have assigned the relevant trade codes (at HS 6-digit level). For these three broad categories, we have used the statistical definition of "Materials/Product aggregates" as the set of commodities at HS 6-digit level that are:

- i) either raw materials (*primary, processed or secondary*) used as inputs in the production of intermediate goods, or *semi-fabricated products*, used as inputs in the production of finished/downstream goods;
- ii) falling within any of the following Harmonised System (HS) chapters: 25-28, 31, 40, 44-49 and 68-81. The Biotic category also includes some trade codes from HS chapters 13 and 14 (non-food commodities only).

The analysis focuses on Kazakhstan's trade flows with the EU and highlights the relative position of the EU among other trading partners for non-food raw materials. For those with a high value (or share) of the EU imports from Kazakhstan, it also shows the other sourcing countries that are potential candidates to replace supply from Kazakhstan.

The analysis of trade data at "**Material/Product aggregate**", is complemented by a picture of Kazakhstan's trade flows with the EU by **Standard Product Groups** – *Minerals, Metals, Stone & Glass, Chemicals, Plastic/Rubber, Wood and Fuels*. The product scope of the Standard Product Groups is broader than that of the broad categories we have constructed, since in the former case they refer to pre-defined groupings (in WITS) of HS 2-digit chapters, including the downstream commodities.

The final section deals with economic aspects. First, it presents the evolution over the last decade of the unit-value of EU imports from Kazakhstan compared to the unit-value of total (world) imports for selected commodities (the most relevant trade codes for EU imports from Kazakhstan). Secondly, it shows the importance of natural resources for the Kazakh economy compared to the EU and the world average.

---

<sup>(1)</sup> [World Mining Data](#), accessed in September 2022. Data refer to 2020.

<sup>(2)</sup> idem

<sup>(3)</sup> Mihalasky, M.J., Tucker, R.D., Renaud, K., and Verstraeten, I.M. (2018), *Rare earth element and rare metal inventory of central Asia: U.S. Geological Survey Fact Sheet 2017-3089*, 4 p., <https://doi.org/10.3133/fs20173089>

<sup>(4)</sup> <https://www.consilium.europa.eu/en/documents-publications/treaties-agreements/agreement/?id=2015045>. The Agreement has been published in [OJ L 29. 4.2.2016. p. 3](#)

<sup>(5)</sup> [https://single-market-economy.ec.europa.eu/system/files/2022-11/EU-KAZ-MoU-signed\\_en.pdf](https://single-market-economy.ec.europa.eu/system/files/2022-11/EU-KAZ-MoU-signed_en.pdf)

<sup>(6)</sup> JRC institutional Project 30322, under the 20176 - FFTA Portfolio

<sup>(7)</sup> <https://rmis.jrc.ec.europa.eu/>

<sup>(8)</sup> For example: DG Trade's, *Statistics*, [details\\_kazakhstan\\_en.pdf \(europa.eu\)](#); Delegation of the EU to the Republic of Kazakhstan, [https://www.eeas.europa.eu/kazakhstan/european-union-and-kazakhstan\\_en?s=222](https://www.eeas.europa.eu/kazakhstan/european-union-and-kazakhstan_en?s=222); World Trade Organisation's *Trade profiles*, [https://www.wto.org/english/res\\_e/statis\\_e/trade\\_profiles\\_list\\_e.htm](https://www.wto.org/english/res_e/statis_e/trade_profiles_list_e.htm)

## 2 EU-Kazakhstan trade in non-food raw materials

This aim of this section is to highlight the Kazakhstan's trade relations with the EU in non-food raw materials. First, we look at EU-Kazakhstan trade flows by Standard Product Groups relevant to non-food raw materials – *Fuels, Metals, Chemicals, Stone & Glass, Minerals, Wood, Plastic/Rubber* (they include Harmonised System chapters at 2-digit level, without any filter out for manufactured goods). Second, we restrict the product coverage to non-food raw materials belonging to one of the following stages of the value chain: extraction (mining), processing and recycling (secondary materials).

### 2.1 EU trade with Kazakhstan by Standard Product Group <sup>(9)</sup>

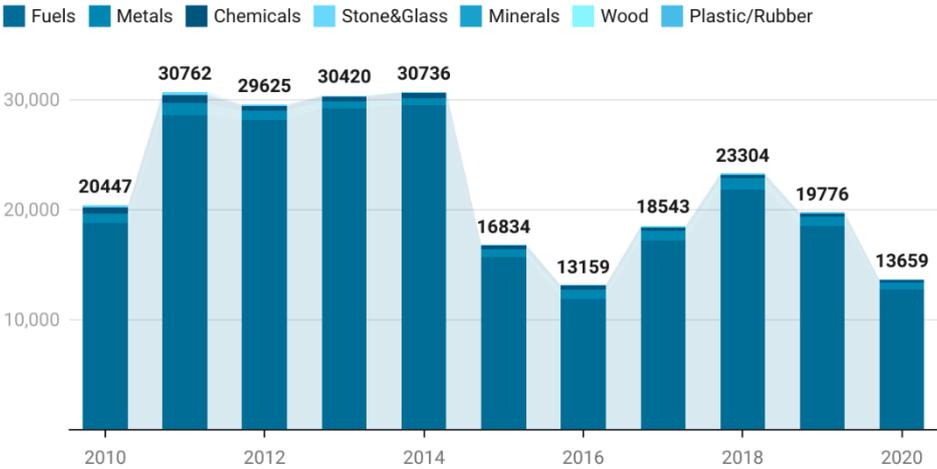
The EU imports by of Standard Product Group including non-food raw materials are dominated by *Fuels* (Figure 1a). The overall decrease in EU imports in value terms since 2018 has been driven by a decrease in imports of *Fuels* and *Metals*, with *Fuels* imports falling the most since 2014, following the geopolitical crisis related to Russia's actions in Crimea and Donbass. The EU imports from Kazakhstan are also relatively high for *Metals* and *Chemicals* (Figure 1b).

For these SPGs the EU imports from Kazakhstan were much higher than the corresponding exports – 6 to 14 times higher over the period 2010-2020.

The EU exports to Kazakhstan of the relevant SPGs (Figure 2) fell in 2015, mainly for *Chemicals* and *Metals*, but recovered afterwards. Over the period 2010-2020, the highest export values were recorded for *Chemicals*. This product group is also the only one for which EU exports to Kazakhstan increased (albeit slightly) over the same period.

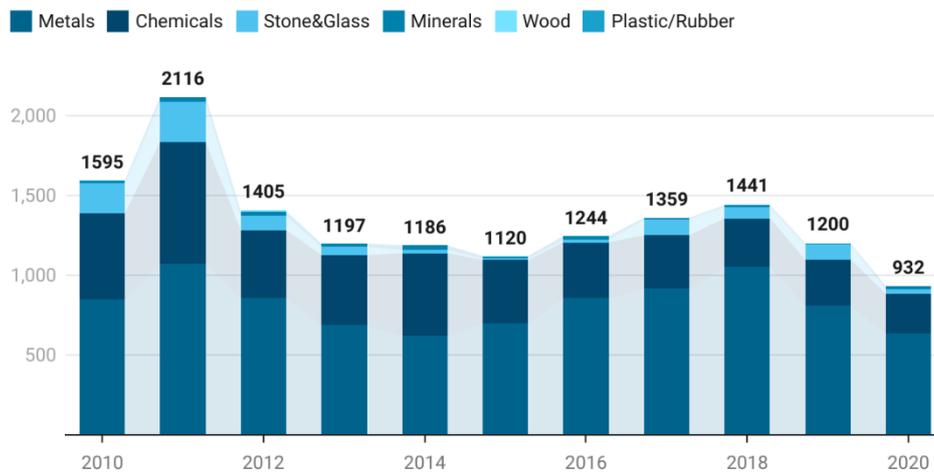
**Figure 1.** EU imports from Kazakhstan, by Standard Product Group (million USD, current prices), 2010-2020

a. Fuels included



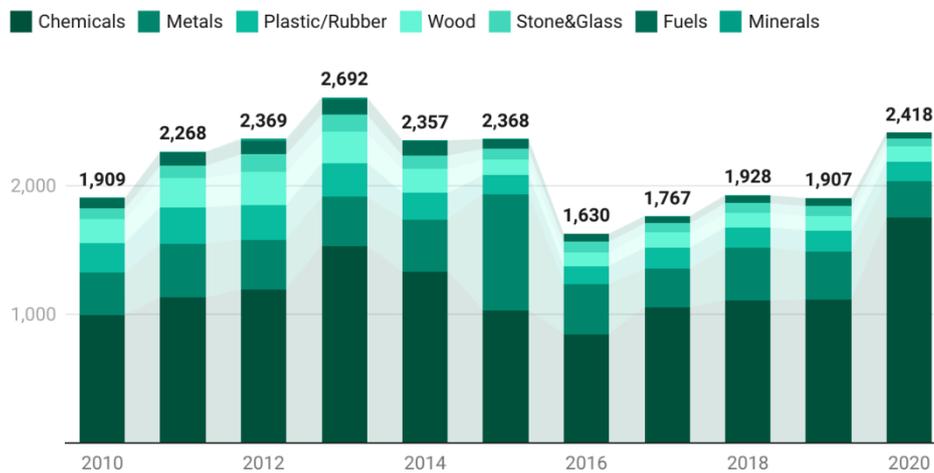
<sup>(9)</sup> The Standard Product Groups include finished goods (i.e. goods that have completed the manufacturing process, but have not yet been sold or distributed to the end users)

b. Fuels excluded



Source: JRC based on COMTRADE data

**Figure 2.** EU exports to Kazakhstan, by Standard Product Group (million USD, current prices), 2010-2020



Source: JRC based on COMTRADE data

In 2020, Kazakhstan's share in extra-EU imports was 4.9 % for *Fuels* and much lower (generally negligible) for the other Standard Product Groups (Table 1).

Among the Member States, Kazakhstan was an important source of extra-EU imports of *Fuels*, in particular for Romania, Lithuania, Austria and Greece. Kazakhstan had a relatively high share in imports of *Metals* for Greece and of *Chemicals* for Estonia.

**Table 1.** Share of Kazakhstan in Member States' extra-EU imports by Standard Product Group (%), 2020

EU	Minerals	Metals	Chemicals	Plastic/Rubber	Stone&Glass	Wood	Fuels
EU	0.1	0.5	0.1	0.0	0.0	0.0	4.9
Austria	0.0	0.2	0.0	0.0	0.0	0.0	19.2
Belgium	0.1	0.0	0.1	0.0	0.0	0.0	0.2
Bulgaria	0.0	0.6	0.0	0.0	0.0	0.0	0.1
Croatia	0.0	0.3	0.0	0.0	0.0	0.0	1.0
Cyprus	0.0	0.0	0.0	0.0	0.0	0.0	0.5
Czechia	0.0	0.6	1.2	0.0	0.4	0.0	7.7
Denmark	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Estonia	0.0	0.0	4.6	0.0	0.0	0.0	0.0
Finland	0.0	0.0	0.0	0.0	0.0	0.0	0.0
France	0.1	1.0	0.0	0.0	0.0	0.0	6.4
Germany	0.0	0.3	0.1	0.0	0.0	0.0	4.5
Greece	0.0	7.4	0.0	0.0	0.0	0.0	16.3
Hungary	0.0	0.0	0.0	0.0	0.0	0.0	5.5
Ireland	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Italy	0.0	1.2	0.0	0.0	0.1	0.0	3.8
Latvia	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	0.6	1.2	0.0	0.0	0.1	0.0	21.3
Luxembourg	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.1
Netherlands	0.0	0.2	0.0	0.0	0.0	0.0	0.0
Poland	0.4	0.0	0.5	0.0	0.1	0.0	9.1
Portugal	0.0	0.0	0.3	0.0	0.0	0.0	0.0
Romania	0.0	0.0	0.5	0.0	0.0	0.0	36.5
Slovakia	0.0	0.0	0.0	0.0	0.0	0.0	1.9
Slovenia	0.0	0.4	0.0	0.0	0.0	0.0	0.0
Spain	0.0	0.4	0.0	0.0	0.0	0.0	4.7
Sweden	0.5	0.0	0.0	0.0	0.0	0.0	0.0

Source: JRC based on COMTRADE data

In 2020, Germany absorbed the largest share of EU imports from Kazakhstan for *Chemicals*, *Fuels* and *Plastic/Rubber*. Germany was the second destination of EU imports from Kazakhstan for *Minerals* and *Stone & Glass* and the third for *Metals* (Table 2). The largest shares of EU imports from Kazakhstan went to Italy for *Metals* (as well as for *Stone & Glass* and *Wood*) and to Poland for *Minerals*. Poland also accounted for large shares in total EU imports of *Chemicals* and *Plastic/Rubber*.

**Table 2.** Distribution of EU imports from Kazakhstan of Standard Product Groups by Member State (%), 2020

EU	Minerals	Metals	Chemicals	Plastic/Rubber	Stone&Glass	Wood	Fuels
EU	100	100	100	100	100	100	100
Austria	0	1	1	1	0	3	8
Belgium	9	0	6	0	15	26	0
Bulgaria	0	2	0	1	0	3	0
Croatia	0	0	0	0	0	0	0
Cyprus	0	0	0	0	0	0	0
Czechia	0	3	18	0	10	1	2
Denmark	0	0	0	0	0	0	0
Estonia	0	0	11	0	0	0	0
Finland	0	0	0	0	0	1	0
France	8	14	2	4	0	2	13
Germany	18	13	30	55	18	5	20
Greece	0	27	0	0	0	0	13
Hungary	0	0	0	0	0	0	1
Ireland	0	0	0	0	0	0	0
Italy	0	28	0	0	50	28	9
Latvia	0	0	0	0	0	0	0
Lithuania	9	1	0	0	1	21	5
Luxembourg	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	0
Netherlands	0	4	1	7	1	7	0
Poland	38	1	22	30	4	0	8
Portugal	0	0	2	0	0	1	0
Romania	0	0	4	0	0	0	10
Slovakia	0	0	0	0	0	0	1
Slovenia	0	1	0	0	0	0	0
Spain	0	5	3	2	2	1	10
Sweden	16	0	0	0	0	1	0

Source: JRC based on COMTRADE data

## 2.2 EU trade with Kazakhstan by broad categories of non-food raw materials (upstream and secondary)

We have defined three broad categories: two for non-food, non-energy (NFNE) – *Abiotic* and *Biotic* – and the third – *Energy*. They include 'Materials/Product aggregates' to which we have assigned the relevant products and their trade codes (at HS 6-digit level), keeping only the upstream (primary, processed or semi-processed) and secondary raw materials (see Annex).



**Table 3.** Main Materials/Product aggregates (\*) imported by the EU from Kazakhstan, 2020

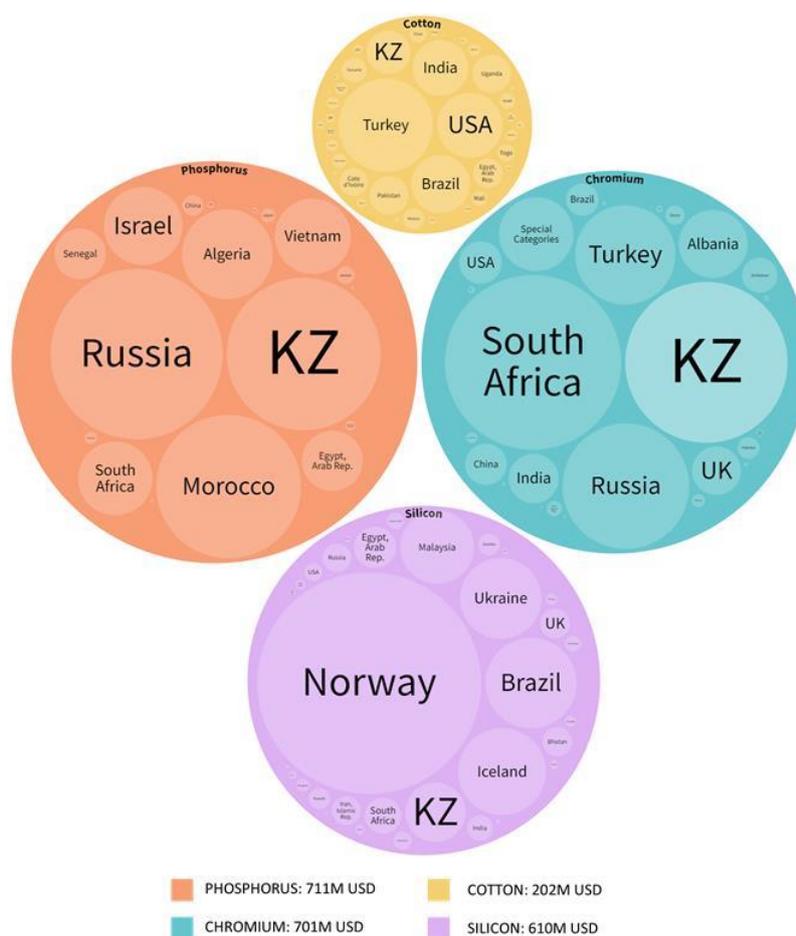
Category	Material/Product aggregate	EU imports from KZ (million USD)	Share in extra-EU imports (%) ▼
Abiotic-NFNE	Chromium	174	25%
Abiotic-NFNE	Phosphorus	156	22%
Abiotic-NFNE	Beryllium	1	9%
ENERGY	Oils	12,573	7%
Biotic-NFNE	Cotton	13	6%
Abiotic-NFNE	Silicon	24	4%

(\*) Materials/Product aggregates with an import value of at least USD 1 million and a share in extra-EU imports of at least 4%.

Source: JRC based on COMTRADE data

Figure 4 shows the main countries of origin for the above materials, with the exception of beryllium, which has been excluded due to its relatively low import value <sup>(10)</sup>. Kazakhstan is the EU's second largest supplier of phosphorus (after Russia) and chromium (after South Africa). Kazakhstan is the sixth largest source of silicon for the EU, after Norway, Brazil, Iceland, Ukraine and Malaysia.

**Figure 4.** Extra-EU sourcing of selected NFNE raw materials, 2020



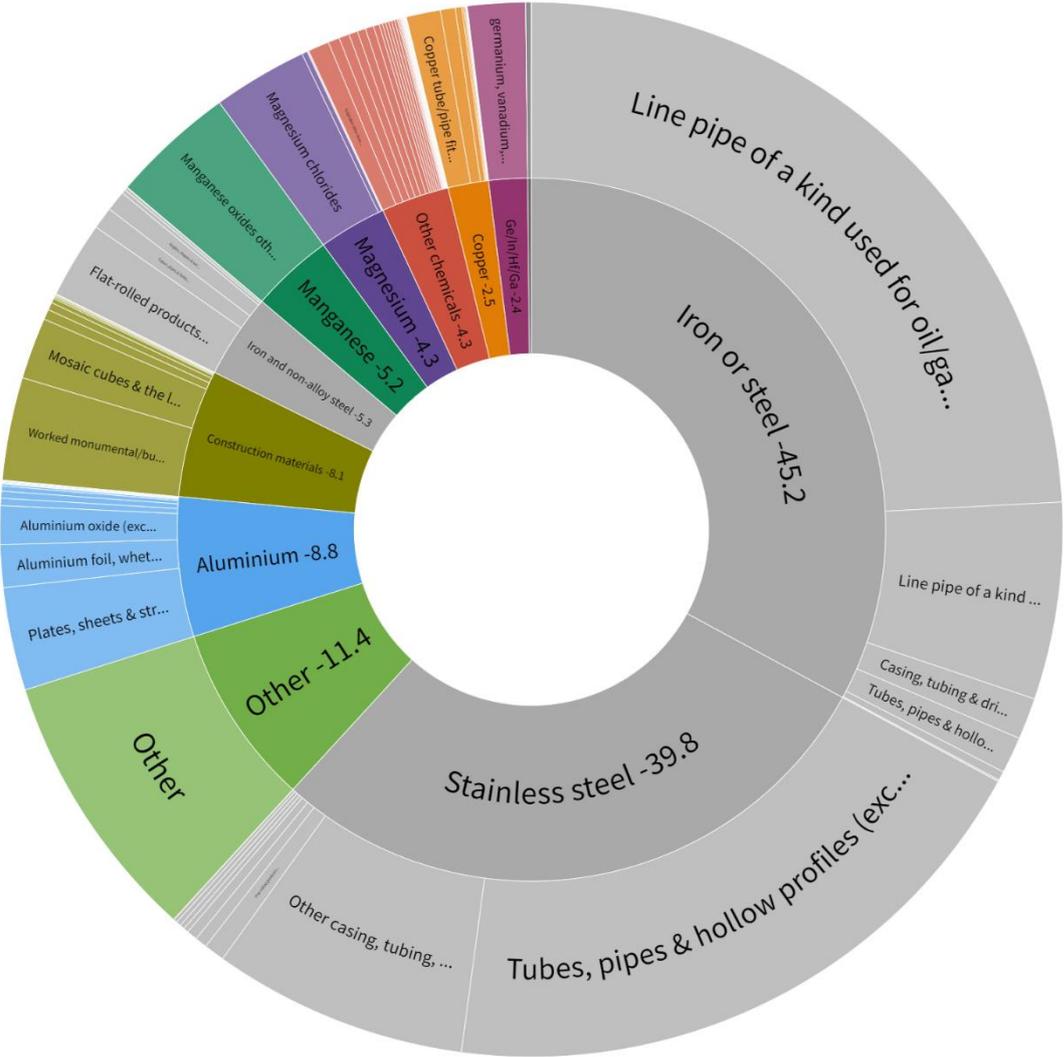
Source: JRC based on COMTRADE data

<sup>(10)</sup> Beryllium is a critical raw material, for which Kazakhstan is the second largest supplier country after the USA.

### 2.2.2 EU exports of NFNE raw materials to Kazakhstan

EU exports of non-food, non-energy (NFNE) raw materials to Kazakhstan are much lower than the corresponding imports. Among the NFNE, the highest export values in 2020 were recorded for several sub-categories of **iron and steel**, mainly long products of iron or steel (line pipes for oil/gas) and stainless steel (tubes, pipes & hollow profiles) or flat products of iron and non-alloy steel (Figure 5). The top 10 NFNE EU exports to Kazakhstan also included **aluminium** (plates, foil, aluminium oxide), **construction materials** (worked monumental/building stone, mosaic cubes, etc.).

**Figure 5.** Top 10 NFNE (Abiotic and Biotic) EU exports to Kazakhstan, by Materials/Product aggregates (USD million) – first layer and commodities – second layer, 2020



Source: JRC based on COMTRADE data

Due to the relatively low value of EU exports to Kazakhstan, their shares in total extra-EU exports were also very low. In 2020, Kazakhstan's share of extra-EU exports exceeded 2.5 % for only four Materials/Product aggregates: iron and steel, manganese, magnesium and the germanium-indium-hafnium-gallium product aggregate (Table 4).

**Table 4.** Main Materials/Product aggregates (\*) exported by the EU to Kazakhstan, 2020

Category	Material/Product aggregate	EU exports to KZ (million USD)	Share in extra-EU exports (%)
Abiotic-NFNE	Iron or steel	45	2.7
Abiotic-NFNE	Manganese	5	3.5
Abiotic-NFNE	Magnesium	4	3.1
Abiotic-NFNE	Ge/In/Hf/Ga	2	2.9

(\*) Materials/product aggregates with an export value of at least USD 2 million and a share in total extra-EU exports of at least 2.5 %.

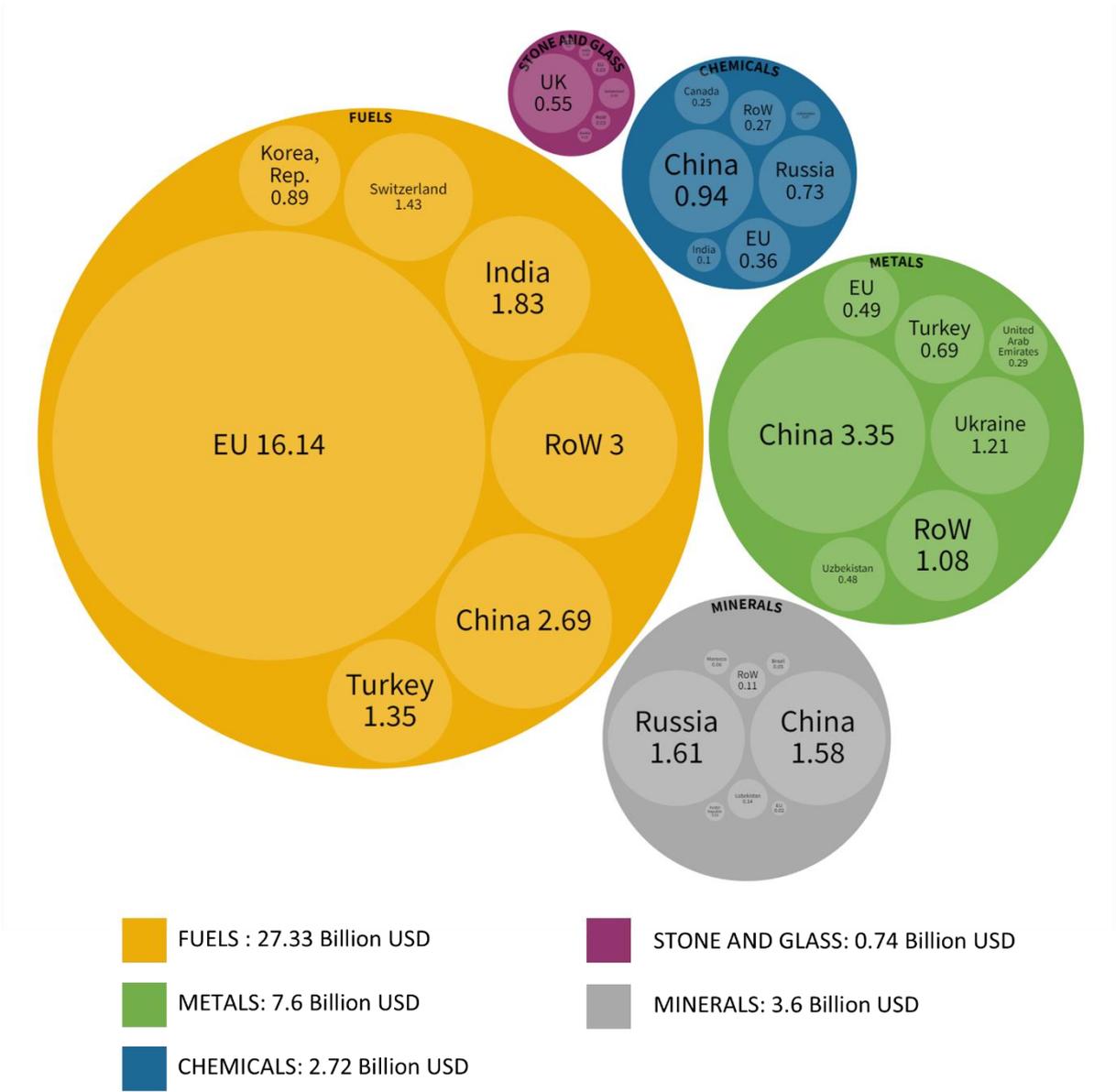
Source: JRC based on COMTRADE data

### 3 Kazakhstan’s trade patterns and the relative position of the EU as a trading partner

#### 3.1 Kazakhstan’s total trade by Standard Product Group

Fuels and Metals are Kazakhstan’s main exports by Standard Product Group, as defined by WITS (Figure 6). The EU is the first destination for Fuels (59 % of total exports) and the fifth for Metals. For the other SPCs, the EU’s share in Kazakhstan’s exports is relatively small. Minerals and Chemicals are exported mainly to China and Russia, while Stone & Glass commodities go mainly to the United Kingdom.

Figure 6. Kazakhstan’s exports (\*) by Standard Product Group, 2020



(\*) the trade data is not always consistent between the exports from Kazakhstan to the EU and the EU imports from Kazakhstan

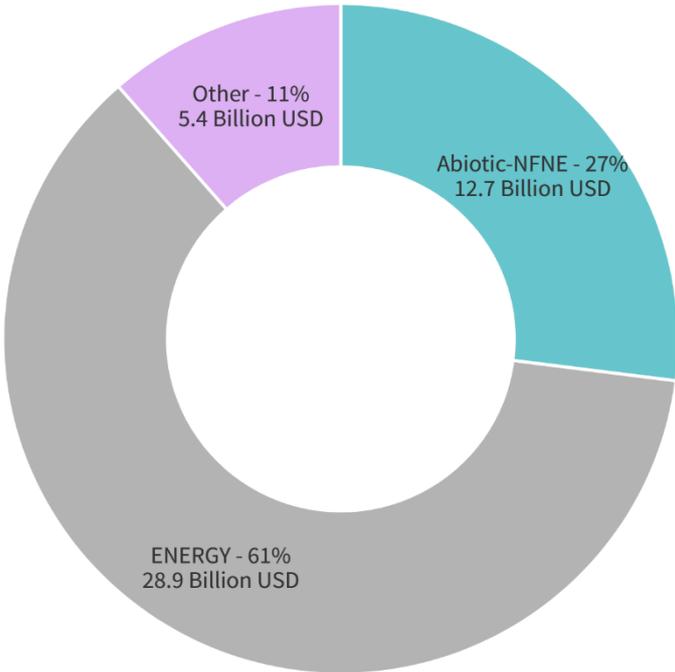
Source: JRC based on COMTRADE data

### 3.2 Kazakhstan's total trade by broad categories of non-food raw materials (upstream and secondary)

The three broad categories of non-food commodities considered (i.e. including only primary/processed/secondary) account for 89 % of Kazakhstan's exports (Figure 7).

Kazakhstan exports almost USD 29 billion of *Energy* commodities, which represents 61 % of total exports of goods. *Abiotic* raw materials make up a further 27 %, or USD 12.7 billion. The *Biotic* category accounts for only 0.2 % of Kazakhstan's exports of goods.

**Figure 7.** Kazakhstan's exports by broad categories of non-food raw materials and their shares in total exports of goods, 2020



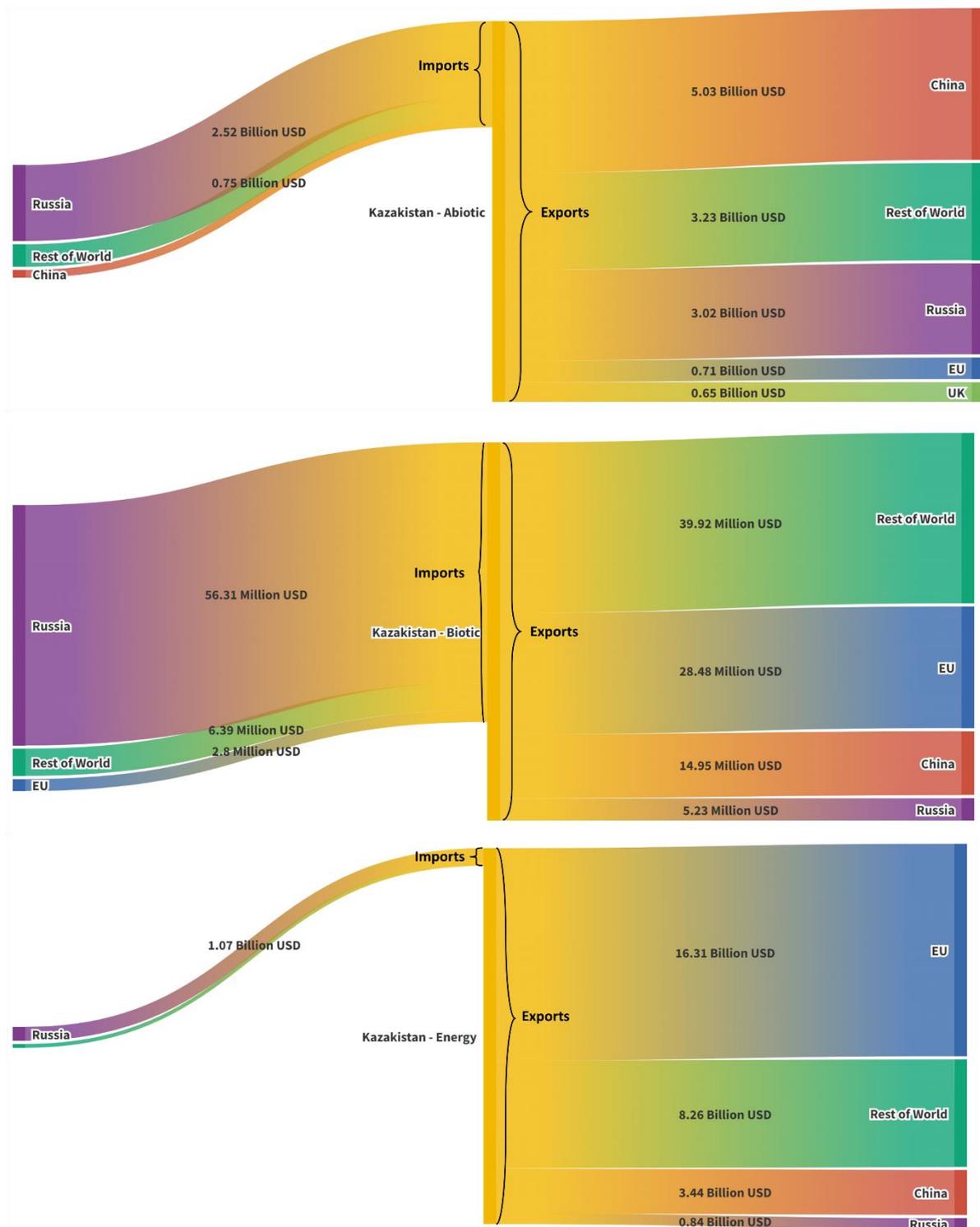
Source: JRC based on COMTRADE data

Kazakhstan is a net exporter of non-food raw materials, with large trade surplus in two of the three broad categories, namely *Energy* (almost USD 27.5 billion) and *Abiotic* (USD 9.1 billion). Figure 8 highlights the main trading partners other than the EU, namely: Russia, China and UK for all three broad categories – *Abiotic*, *Biotic* and *Energy*.

The EU is the main destination for Kazakhstan's overall exports of non-food raw materials. It is the first export destination for the *Energy* and *Biotic* categories, with a share in Kazakhstan's total exports of 57 % and 32 % respectively. However, Kazakhstan's exports of *Abiotic* raw materials go mainly to China (USD 5 billion) and Russia (USD 3.2 billion), while the EU accounts for a much smaller share of these exports (USD 0.7 billion).

On the import side, Russia was Kazakhstan's main trading partner in all three broad categories. Kazakhstan has a *trade deficit* with Russia for *Energy* (USD 225 million USD) and *Biotic* (USD 51 million) and a *trade surplus* for *Abiotic* (USD 495 million).

**Figure 8.** Trade by broad categories of non-food raw materials (\*) and main partners: EU, Russia, China and UK, 2020



(\*) for the product coverage of the broad categories see the Methodological Notes and the Annex

Source: JRC based on COMTRADE data

### 3.3 Trade by non-food raw materials

Kazakhstan's NFNE exports are dominated by *copper, chromium, iron and steel* sub-categories: iron non-alloy steel and iron ore, *zinc, aluminium, precious metals* (gold and silver). Relatively high export values were also recorded for *phosphorus*, most of which has been exported to the EU (Figure 9).

China and Russia are the main destinations of Kazakhstan's top 10 exports of NFNE materials. More specifically, China was the main destination for Kazakhstan's exports of copper, chromium and zinc, while Russia captured the largest shares of Kazakhstan's exports of iron and non-alloy steel, iron ore and gold, as well as for the other commodities outside the top 10 exports.

**Figure 9.** Kazakhstan's main exports of NFNE Materials/Product aggregates (million USD) – first layer by country of destination – second layer, 2020



Source: JRC based on COMTRADE data

Kazakhstan also exports critical raw materials, mainly phosphorus, coking coal and titanium. Among Kazakhstan's top 10 CRM exports (Figure 10), the EU was the main destination for phosphorus, titanium and platinum. Russia is also an important trading partner for CRMs, ranking first for tantalum, phosphate rock and silicon metal, and second for phosphorus, coking coal, baryte and beryllium.

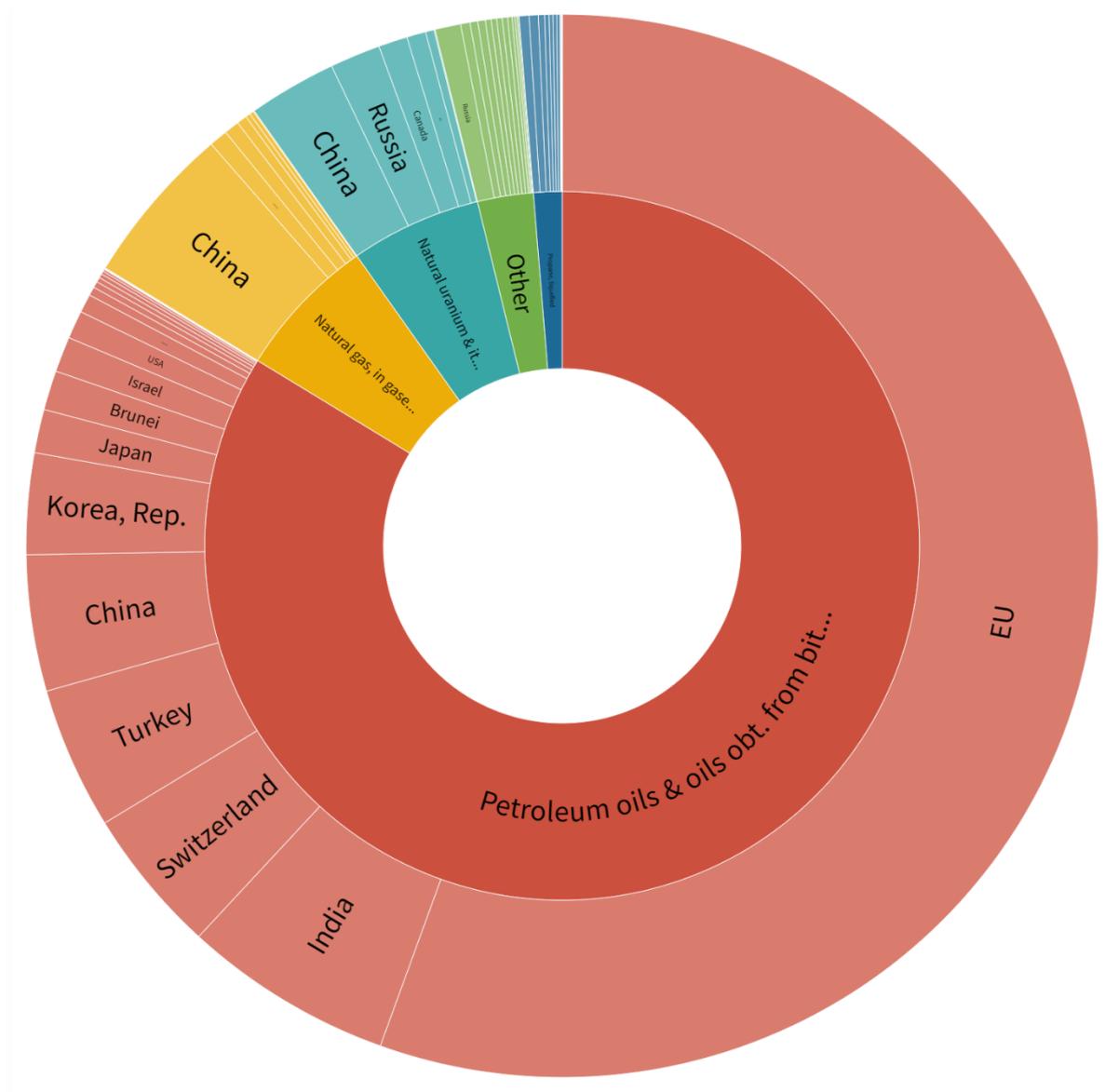
**Figure 10:** Main Kazakhstan's exports of CRMs (million USD)- *first layer* by country of destination – *second layer*, 2020



Source: JRC based on COMTRADE data

Energy exports were dominated by oils and went mainly to the EU, but also to India, Turkey, China and the Republic of Korea. China was the main destination for natural gas and uranium (Figure 11).

**Figure 11.** Kazakhstan's main exports of Energy by commodities (at HS 6-digit level) – *first layer* by country of destination – *second layer*, 2020



Source: JRC based on COMTRADE data

In 2020, **Kazakhstan's top 10 NFNE imports** consisted mainly of **iron and steel** product aggregates (iron and non-alloy steel, ferrous waste and scrap, other alloy steel, iron or steel, pig iron and stainless steel), **aluminium** and **copper** (Figure 12).

Russia was the main sourcing country of all materials in the top 10 NFNE imports.

**Figure 12.** Top 10 NFNE Materials/Product aggregates imported by Kazakhstan (million USD) – *first layer* by country of origin – *second layer*, 2020



Source: JRC based on COMTRADE data

## 4 Economic aspects

This section complements the picture of trade flows as follows:

- First, it looks at the evolution of the price of EU imports from Kazakhstan for selected materials compared to the price of EU total imports for the same materials.
- Second, it shows the importance of the raw materials sector for the Kazakh economy compared to EU and world averages, as indicated by the *Total natural resource rents* indicator.

### 4.1 The EU import unit values for selected materials

Over the period 2010-2020, the unit values of EU imports from Kazakhstan were lower than the unit values of total imports for all the selected non-food raw materials<sup>11</sup>, except for chromium (ferro-chromium). The last column of table below shows the evolution of the unit values of EU imports for selected products, calculated first for the EU imports from Kazakhstan and then for the total EU imports.

**Table 5.** Unit values of imports from Kazakhstan (EUR/kg), 2010-2020

Material ▲	HS code	Description	EU imports from:	2010 – 2020	
				2010	2020
Aluminium	760110	Aluminium, not alloyed, unwrought	World	1.80	2.10
Aluminium	760110	Aluminium, not alloyed, unwrought	Kazakhstan	1.83	1.57
Chromium	720241	Ferro-chromium, containing by weight >4% of carbon, in granular/powder form	World	1.01	0.92
Chromium	720241	Ferro-chromium, containing by weight >4% of carbon, in granular/powder form	Kazakhstan	1.35	1.02
Copper	740311	Cathodes & sections of cathodes, of refined copper, unwrought	World	5.88	8.70
Copper	740311	Cathodes & sections of cathodes, of refined copper, unwrought	Kazakhstan	5.51	5.67
Phosphorus	280470	Phosphorus	World	2.34	2.45
Phosphorus	280470	Phosphorus	Kazakhstan	1.81	2.27
Silicon	720221	Ferro-silicon, containing by weight >55% of silicon, in granular/powder form	World	1.16	1.28
Silicon	720221	Ferro-silicon, containing by weight >55% of silicon, in granular/powder form	Kazakhstan	1.46	0.78

Source: JRC based on COMTRADE data

### 4.2 Contribution of natural resources to the Kazakh economy

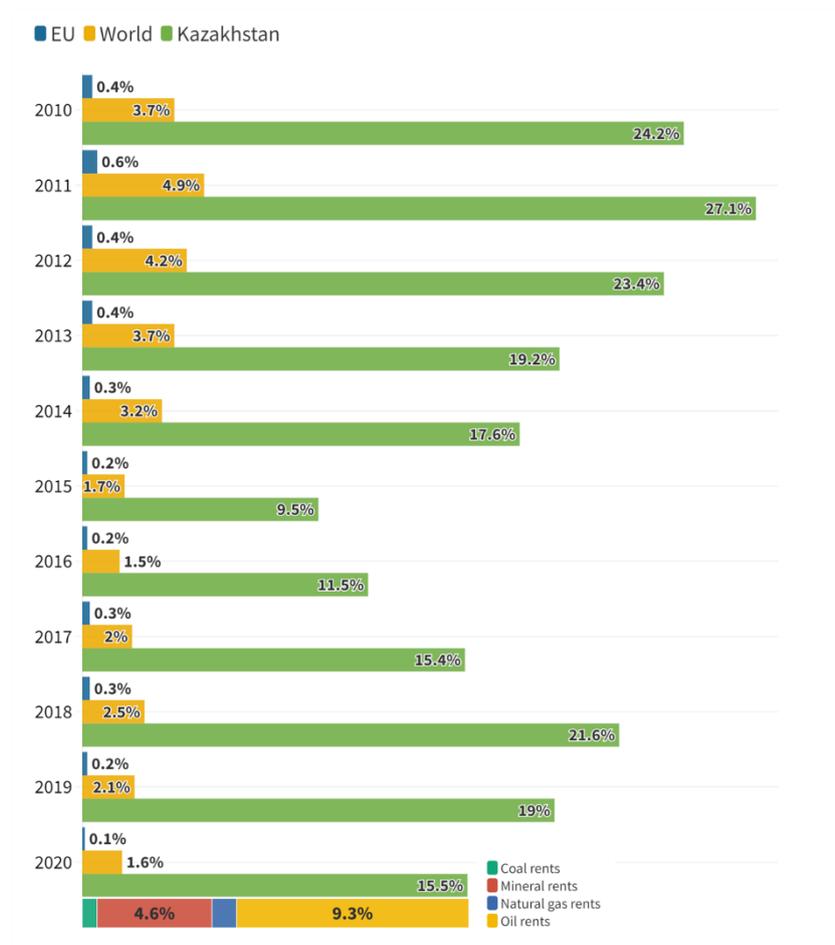
Natural resources make an important contribution to Kazakhstan's economy, as shown by the World Bank's *Total natural resources rents* indicator, which measures the difference between the value of production and the total costs of production as a percentage of GDP<sup>(12)</sup>.

For Kazakhstan, this indicator had a much higher value than the world average and the EU average for the whole period from 2010 to 2020 (Figure 13). The high values were mainly due to oil rents and mineral rents.

<sup>(11)</sup> Trade codes with the highest values and relatively high shares within the Materials/Product aggregates

<sup>(12)</sup> Methodology available at: <https://databank.worldbank.org/metadataloglossary/adjusted-net-savings/series/NY.GDP.TOTL.RT.ZS>

**Figure 13.** Total natural resources rents (\*) (production value *minus* production costs, as % of GDP) of Kazakhstan compared to EU and world average, 2010-2020



(\*) Total natural resources rents are the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents, and forest rents.

Source: World Bank World Development Indicators, <https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS>

## 5 Conclusions

Kazakhstan is the world's leading producer of uranium and the world's second largest producer of chromium. The country also has a high potential for the production of rare earth elements (REEs) as co-products or by-products of uranium deposits.

**The EU is the main destination of total non-food raw materials** (upstream and secondary). In terms of broad categories of non-food raw materials, the EU is the main export destination for the *Energy* and *Biotic* broad categories, with a share in Kazakhstan's total exports of 57 % and 32 % respectively. However, Kazakhstan's exports of the *Abiotic* category go mainly to China and Russia – USD 5 billion and USD 3.3 billion respectively in 2020, while the EU accounts for only USD 0.7 billion in the same year.

**The top 10 EU imports from Kazakhstan in non-food, non-energy raw materials (NFNE)** were *aluminium* (unwrought, not alloyed), *copper* (cathodes), *chromium* (mainly ferro-chromium), *phosphorus*, *coking coal*, *titanium* (unwrought) and *silicon* (ferro-silicon). Kazakhstan is the EU's second largest supplier of phosphorus (after Russia) and chromium (after South Africa). Kazakhstan ranks sixth among the EU suppliers of silicon (after Norway, Brazil, Iceland, Ukraine and Malaysia). The minerals with the highest share of Kazakhstan in extra-EU imports were chromium (25 %) and phosphorus (22 %).

Overall, **EU exports of NFNE to Kazakhstan** are lower than the corresponding imports. The highest export values in 2020 were recorded for several sub-categories of *iron and steel*, *aluminium* and *construction materials*.

At a broader level, in terms of **Standard Product Groups** (SPGs) relevant to non-food raw materials, the EU is the first destination for Kazakh exports of *Fuels* (59 % of total exports) and the fifth for *Metals*. *Minerals* and *Chemicals* are exported mainly to China and Russia. EU imports from Kazakhstan have decreased since 2018 mainly for *Fuels* and *Metals*. Among the EU exports by SPG, the highest values were recorded by *Chemicals*, which increased slightly over the period 2010-2020.

**Non-food raw materials** (excluding downstream products) **account for 89 % of Kazakhstan's exports of goods**. By broad category of non-food raw materials, Kazakhstan exports almost USD 29 billion of *Energy* commodities, which represents 61 % of total exports of goods. *Abiotic* raw materials make up a further 27 % of total Kazakh exports of goods, or USD 12.7 billion. The *Biotic* category accounts for only 0.2 % of Kazakhstan's exports of goods.

**Kazakhstan is a net exporter of non-food raw materials** (non-food commodities excluding downstream), with huge trade surpluses in *Energy* raw materials (almost USD 24.5 billion) and *Abiotic* (USD 9.1 billion).

In 2020, the main **NFNE materials exported by Kazakhstan** were *copper*, *chromium*, *iron and steel* sub-categories, *zinc*, *aluminium*, *precious metals* (gold and silver) and *phosphorus*. The main critical raw materials (CRMs) exported by Kazakhstan were *phosphorus*, *coking coal* and *titanium*. The EU was the main destination for *phosphorus*, *titanium* and *platinum*.

In 2020, **Kazakhstan's main imports of NFNE materials** were *iron and steel*, *aluminium* and *copper* and they were sourced from Russia. The latter was Kazakhstan's main sourcing country in all three categories - *Abiotic*, *Biotic* and *Energy* raw materials. Kazakhstan has a trade deficit with Russia for *Energy* and *Biotic* and a trade surplus for *Abiotic*.

Over the period 2010-2020, **the unit values of EU imports from Kazakhstan** were lower than the unit values of total imports for all the selected non-food raw materials, except for chromium (more precisely ferro-chromium).

The **contribution of natural resources to Kazakhstan's economy** is higher than in the EU or globally. The high values of the indicator called *Total natural resources rents* are mainly due to oil rents and mineral rents.

## Methodological notes

The data source for all trade flows presented in this report is the United Nations Commodity Trade Statistics Database (COMTRADE), downloaded via WITS ([World Integrated Trade Solution](#)) in October 2022. It contains detailed import and export statistics as reported by national statistical authorities. COMTRADE does not provide estimates for missing data (due to confidentiality or because countries do not report their trade statistics for each and every year, or for other reasons). The missing data caveat is particularly relevant for this report, as trade flows are analysed at a detailed level.

The JRC carried out a selection of trade codes corresponding to **non-food raw materials**. The nomenclature version used for the selection is the Harmonised System (HS) nomenclature version 2007. The reason for not using more recent versions of the HS nomenclature was to ensure the availability of trade data for a number of years (time series). The highest level of detail available internationally for all countries is the HS 6-digit level.

Firstly, the selected HS 6-digit trade codes were allocated to the '**Materials/Product aggregates**'. Such a classification was considered necessary because trade flows related to the same material (e.g. "aluminium") may be split into several HS 6-digit trade codes (sometimes in different HS 2-digit chapters) due to different stages of processing.

The JRC has tried to strike a balance between detail and usefulness; however, in many cases it has not been possible to distinguish a single material due to lack of detail in the original trade codes, but product aggregates (e.g. niobium/tantalum/vanadium ores & concentrates) have been used. We have also used product aggregates to keep the number of materials to a reasonable level. In many cases these aggregates are groupings of materials of a similar nature (e.g. industrial minerals, chemicals).

A particular case is iron and steel, which has a very large product coverage (many product codes) and a very large share of trade. In order to provide a more detailed picture, iron and steel has been broken down into product aggregates according to the broader classification of iron and steel by content, which is also mentioned in the product description of the HS 6-digit code <sup>(13)</sup>: *iron ore, iron and non-alloy steel, stainless steel, other alloy steel, iron or steel, ferrous waste and scrap*. Ferro-alloys were assigned to the elements that alloy with iron (e.g. ferro-nickel was assigned to nickel, ferro-silicon to silicon).

Trade in critical raw materials as defined in the 2020 Criticality exercise <sup>(14)</sup> is also highlighted.

The JRC notes that perfect correspondence with the trade codes has not always been possible. The table of correspondence between Materials/Product aggregates and trade codes is given in the Annex.

Secondly, the Materials/Product aggregates have been grouped into **broad categories** of non-food raw materials that are upstream, secondary raw materials or semi-fabricated products <sup>(15)</sup>: **Biotic, Abiotic** and **Energy**.

- **Biotic** commodities are those raw materials derived from plants, which are not used as food or fuel. They include natural rubber (from HS 40), wood (from HS 44), cork (HS 45), paper (HS 47), cotton (HS 520100) and some commodities from the chapters 13 and 14 (the non-food commodities).
- **Abiotic** raw materials are the remaining trade codes from chapters 25, 26, 28, 31 and 68-81, plus coking coal (HS 270111, which also includes thermal coal at this level of aggregation).
- **Energy** raw materials are those raw materials that are mainly used as input to generate energy. They belong mainly to chapter HS 27, but also include wood for energy purposes (e.g. fuel wood).

Kazakhstan's trade patterns have also been analysed at a pre-defined aggregated product level available in WITS - **Standard Product Groups** (SPGs) - which has a wider product coverage than the broad categories above. The SPGs refer to predefined groupings (in WITS) of HS 2-digit chapters: *Minerals* (HS 25-26), *Metals* (HS72-83), *Stone & Glass* (HS 68-71), *Chemicals* (HS28-38), *Plastic/Rubber* (HS 39-40), *Wood* (HS 44-49), *Fuels* (HS 27). They contain commodities at all stages of the value chain, including downstream.

---

<sup>(13)</sup> JRC analysis based on World Customs Organization (2012) *Explanatory Notes of the Harmonized Commodity Description and Coding System Fifth Edition*.

<sup>(14)</sup> European Commission (2020), *Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability*, [COM\(2020\) 474 final](#)

<sup>(15)</sup> We kept also the fertilizers' downstream commodities, since they are critical for agriculture.

For **trade between Kazakhstan and the EU**, only data reported by the EU have been used (e.g. EU imports from Kazakhstan instead of Kazakh exports to the EU). It should be noted that imports reported by the EU may differ from exports reported by the country. Differences are due to various factors, including valuation (imports CIF - Cost, Insurance and Freight, exports FOB - Free on Board), but also reporting inconsistencies, most likely due to confidential/non-reported trade flows.

**The unit value of EU imports** is also based on COMTRADE, which is used as a single data source for all trade data, including for the EU, for which COMTRADE is based on ESTAT data. It has been calculated as the ratio between the value (USD) and the quantity (kg) of imports and then converted into EUR/kg using the average annual USD/EUR exchange rate based on data from the European Central Bank. It is expressed in EUR/kg (except for wood, which is expressed per m<sup>3</sup>). The unit-value of imports has been calculated for imports originating in Kazakhstan as well as for total EU imports of the selected commodities (those with a high value/share of EU imports from Kazakhstan in total imports).

**Total natural resources rents** is an indicator provided by the World Bank <sup>(16)</sup>. It shows the difference between the value of production and the total cost of production as a percentage of GDP and is calculated as the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents and forest rents.

---

<sup>(16)</sup> World Bank World Development Indicators, available at: <https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS>

## References

- European Commission, Delegation of the EU to the Republic of Kazakhstan, *The European Union and Kazakhstan*, [https://www.eeas.europa.eu/kazakhstan/european-union-and-kazakhstan\\_en?s=222](https://www.eeas.europa.eu/kazakhstan/european-union-and-kazakhstan_en?s=222)
- European Commission, DG Trade's, *Statistics*, [details\\_kazakhstan\\_en.pdf \(europa.eu\)](#)
- European Commission (2020), *Critical Raw Materials Resilience: Charting a Path towards greater Security and Sustainability*, [COM\(2020\) 474 final](#)
- European Union, *Enhanced Partnership and Cooperation Agreement between the European Union and its Member States, of the one part, and the Republic of Kazakhstan, of the other part*, <https://www.consilium.europa.eu/en/documents-publications/treaties-agreements/agreement/?id=2015045>.
- Mihalasky, M.J., Tucker, R.D., Renaud, K., and Verstraeten, I.M. (2018), *Rare earth element and rare metal inventory of central Asia: U.S. Geological Survey Fact Sheet 2017-3089*, 4 p., <https://doi.org/10.3133/fs20173089>.
- UN COMTRADE, <https://comtrade.un.org/>
- Unguru, M., Georgitzikis, K., Ciupagea, C. and Garbossa, E., *Russian trade in non-food raw materials, Focus on EU-Russia trade relations*, [doi:10.2760/837284](https://doi.org/10.2760/837284), JRC129611.
- World Bank, *The Changing Wealth of Nations*, <https://www.worldbank.org/en/publication/changing-wealth-of-nations>
- World Bank, *World Development Indicators*, <https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS>
- World Bank, *World Integrated Trade Solution (WITS)*, <https://wits.worldbank.org/Default>
- World Customs Organization (2012), *Explanatory Notes of the Harmonized Commodity Description and Coding System Fifth Edition*
- World Mining Data (2022), [https://www.world-mining-data.info/?World\\_Mining\\_Data\\_Data\\_Section](https://www.world-mining-data.info/?World_Mining_Data_Data_Section), accessed in September 2022
- World Trade Organisation (WTO), *Trade profiles*, [https://www.wto.org/english/res\\_e/statis\\_e/trade\\_profiles\\_list\\_e.htm](https://www.wto.org/english/res_e/statis_e/trade_profiles_list_e.htm)

## List of abbreviations and definitions

COMTRADE	UN repository of official international trade statistics
CRM	Critical Raw Materials
No-CRM	Non-Critical Raw Materials
EU	European Union (27 countries)
HS	Harmonised System
NFNE	Non-food, non-energy (raw material commodities)
REEs	Rare Earths Elements
RMIS	Raw Materials Information System
SPG	Standard Product Group
UNCTAD	United Nations Conference on Trade and Development
WITS	World Integrated Trade Solution

## List of figures

Figure 1. EU imports from Kazakhstan, by Standard Product Group (million USD, current prices), 2010-2020	4
Figure 2. EU exports to Kazakhstan, by Standard Product Group (million USD, current prices), 2010-2020	5
Figure 3. Top 10 NFNE (Abiotic and Biotic) EU imports from Kazakhstan by Materials/Product aggregates (million USD) – <i>first layer</i> and by commodities – <i>second layer</i> , 2020	8
Figure 4. Extra-EU sourcing of selected NFNE raw materials, 2020	9
Figure 5. Top 10 NFNE (Abiotic and Biotic) EU exports to Kazakhstan, by Materials/Product aggregates (USD million) – <i>first layer</i> and commodities – <i>second layer</i> , 2020	10
Figure 6. Kazakhstan’s exports (*) by Standard Product Group, 2020	12
Figure 7. Kazakhstan’s exports by broad categories of non-food raw materials and their shares in total exports of goods, 2020	13
Figure 8. Trade by broad categories of non-food raw materials (*) and main partners: EU, Russia, China and UK, 2020	14
Figure 9. Kazakhstan’s main exports of NFNE Materials/Product aggregates (million USD) – <i>first layer</i> by country of destination – <i>second layer</i> , 2020	15
Figure 10: Main Kazakhstan’s exports of CRMs (million USD)- <i>first layer</i> by country of destination – <i>second layer</i> , 2020	16
Figure 11. Kazakhstan's main exports of Energy by commodities (at HS 6-digit level) – <i>first layer</i> by country of destination – <i>second layer</i> , 2020	17
Figure 12. Top 10 NFNE Materials/Product aggregates imported by Kazakhstan (million USD) – <i>first layer</i> by country of origin – <i>second layer</i> , 2020	18
Figure 13. Total natural resources rents (*) (production value <i>minus</i> production costs, as % of GDP) of Kazakhstan compared to EU and world average, 2010-2020	20

## List of tables

Table 1. Share of Kazakhstan in Member States' extra-EU imports by Standard Product Group (%), 2020.....	6
Table 2. Distribution of EU imports from Kazakhstan of Standard Product Groups by Member State (%), 20207	
Table 3. Main Materials/Product aggregates (*) imported by the EU from Kazakhstan, 2020.....	9
Table 4. Main Materials/Product aggregates (*) exported by the EU to Kazakhstan, 2020.....	11
Table 5. Unit values of imports from Kazakhstan (EUR/kg), 2010-2020.....	19

## Annex

### List of non-food raw materials. Correspondence table Category-Material/Product aggregate -Trade codes/Commodities –commodity

Broad Category	Material/Product aggregate	Trade code (HS2007)	Commodity Description	Value chain stage
Abiotic-NFNE	Aluminium	260600	Aluminium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	262040	Ash & residues (excl. from the manufacture of iron/steel) containing mainly aluminium	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	281810	Artificial corundum, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	281820	Aluminium oxide (excl. artificial corundum)	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	281830	Aluminium hydroxide	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	760110	Aluminium, not alloyed, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	760120	Aluminium alloys, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	760200	Aluminium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	760310	Powders of non-lamellar structure, of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	760320	Powders of lamellar structure, of aluminium; flakes of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	Aluminium	760410	Bars, rods & profiles, of aluminium, not alloyed	Semi-fabricated
Abiotic-NFNE	Aluminium	760421	Hollow profiles of aluminium	Semi-fabricated
Abiotic-NFNE	Aluminium	760429	Bars, rods & profiles (excl. hollow profiles) of aluminium alloys	Semi-fabricated
Abiotic-NFNE	Aluminium	760511	Wire of aluminium, not alloyed, of which the maximum cross-sectional dim. exceeds 7mm	Semi-fabricated
Abiotic-NFNE	Aluminium	760519	Wire of aluminium, not alloyed (excl. of 7605.11)	Semi-fabricated
Abiotic-NFNE	Aluminium	760521	Wire of aluminium alloys, of which the maximum cross-sectional dim. exceeds 7mm	Semi-fabricated
Abiotic-NFNE	Aluminium	760529	Wire of aluminium alloys (excl. of 7605.21)	Semi-fabricated
Abiotic-NFNE	Aluminium	760611	Plates, sheets & strip, rectangular (incl. square), of a thickness >0.2mm, of aluminium, not alloyed	Semi-fabricated
Abiotic-NFNE	Aluminium	760612	Plates, sheets & strip, rectangular (incl. square), of a thickness >0.2mm, of aluminium alloys	Semi-fabricated
Abiotic-NFNE	Aluminium	760691	Plates, sheets & strip other than rectangular (incl. square), of a thickness >0.2mm, of aluminium, not alloyed	Semi-fabricated
Abiotic-NFNE	Aluminium	760692	Plates, sheets & strip other than rectangular (incl. square), of a thickness >0.2mm, of aluminium alloys	Semi-fabricated
Abiotic-NFNE	Aluminium	760711	Aluminium foil, whether/not printed, not backed, of a thickness not >0.2mm, rolled but not further worked	Semi-fabricated
Abiotic-NFNE	Aluminium	760719	Aluminium foil, whether/not printed, not backed, of a thickness not >0.2mm (excl. of 7607.11)	Semi-fabricated
Abiotic-NFNE	Aluminium	760720	Aluminium foil, whether/not printed, backed with paper/paperboard/plastics/similar backing materials, of a thickness (excl. any backing) not >0.2mm	Semi-fabricated
Abiotic-NFNE	Aluminium	760810	Tubes & pipes of aluminium, not alloyed	Semi-fabricated
Abiotic-NFNE	Aluminium	760820	Tubes & pipes of aluminium alloys	Semi-fabricated
Abiotic-NFNE	Aluminium	760900	Aluminium tube/pipe fittings (e.g., couplings, elbows, sleeves)	Semi-fabricated
Abiotic-NFNE	Antimony	261710	Antimony ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Antimony	282580	Antimony oxides	Primary/Processed/Secondary
Abiotic-NFNE	Antimony	811010	Unwrought antimony; powders	Primary/Processed/Secondary
Abiotic-NFNE	Antimony	811020	Antimony waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Antimony	811090	Antimony & articles thereof, n.e.s. in 81.10	Semi-fabricated
Abiotic-NFNE	Arsenic	280480	Arsenic	Primary/Processed/Secondary
Abiotic-NFNE	Baryte	251110	Natural barium carbonate (witherite), whether/not calcined, other than barium oxide of 28.16	Primary/Processed/Secondary
Abiotic-NFNE	Baryte	283327	Sulphates of barium	Primary/Processed/Secondary
Abiotic-NFNE	Beryllium	811212	Beryllium, unwrought; powders	Primary/Processed/Secondary
Abiotic-NFNE	Beryllium	811213	Beryllium waste & scrap	Primary/Processed/Secondary

Broad Category	Material/Product aggregate	Trade code (HS2007)	Commodity Description	Value chain stage
Abiotic-NFNE	Beryllium	811219	Beryllium & articles thereof , n.e.s. in 81.12	Semi-fabricated
Abiotic-NFNE	Bismuth	810600	Bismuth & articles thereof , incl. waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Borates	252810	Natural sodium borates & concentrates thereof (whether/not calcined)	Primary/Processed/Secondary
Abiotic-NFNE	Borates	252890	Natural borates & concentrates thereof (excl. sodium borates), whether/not calcined but not incl. borates separated from natural brine; natural boric acid containing not >85% of H3BO3 calc. on the dry weight	Primary/Processed/Secondary
Abiotic-NFNE	Borates	280450	Boron; tellurium	Primary/Processed/Secondary
Abiotic-NFNE	Borates	281000	Oxides of boron; boric acids	Primary/Processed/Secondary
Abiotic-NFNE	Borates	284011	Disodium tetraborate (refined borax), anhydrous	Primary/Processed/Secondary
Abiotic-NFNE	Borates	284019	Disodium tetraborate (refined borax), other than anhydrous	Primary/Processed/Secondary
Abiotic-NFNE	Borates	284020	Borates other than disodium tetraborate (refined borax)	Primary/Processed/Secondary
Abiotic-NFNE	Borates	284030	Peroxo-borates (perborates)	Primary/Processed/Secondary
Abiotic-NFNE	Cadmium	810720	Unwrought cadmium; powders	Primary/Processed/Secondary
Abiotic-NFNE	Cadmium	810730	Cadmium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Cadmium	810790	Cadmium & articles thereof , n.e.s. in 81.07	Semi-fabricated
Abiotic-NFNE	Carbonates	283699	Carbonates(excl. of 2836.20-2836.92); peroxocarbonates (percarbonates); commercial ammonium carbonate containing ammonium carbamate.	Primary/Processed/Secondary
Abiotic-NFNE	Caustic soda	281511	Sodium hydroxide (caustic soda), solid	Primary/Processed/Secondary
Abiotic-NFNE	Caustic soda	281512	Sodium hydroxide (caustic soda), in aqueous solution (soda lye/liquid soda)	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	261000	Chromium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	281910	Chromium trioxide	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	281990	Chromium oxides (excl. chromium trioxide) & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	284130	Sodium dichromate	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	284150	Chromates&dichromates(excl. of 2841.30); peroxochromates	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	720241	Ferro-chromium, containing by weight >4% of carbon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	720249	Ferro-chromium, other than that containing by weight >4% of carbon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	811221	Chromium, unwrought; powders	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	811222	Chromium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Chromium	720250	Ferro-silico-chromium, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Cobalt	260500	Cobalt ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Cobalt	810590	Cobalt & articles thereof , n.e.s. in 81.05	Semi-fabricated
Abiotic-NFNE	Cobalt	282200	Cobalt oxides & hydroxides; commercial cobalt oxides	Primary/Processed/Secondary
Abiotic-NFNE	Cobalt	810520	Cobalt mattes & other intermediate products of cobalt metallurgy; unwrought cobalt; powders	Primary/Processed/Secondary
Abiotic-NFNE	Cobalt	810530	Cobalt waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Coking coal (*)	270112	Bituminous coal, whether/not pulverised but not agglomerated	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	250590	Natural sands other than silica & quartz, whether/not coloured, other than metalbearing sands of Ch.26	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251400	Slate, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251511	Marble & travertine, crude/roughly trimmed	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251512	Marble & travertine, merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Construction materials	251520	Ecaussine & other calcareous monumental/building stone; alabaster, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (including square) shape	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251611	Granite, crude/roughly trimmed	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251612	Granite, merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251620	Sandstone, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251690	Monumental/building stone (excl. of 2516.11-2516.22), whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251710	Pebbles/gravel/broken/crushed stone, of a kind commonly used for concrete aggregates/road metalling/railway/other ballast, shingle & flint, whether/not heat-treated	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251720	Macadam of slag/dross/similar industrial waste, whether/not incorporating the materials cited in 2517.10	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251730	Tarred macadam, whether/not incorporating pebbles/gravel/broken/crushed stone	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251741	Granules, chippings & powder, of marble, whether/not heat-treated	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251749	Granules, chippings & powder, of stones of 25.15/25.16 (excl. marble), whether/not heat-treated	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251810	Dolomite, not calcined/sintered, incl. dolomite roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251820	Calcined/sintered dolomite, incl. dolomite roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	251830	Dolomite ramming mix	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252010	Gypsum; anhydrite	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252100	Limestone flux; limestone & other calcareous stone, of a kind used for the manufacture of lime/cement	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252210	Quicklime	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252220	Slaked lime	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252230	Hydraulic lime, other than calcium oxide & hydroxide of 28.25	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252310	Cement clinkers	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252321	White cement, whether/not artificially coloured	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252329	Portland cement (excl. white cement, whether/not artificially coloured), whether/not coloured	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252330	Aluminous cement, whether/not coloured/in the form of clinkers	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Construction materials	252390	Hydraulic cements (e.g., slag cement, supersulphate cement), whether/not coloured/in the form of clinkers (excl. cement clinkers, Portland cement & aluminous cement)	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252410	Crocidolite	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	252490	Asbestos other than crocidolite	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	261800	Granulated slag (slag sand) from the manufacture of iron/steel	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680100	Setts, curbstones & flagstones, of natural stone (except slate)	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680210	Tiles, cubes & similar articles, whether/not rectangular (including square), the largest surface area of which is capable of being enclosed in a square the side of which is less than 7 cm; artificially coloured granules, chippings & powder	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680221	Worked monumental/building stone & articles thereof (excl. goods of 68.01), simply cut/sawn, with a flat/even surface (excl. of 6802.10), of marble, travertine & alabaster	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680223	Worked monumental/building stone & articles thereof (excl. goods of 68.01), simply cut/sawn, with a flat/even surface (excl. of 6802.10), of granite	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680229	Worked monumental/building stone & articles thereof (excl. goods of 68.01), simply cut/sawn, with a flat/even surface (excl. of 6802.10), of other stone, other than of granite/marble/travertine/alabaster	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680291	Mosaic cubes & the like, of marble/travertine/alabaster, whether/not on a backing; artificially coloured granules, chippings & powder, of marble/travertine/alabaster	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680292	Mosaic cubes & the like, of other calcareous stone...whether/not on a backing; artificially coloured granules, chippings & powder	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680293	Mosaic cubes & the like, of granite, whether/not on a backing; artificially coloured granules, chippings & powder, of granite	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680299	Mosaic cubes & the like, of other natural stone, incl. slateâ€¦n.e.s. in heading 68.02, whether/not on a backing; artificially coloured granules, chippings & powder,	Primary/Processed/Secondary
Abiotic-NFNE	Construction materials	680300	Worked slate & articles of slate/agglomerated slate	Primary/Processed/Secondary
Abiotic-NFNE	Construction Materials	261900	Slag, dross (excl. granulated slag), scalings & other waste from the manufacture of iron/steel	Primary/Processed/Secondary
Abiotic-NFNE	Copper	260300	Copper ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Copper	262030	Ash & residues (excl. from the manufacture of iron/steel) containing mainly copper	Primary/Processed/Secondary
Abiotic-NFNE	Copper	282550	Copper oxides & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	Copper	282741	Chloride oxides & chloride hydroxides, of copper	Primary/Processed/Secondary
Abiotic-NFNE	Copper	283325	Sulphates of copper	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740100	Copper mattes; cement copper (precipitated copper).	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740200	Unrefined copper; copper anodes for electrolytic refining	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740311	Cathodes & sections of cathodes, of refined copper, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740312	Wire-bars of refined copper, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740313	Billets of refined copper, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740319	Unwrought products of refined copper (excl. of 7403.11-7403.13)	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740321	Copper-zinc base alloys (brass), unwrought	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Copper	740322	Copper-tin base alloys (bronze), unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740329	Other copper alloys (other than master alloys of heading 74.05), other than copper-zinc alloys(brass),/copper-tin base alloys(bronze).	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740400	Copper waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740500	Master alloys of copper	Primary/Processed/Secondary
Abiotic-NFNE	Copper	740610	Powders of non-lamellar structure, of copper	Semi-fabricated
Abiotic-NFNE	Copper	740620	Powders of lamellar structure, of copper; flakes, of copper	Semi-fabricated
Abiotic-NFNE	Copper	740710	Bars, rods & profiles, of refined copper	Semi-fabricated
Abiotic-NFNE	Copper	740721	Bars, rods & profiles, of copper-zinc base alloys (brass)	Semi-fabricated
Abiotic-NFNE	Copper	740729	Bars, rods & profiles, of copper alloys (excl. of 7407.21)	Semi-fabricated
Abiotic-NFNE	Copper	740811	Copper wire, of refined copper of which the maximum cross-sectional dim. exceeds 6mm	Semi-fabricated
Abiotic-NFNE	Copper	740819	Copper wire, of refined copper (excl. of 7408.11)	Semi-fabricated
Abiotic-NFNE	Copper	740821	Wire of copper-zinc base alloys (brass)	Semi-fabricated
Abiotic-NFNE	Copper	740822	Wire of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)	Semi-fabricated
Abiotic-NFNE	Copper	740829	Wire of copper alloys (excl. of 7408.21 & 7408.22)	Semi-fabricated
Abiotic-NFNE	Copper	740911	Copper plates, sheets & strip, of a thickness >0.15mm, of refined copper, in coils	Semi-fabricated
Abiotic-NFNE	Copper	740919	Copper plates, sheets & strip, of a thickness >0.15mm, of refined copper, other than in coils	Semi-fabricated
Abiotic-NFNE	Copper	740921	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-zinc base alloys (brass), in coils	Semi-fabricated
Abiotic-NFNE	Copper	740929	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-zinc base alloys (brass), other than in coils	Semi-fabricated
Abiotic-NFNE	Copper	740931	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-tin base alloys (bronze), in coils	Semi-fabricated
Abiotic-NFNE	Copper	740939	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-tin base alloys (bronze), other than in coils	Semi-fabricated
Abiotic-NFNE	Copper	740940	Copper plates, sheets & strip, of a thickness >0.15mm, of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)	Semi-fabricated
Abiotic-NFNE	Copper	740990	Copper plates, sheets & strip, of a thickness >0.15mm, of other copper alloys (excl. of 7409.11-7409.40)	Semi-fabricated
Abiotic-NFNE	Copper	741011	Copper foil, whether/not printed, not backed with paper/paperboard/plactics/similar backing materials, of refined copper, of a thickness not >0.15mm	Semi-fabricated
Abiotic-NFNE	Copper	741012	Copper foil, whether/not printed, not backed with paper/paperboard/plactics/similar backing materials, of copper alloys, of a thickness not >0.15mm	Semi-fabricated
Abiotic-NFNE	Copper	741021	Copper foil, whether/not printed, backed with paper/paperboard/plactics/similar backing materials, of refined copper, of a thickness (excl. any backing) not >0.15mm	Semi-fabricated
Abiotic-NFNE	Copper	741022	Copper foil, whether/not printed, backed with paper/paperboard/plactics/similar backing materials, of copper alloys, of a thickness (excl. any backing) not >0.15mm	Semi-fabricated
Abiotic-NFNE	Copper	741110	Copper tubes & pipes, of refined copper	Semi-fabricated
Abiotic-NFNE	Copper	741121	Copper tubes & pipes, of copper-zinc base alloys (brass)	Semi-fabricated
Abiotic-NFNE	Copper	741122	Copper tubes & pipes, of copper-nickel base alloys (cupro-nickel)/copper-nickel-zinc base alloys (nickel silver)	Semi-fabricated
Abiotic-NFNE	Copper	741129	Copper tubes & pipes, of copper alloys (excl. of 7411.21 & 7411.22)	Semi-fabricated
Abiotic-NFNE	Copper	741210	Copper tube/pipe fittings (e.g., couplings, elbows, sleeves), of refined copper	Semi-fabricated
Abiotic-NFNE	Copper	741220	Copper tube/pipe fittings (e.g., couplings, elbows, sleeves), of copper alloys	Semi-fabricated
Abiotic-NFNE	Diamonds (industrial)	710221	Industrial diamonds, unworked/simplely sawn/cleaved/bruted	Primary/Processed/Secondary
Abiotic-NFNE	Diamonds (industrial)	710229	Industrial diamonds, worked but not mounted/set	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Diamonds (industrial)	710510	Dust & powder of natural/synthetic diamonds	Primary/Processed/Secondary
Abiotic-NFNE	Diamonds (non-ind.)	710210	Diamonds, unsorted	Primary/Processed/Secondary
Abiotic-NFNE	Diamonds (non-ind.)	710231	Diamonds, non-industrial, unworked/simplely sawn/cleaved/bruted	Primary/Processed/Secondary
Abiotic-NFNE	Diamonds (non-ind.)	710239	Diamonds, non-industrial other than unworked/simplely sawn/cleaved/bruted	Primary/Processed/Secondary
Abiotic-NFNE	Ferrous waste and scrap	720410	Waste & scrap of cast iron	Primary/Processed/Secondary
Abiotic-NFNE	Ferrous waste and scrap	720421	Waste & scrap of stainless steel	Primary/Processed/Secondary
Abiotic-NFNE	Ferrous waste and scrap	720429	Waste & scrap of alloy steel other than stainless steel	Primary/Processed/Secondary
Abiotic-NFNE	Ferrous waste and scrap	720430	Waste & scrap of tinned iron/steel	Primary/Processed/Secondary
Abiotic-NFNE	Ferrous waste and scrap	720441	Ferrous turnings, shavings, chips, milling waste, sawdust, filings, trimmings & stampings, whether/not in bundles	Primary/Processed/Secondary
Abiotic-NFNE	Ferrous waste and scrap	720449	Ferrous waste & scrap (excl. of 7204.10-7204.41)	Primary/Processed/Secondary
Abiotic-NFNE	Ferrous waste and scrap	720450	Remelting ferrous scrap ingots	Primary/Processed/Secondary
Abiotic-NFNE	Fertilisers	281410	Anhydrous ammonia	Downstream
Abiotic-NFNE	Fertilisers	310100	Animal/vegetable fertilisers, whether/not mixed together/chemically treated; fertilisers produced by the mixing/chemical treatment of animal/vegetable products	Downstream
Abiotic-NFNE	Fertilisers	310210	Urea, whether/not in aqueous solution	Downstream
Abiotic-NFNE	Fertilisers	310221	Ammonium sulphate	Downstream
Abiotic-NFNE	Fertilisers	310229	Double salts & mixtures of ammonium sulphate & ammonium nitrate	Downstream
Abiotic-NFNE	Fertilisers	310230	Ammonium nitrate, whether/not in aqueous solution	Downstream
Abiotic-NFNE	Fertilisers	310240	Mixtures of ammonium nitrate with calcium carbonate/other inorganic non-fertilising substance	Downstream
Abiotic-NFNE	Fertilisers	310250	Sodium nitrate	Downstream
Abiotic-NFNE	Fertilisers	310260	Double salts & mixtures of calcium nitrate & ammonium nitrate	Downstream
Abiotic-NFNE	Fertilisers	310280	Mixtures of urea & ammonium nitrate in aqueous/ammoniacal solution	Downstream
Abiotic-NFNE	Fertilisers	310290	Mineral/chemical fertilisers, nitrogenous (excl. of 3102.10-3102.80), including mixtures not specified in the foregoing subheadings	Downstream
Abiotic-NFNE	Fertilisers	310310	Superphosphates	Downstream
Abiotic-NFNE	Fertilisers	310390	Mineral/chemical fertilisers, phosphatic(excl. of 3103.10)	Downstream
Abiotic-NFNE	Fertilisers	310510	Fertilisers of Ch.31 in tablets/similar forms/in packages of a gross weight not >10kg	Downstream
Abiotic-NFNE	Fertilisers	310520	Mineral/chemical fertilisers containing the 3 fertilising elements nitrogen, phosphorus & potassium	Downstream
Abiotic-NFNE	Fertilisers	310530	Diammonium hydrogenorthophosphate (diammonium phosphate)	Downstream
Abiotic-NFNE	Fertilisers	310540	Ammonium dihydrogenorthophosphate (monoammonium phosphate) & mixtures thereof with diammonium hydrogenorthophosphate (diammonium phosphate)	Downstream
Abiotic-NFNE	Fertilisers	310551	Mineral/chemical fertilisers containing nitrates & phosphates	Downstream

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Fertilisers	310559	Mineral/chemical fertilisers containing the 2 fertilising elements nitrogen & phosphorus, other than those containing nitrates & phosphates	Downstream
Abiotic-NFNE	Fertilisers	310560	Mineral/chemical fertilisers containing the 2 fertilising elements phosphorus & potassium	Downstream
Abiotic-NFNE	Fertilisers	310590	Mineral/chemical fertilisers containing two/three of the fertilising elements nitrogen, phosphorus & potassium; other fertilisers (excl. of 3105.20-3105.60)	Downstream
Abiotic-NFNE	Fluorspar	252921	Fluorspar, containing by weight 97%/less of calcium fluoride	Primary/Processed/Secondary
Abiotic-NFNE	Fluorspar	252922	Fluorspar, containing by weight >97% of calcium fluoride	Primary/Processed/Secondary
Abiotic-NFNE	Fluorspar	281111	Hydrogen fluoride (hydrofluoric acid)	Primary/Processed/Secondary
Abiotic-NFNE	Fluorspar	282612	Fluorides, of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	Fluorspar	282630	Sodium hexafluoroaluminate (synthetic cryolite)	Primary/Processed/Secondary
Abiotic-NFNE	Gases	280410	Hydrogen	Primary/Processed/Secondary
Abiotic-NFNE	Gases	280421	Argon	Primary/Processed/Secondary
Abiotic-NFNE	Gases	280429	Rare gases other than argon	Primary/Processed/Secondary
Abiotic-NFNE	Gases	280430	Nitrogen	Primary/Processed/Secondary
Abiotic-NFNE	Gases	280440	Oxygen	Primary/Processed/Secondary
Abiotic-NFNE	Ge/In/Hf/Ga	282560	Germanium oxides & zirconium dioxide	Primary/Processed/Secondary
Abiotic-NFNE	Ge/In/Hf/Ga	811292	germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium, & articles of these metals, incl. waste & scrap, powder, unwrought.	Primary/Processed/Secondary
Abiotic-NFNE	Ge/In/Hf/Ga	811299	germanium, vanadium, gallium, hafnium, indium, niobium (columbium), rhenium, & articles of these metals, excl. waste & scrap, powder, unwrought.	Semi-fabricated
Abiotic-NFNE	Gold	284330	Gold comps.	Primary/Processed/Secondary
Abiotic-NFNE	Gold	710811	Gold (incl. gold plated with platinum), non-monetary, in powder form	Primary/Processed/Secondary
Abiotic-NFNE	Gold	710812	Gold (incl. gold plated with platinum), in unwrought forms (excl. powder)	Primary/Processed/Secondary
Abiotic-NFNE	Gold	710813	Gold (incl. gold plated with platinum), non-monetary, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	Gold	710900	Base metals/silver, clad with gold, not further worked than semi-manufactured	Semi-fabricated
Abiotic-NFNE	Gold	711230	Ash containing precious metal/precious metal comps.	Primary/Processed/Secondary
Abiotic-NFNE	Gold	711291	Waste & scrap of gold, incl. metal clad with gold but excl. sweepings containing other precious metals	Primary/Processed/Secondary
Abiotic-NFNE	Gold	261690	Precious metal ores & concentrates (excl. silver ores & concentrates)	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	252910	Feldspar	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	252930	Leucite; nepheline & nepheline syenite	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250200	Unroasted iron pyrites	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250300	Sulphur of all kinds (excl. sublimed sulphur/precipitated sulphur/colloidal sulphur)	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250510	Silica sands & quartz sands, whether/not coloured	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250610	Quartz, other than natural sands	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250620	Quartzite, other than natural sands, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (including square) shape.	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Industrial minerals-other	250700	Kaolin & other kaolinic clays, whether/not calcined	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250810	Bentonite	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250830	Fire-clay	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250840	Clays other than expanded clays of 68.06 (excl. of 2507.00, 2508.10 & 2508.30)	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250850	Andalusite, kyanite & sillimanite	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250860	Mullite	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250870	Chamotte/dinas earths	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250900	Chalk	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	251120	Natural barium carbonate (witherite), whether/not calcined, other than barium oxide of 28.16	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	251200	Siliceous fossil meals (e.g., kieselguhr, tripolite & diatomite) & similar siliceous earths, whether/not calcined, of an apparent sp.gr. of 1/less	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	251310	Pumice stone, whether/not heat-treated.	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	251320	Emery, natural corundum, natural garnet & other natural abrasives, whether/not heat-treated	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	252510	Crude mica & mica rifted into sheets/splittings	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	252520	Mica powder	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	252530	Mica waste	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	252610	Natural steatite, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape; talc, not crushed/powdered	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	252620	Natural steatite, whether/not roughly trimmed/merely cut, by sawing/othw., into blocks/slabs of a rectangular (incl. square) shape; talc, crushed/powdered	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	253010	Vermiculite, perlite & chlorites, unexpanded	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	280200	Sulphur, sublimed/precipitated; colloidal sulphur	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	283640	Potassium carbonates	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	283650	Calcium carbonate	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	283660	Barium carbonate	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Industrial minerals-other	380290	Activated natural mineral products other than of activated carbon; animal black, incl. spent animal black	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	680620	Exfoliated vermiculite, expanded clays, foamed slag & similar expanded mineral materials (incl. intermixtures thereof )	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	681410	Plates, sheets & strips of agglomerated/reconstituted mica, whether/not on a support	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	681490	Worked mica & articles of mica (excl. of 6814.10), incl. agglomerated/reconstituted mica, whether/not on a support of paper/paperboard/other materials	Primary/Processed/Secondary
Abiotic-NFNE	Industrial minerals-other	250100	Salt (incl. table salt & denatured salt) & pure sodium chloride, whether/not in aqueous solution/containing added anti-caking/free-flowing agents; sea water	Primary/Processed/Secondary
Abiotic-NFNE	Iodine	280120	Iodine	Primary/Processed/Secondary
Abiotic-NFNE	Iodine	282760	Iodides & iodide oxides	Primary/Processed/Secondary
Abiotic-NFNE	Iridium	711041	Iridium, osmium & ruthenium, unwrought/in powder form	Primary/Processed/Secondary
Abiotic-NFNE	Iridium	711049	Iridium, osmium & ruthenium, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720610	Iron & non-alloy steel in ingots (excl. iron of 72.03)	Primary/Processed/Secondary
Abiotic-NFNE	Iron and non-alloy steel	720690	Iron & non-alloy steel in primary forms other than ingots (excl. iron of 72.03)	Primary/Processed/Secondary
Abiotic-NFNE	Iron and non-alloy steel	720711	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, of rectangular (incl. square) cross-section, the width measuring < twice the thickness	Primary/Processed/Secondary
Abiotic-NFNE	Iron and non-alloy steel	720712	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, of rectangular (other than square) cross-section	Primary/Processed/Secondary
Abiotic-NFNE	Iron and non-alloy steel	720719	Semi-finished products of iron/non-alloy steel, containing by weight <0.25% of carbon, n.e.s. in 72.07	Primary/Processed/Secondary
Abiotic-NFNE	Iron and non-alloy steel	720720	Semi-finished products of iron/non-alloy steel, containing by weight 0.25%/more of carbon	Primary/Processed/Secondary
Abiotic-NFNE	Iron and non-alloy steel	720810	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled, with patterns in relief	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720825	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled, pickled, of a thickness of 4.75mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720826	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled, pickled, of a thickness of 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720827	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled, pickled, of a thickness of <3mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720836	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled (excl. pickled), of a thickness >10mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720837	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled(excl.pickled),of a thicknessof 4.75mm/more but not >10mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720838	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled (excl.pickled),of a thicknessof 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720839	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, in coils, not further worked than hot-rolled (excl. pickled), of a thickness of <3mm	Semi-fabricated

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Iron and non-alloy steel	720840	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, with patterns in relief	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720851	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness >10mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720852	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness of 4.75mm/more but not >10mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720853	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness of 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720854	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, not in coils, not further worked than hot-rolled, of a thickness of <3mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720890	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, hot-rolled, not clad/plated/coated, n.e.s. in 72.08	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720915	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of 3mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720916	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness >1mm but <3mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720917	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of 0.5mm/more but not >1mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720918	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of <0.5mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720925	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, not in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of 3mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720926	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, not in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness >1mm but <3mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720927	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, not in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of 0.5mm/more but not >1mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720928	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, not in coils, not further worked than cold-rolled (cold-reduced), not clad/plated/coated, of a thickness of <0.5mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	720990	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, cold-rolled (cold-reduced), not clad/plated/coated, n.e.s. in 72.09	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721011	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, of a thickness of 0.5mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721012	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, of a thickness of <0.5mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721020	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with lead, incl. terne-plate	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721030	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, electrolytically plated/coated with zinc	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721041	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, othw. plated/coated with zinc (excl. electrolytically), corrugated	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721049	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, othw. plated/coated with zinc (excl. electrolytically), other than corrugated	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721050	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with chromium oxides/with chromium & chromium oxides	Semi-fabricated

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Iron and non-alloy steel	721061	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with aluminium-zinc alloys	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721069	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, plated/coated with aluminium other than with aluminium-zinc alloys	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721070	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, painted/varnished/coated with plastics	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721090	Flat-rolled products of iron/non-alloy steel, of a width of 600mm/more, clad/plated/coated, n.e.s. in 72.10	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721113	Other Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than hot-rolled/not rolled on 4 faces/in a closed box pass/not in coils & without patterns in relief (excl. 7211.13 & .14)	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721114	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than hot-rolled (excl. of 7211.13), of a thickness of 4.75mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721119	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than hot-rolled, n.e.s. in 72.11	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721123	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than cold-rolled (cold-reduced), containing by weight <0.25% of carbon	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721129	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, not further worked than cold-rolled (cold-reduced) (excl. of 7211.23)	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721190	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, not clad/plated/coated, n.e.s. in 72.11	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721210	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, plated/coated with tin	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721220	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, electrolytically plated/coated with zinc	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721230	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, othw. plated/coated with zinc (excl. electrolytically)	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721240	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, painted/varnished/coated with plastics	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721250	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, othw. plated/coated (excl. of 7212.10-7212.40)	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721260	Flat-rolled products of iron/non-alloy steel, of a width of <600mm, clad	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721310	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel, containing indentations/ribs/grooves/other deformations produced during the rolling process	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721320	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel (excl. of 7213.10), of free-cutting steel	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721391	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel (excl. of 7213.10 & 7210.20), of circular cross-section measuring <14mm in diameter	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721399	Bars & rods, hot-rolled, in irregularly wound coils, of iron/non-alloy steel, n.e.s. in 72.13	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721410	Bars & rods of iron/non-alloy steel (excl. of 72.13), not further worked than forged	Semi-fabricated

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Iron and non-alloy steel	721420	Bars & rods of iron/non-alloy steel (excl. of 72.13), containing indentations/ribs/grooves/other deformations produced during the rolling process/twisted after rolling	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721430	Bars & rods of iron/non-alloy steel (excl. of 72.13), of free-cutting steel, not further worked than forged/hot-rolled/hot-drawn/hot-extruded but incl.those twisted after rolling	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721491	Bars & rods of iron/non-alloy steel (excl. of 72.13), not further worked than forged/hot-rolled/hot-drawn/hot-extruded but incl. those twisted after rolling, of rectangular (excl. square) cross-section	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721499	Bars & rods of iron/non-alloy steel (excl. of 72.13), not further worked than forged/hot-rolled/hot-drawn/hot-extruded but incl. those twisted after rolling (excl. of 7214.10-7214.91)	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721510	Bars & rods of iron/non-alloy steel, of free-cutting steel, not further worked than cold-formed/cold-finished	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721550	Bars & rods of iron/non-alloy steel other than free-cutting steel, not further worked than cold-formed/cold-finished	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721590	Bars & rods of iron/non-alloy steel, n.e.s.	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721610	Angles, shapes & sections of iron/non-alloy steel, U / I / H sections of iron/non-alloy steel, not further worked than hot-rolled/hot-drawn/extruded, of a height of <80mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721621	Angles, shapes & sections of iron/non-alloy steel, L sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of <80mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721622	Angles, shapes & sections of iron/non-alloy steel, T sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of <80mm	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721631	Angles, shapes & sections of iron/non-alloy steel, U sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721632	Angles, shapes & sections of iron/non-alloy steel, I sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721633	Angles, shapes & sections of iron/non-alloy steel, H sections, not further worked than hot-rolled/hot-drawn/extruded, of a height of 80mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721640	Angles, shapes & sections of iron/non-alloy steel, L / T sections, not further worked than hott-rolled/hot-drawn/extruded, of a height of 80mm/more	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721650	Angles, shapes & sections of iron/non-alloy steel (excl. of 7216.10-7216.40), not further worked than hot-rolled/hot-drawn/extruded	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721661	Angles, shapes & sections of iron/non-alloy steel, not further worked than cold-formed/cold-finished, obt. from flat-rolled products	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721669	Angles, shapes & sections of iron/non-alloy steel, not further worked than cold-formed/cold-finished (excl. of 7216.61)	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721691	Angles, shapes & sections of iron/non-alloy steel (excl. of 7216.10-7216.69), cold-formed/cold-finished from flat-rolled products	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721699	Angles, shapes & sections of iron/non-alloy steel, n.e.s. in 72.16	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721710	Wire of iron/non-alloy steel, not plated/coated, whether/not polished	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721720	Wire of iron/non-alloy steel, plated/coated with zinc	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	721730	Wire of iron/non-alloy steel, plated/coated with other base metals	Semi-fabricated

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Iron and non-alloy steel	721790	Wire of iron/non-alloy steel, n.e.s. in 72.17	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	730431	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.29), seamless, of circular cross-section, of cold-drawn/cold-rolled (cold-reduced) steel	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	730439	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.31), seamless, of circular cross section, of iron (excl. cast iron)/non-alloy steel	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	730619	Other line pipe of a kind used for oil/gas pipelines, other than welded/of stainless steel	Semi-fabricated
Abiotic-NFNE	Iron and non-alloy steel	730630	Tubes, pipes & hollow profiles (excl. of 7306.10 & 7306.20), welded, of circular cross-section, of iron/non-alloy steel	Semi-fabricated
Abiotic-NFNE	Iron or steel	730419	Line pipe of a kind used for oil/gas pipelines, other than of stainless steel.	Semi-fabricated
Abiotic-NFNE	Iron or steel	730423	Casing, tubing & drill pipe, of a kind used in drilling for oil/gas, other than of stainless steel	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730661	Other tubes, pipes & hollow profiles (excl. of 7306.10-7306.40), welded, of non-circular cross-section, of square/rectangular cross-section	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730669	Other tubes, pipes & hollow profiles (excl. of 7306.10-7306.40), welded, of other non-circular cross-section, other than of square/rectangular cross-section	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730690	Tubes, pipes & hollow profiles of iron (excl. cast iron)/steel, n.e.s. (excl. of 73.04, 73.05 & 7306.10-7306.60)	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730490	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.59), seamless, of iron other than cast iron/steel	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730511	Line pipe of a kind used for oil/gas pipelines, having circular cross-sections, the external diameter of which exceeds 406.4mm, longitudinally submerged arc welded	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730512	Line pipe of a kind used for oil/gas pipelines, having circular cross-sections, the external diameter of which exceeds 406.4mm, longitudinally welded (excl. of 7305.11)	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730519	Line pipe of a kind used for oil/gas pipelines, having circular cross-sections, the external diameter of which exceeds 406.4mm (excl. of 7305.11 & 7305.19)	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730520	Casing of a kind used in drilling for oil/gas, having circular cross-sections, the external diameter of which exceeds 406.4mm	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730531	Tubes & pipes (excl. of 7305.11-7305.20), having circular cross-sections, the external diameter of which exceeds 406.4mm, of iron/steel, longitudinally welded	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730539	Tubes & pipes (excl. of 7305.11-7305.20), having circular cross-sections, the external diameter of which exceeds 406.4mm, of iron/steel (excl. of 7305.31)	Semi-fabricated
Abiotic-NFNE	Iron or Steel	730590	Tubes & pipes (e.g., welded/riveted/similarly closed), having circular cross-sections, the external diameter of which exceeds 406.4mm, of iron/steel (excl. of 7305.11-7305.39)	Semi-fabricated
Abiotic-NFNE	Iron ore	260111	Iron ores & concentrates (excl. roasted iron pyrites), non-agglomerated	Primary/Processed/Secondary
Abiotic-NFNE	Iron ore	260112	Iron ores & concentrates (excl. roasted iron pyrites), agglomerated	Primary/Processed/Secondary
Abiotic-NFNE	Lead	260700	Lead ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Lead	262021	Leaded gasoline sludges & leaded anti-knock compound sludges	Primary/Processed/Secondary
Abiotic-NFNE	Lead	262029	Ash & residues (excl. from the manufacture of iron/steel) containing lead (excl. of 2620.21)	Primary/Processed/Secondary
Abiotic-NFNE	Lead	282410	Lead monoxide (litharge, massicot)	Primary/Processed/Secondary
Abiotic-NFNE	Lead	282490	Lead oxides (excl. of 2824.10);red lead&orange lead	Primary/Processed/Secondary
Abiotic-NFNE	Lead	780110	Unwrought lead, refined	Primary/Processed/Secondary
Abiotic-NFNE	Lead	780191	Unwrought lead other than refined, containing by weight antimony as the principal other element	Primary/Processed/Secondary
Abiotic-NFNE	Lead	780199	Unwrought lead other than refined, n.e.s. in 78.01	Primary/Processed/Secondary
Abiotic-NFNE	Lead	780200	Lead waste & scrap	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Lead	780411	Lead sheets, strip & foil of a thickness (excl. any backing) not >0.2mm	Semi-fabricated
Abiotic-NFNE	Lead	780419	Lead plates, sheets, strip & foil (excl. of 7804.11)	Semi-fabricated
Abiotic-NFNE	Lead	780420	Lead powders & flakes	Primary/Processed/Secondary
Abiotic-NFNE	Lithium	282520	Lithium oxide & hydroxide	Primary/Processed/Secondary
Abiotic-NFNE	Lithium	283691	Lithium carbonates	Primary/Processed/Secondary
Abiotic-NFNE	Magnesite	251910	Natural magnesium carbonate (magnesite)	Primary/Processed/Secondary
Abiotic-NFNE	Magnesite	251990	Fused magnesia; dead-burned (sintered) magnesia, whether/not containing small quantities of other oxides added before sintering; other magnesium oxide, whether/not pure	Primary/Processed/Secondary
Abiotic-NFNE	Magnesium	281610	Hydroxide & peroxide of magnesium	Primary/Processed/Secondary
Abiotic-NFNE	Magnesium	282731	Magnesium chlorides	Primary/Processed/Secondary
Abiotic-NFNE	Magnesium	810411	Unwrought magnesium, containing at least 99.8% by weight of magnesium	Primary/Processed/Secondary
Abiotic-NFNE	Magnesium	810419	Unwrought magnesium (excl. of 8104.11)	Primary/Processed/Secondary
Abiotic-NFNE	Magnesium	810420	Magnesium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Magnesium	810430	Magnesium raspings, turnings & granules, graded according to size; magnesium powders	Primary/Processed/Secondary
Abiotic-NFNE	Magnesium	810490	Magnesium & articles thereof , n.e.s. in 81.04	Semi-fabricated
Abiotic-NFNE	Manganese	720230	Ferro-silico-manganese, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Manganese	282010	Manganese dioxide	Primary/Processed/Secondary
Abiotic-NFNE	Manganese	282090	Manganese oxides other than manganese dioxide	Primary/Processed/Secondary
Abiotic-NFNE	Manganese	284161	Potassium permanganate	Primary/Processed/Secondary
Abiotic-NFNE	Manganese	284169	Manganites, manganates & permanganates (excl. of potassium)	Primary/Processed/Secondary
Abiotic-NFNE	Manganese	720211	Ferro-manganese, containing by weight >2% of carbon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Manganese	720219	Ferro-manganese, other than that containing by weight >2% of carbon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Manganese	811100	Manganese & articles thereof , incl. waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Manganese	260200	Manganese ores & concentrates, incl. ferruginous manganese ores & concentrates with a manganese content of 20%/more, calc. on the dry weight	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	261310	Molybdenum ores & concentrates, roasted	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	261390	Molybdenum ores & concentrates, other than roasted	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	282570	Molybdenum oxides & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	284170	Molybdates	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	720270	Ferro-molybdenum, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	810210	Molybdenum powders	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	810294	Unwrought molybdenum, incl. bars & rods obt. simply by sintering	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	810295	Molybdenum bars & rods (excl. those obt. simply by sintering), profiles, plates, sheets, strip & foil	Semi-fabricated
Abiotic-NFNE	Molybdenum	810296	Molybdenum wire	Semi-fabricated
Abiotic-NFNE	Molybdenum	810297	Molybdenum waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Molybdenum	810299	Molybdenum & articles thereof , n.e.s. in 81.02	Semi-fabricated
Abiotic-NFNE	Natural graphite	250410	Natural graphite, in powder/flakes	Primary/Processed/Secondary
Abiotic-NFNE	Natural graphite	250490	Natural graphite other than in powders/flakes	Primary/Processed/Secondary
Abiotic-NFNE	Natural graphite	380120	Colloidal/semi-colloidal graphite	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	260400	Nickel ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	282540	Nickel oxides & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	282735	Nickel chlorides	Primary/Processed/Secondary

Broad Category	Material/Product aggregate	Trade code (HS2007)	Commodity Description	Value chain stage
Abiotic-NFNE	Nickel	283324	Sulphates of nickel	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	720260	Ferro-nickel, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	750110	Nickel mattes	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	750120	Nickel oxide sinters & other intermediate products of nickel metallurgy	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	750210	Nickel, not alloyed, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	750220	Nickel alloys, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	750300	Nickel waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	750400	Nickel powders & flakes	Primary/Processed/Secondary
Abiotic-NFNE	Nickel	750511	Bars, rods, profiles & wire, of nickel, not alloyed	Semi-fabricated
Abiotic-NFNE	Nickel	750512	Bars, rods, profiles & wire, of nickel alloys	Semi-fabricated
Abiotic-NFNE	Nickel	750521	Wire of nickel, not alloyed	Semi-fabricated
Abiotic-NFNE	Nickel	750522	Wire of nickel alloys	Semi-fabricated
Abiotic-NFNE	Nickel	750610	Plates, sheets, strip & foil, of nickel, not alloyed	Semi-fabricated
Abiotic-NFNE	Nickel	750620	Plates, sheets, strip & foil, of nickel alloys	Semi-fabricated
Abiotic-NFNE	Nickel	750711	Tubes & pipes, of nickel, not alloyed	Semi-fabricated
Abiotic-NFNE	Nickel	750712	Tubes & pipes, of nickel alloys	Semi-fabricated
Abiotic-NFNE	Nickel	750720	Tube/pipe fittings (e.g., couplings, elbows, sleeves), of nickel	Semi-fabricated
Abiotic-NFNE	Niobium	720293	Ferro-niobium, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Other	720299	Ferro-alloys (excl. of 7202.11-7202.93), in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Other alloy steel	720521	Powders, of alloy steel	Primary/Processed/Secondary
Abiotic-NFNE	Other alloy steel	722410	Ingots & other primary forms of other alloy steel (excl. stainless steel)	Primary/Processed/Secondary
Abiotic-NFNE	Other alloy steel	722490	Semi-finished products (excl. ingots & other primary forms) of alloy steel other than stainless steel, n.e.s.	Primary/Processed/Secondary
Abiotic-NFNE	Other alloy steel	722511	Flat-rolled products of silicon-electrical steel, grain-oriented (excl. stainless steel), of a width of 600mm/more	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722519	Flat-rolled products of silicon-electrical steel, other than grain-oriented (excl. stainless steel), of a width of 600mm/more	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722530	Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than hot-rolled, in coils.	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722540	Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than hot-rolled, not in coils.	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722550	Other flat-rolled products of other alloy steel, of a width of 600 mm/more, not further worked than cold-rolled (cold-reduced),	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722591	Other n.e.s. in 72.25, flat-rolled products of other alloy steel, of a width of 600 mm/more, of electrolytically plated/coated with zinc.	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722592	Other n.e.s. in 72.25, flat-rolled products of other alloy steel, of a width of 600 mm/more, of othw. plated/coated with zinc.	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722599	Other n.e.s. in 72.25, flat-rolled products of other alloy steel, of a width of 600 mm/more, other than of electrolutically/othw. plated/coated with zinc/.	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722611	Flat-rolled products of silicon-electrical steel, grain-oriented (excl. stainless steel), of a width of <600mm	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722619	Flat-rolled products of silicon-electrical steel, other than grain-oriented (excl. stainless steel), of a width of <600mm	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722620	Flat-rolled products of high speed steel (excl. stainless steel), of a width of <600mm	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722691	Flat-rolled products of other alloy steel (excl. stainless/silicon-electrical/high speed steel), of a width of <600mm, not further worked than hot-rolled	Semi-fabricated

Broad Category	Material/Product aggregate	Trade code (HS2007)	Commodity Description	Value chain stage
Abiotic-NFNE	Other alloy steel	722692	Flat-rolled products of other alloy steel (excl. stainless/silicon-electrical/high speed steel), of a width of <600mm, not further worked than cold-rolled (cold-reduced)	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722699	Other n.e.s. in 72.26 flat-rolled products of other alloy steel (excl. Stainless/silicon-electrical/high speed steel), of a width of less than 600 mm.	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722720	Bars & rods, hot-rolled, in irregularly wound coils, of silico-manganese steel	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722790	Bars & rods, hot-rolled, in irregularly wound coils (excl. of 72.13 & 7221.00), n.e.s. in 72.27	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722810	Bars & rods of high speed steel	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722820	Bars & rods of silico-manganese steel	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722830	Bars & rods of other alloy steel (excl. of 72.27, 7228.10 & 7228.20), not further worked than hot-rolled/hot-drawn/extruded	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722840	Bars & rods of other alloy steel (excl. of 72.27, 7228.10 & 7228.20), not further worked than forged	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722850	Bars & rods of other alloy steel (excl. of 72.27), not further worked than cold-formed/cold-finished	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722860	Bars & rods of other alloy steel (excl. of 72.27), n.e.s. in 72.28	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722870	Angles, shapes & sections of alloy steel other than stainless steel	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722880	Hollow drill bars & rods of alloy/non-alloy steel	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722920	Wire of silico-manganese steel	Semi-fabricated
Abiotic-NFNE	Other alloy steel	722990	Other wire of other alloy steel, other than of silico-manganese steel.	Semi-fabricated
Abiotic-NFNE	Other alloy steel	730451	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.49), seamless, of circular cross-section, of alloy steel other than stainless steel, cold-drawn/cold-rolled (cold-reduced)	Semi-fabricated
Abiotic-NFNE	Other alloy steel	730459	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.49), seamless, of circular cross-section, of alloy steel other than stainless steel (excl. of 7304.51)	Semi-fabricated
Abiotic-NFNE	Other alloy steel	730650	Tubes, pipes & hollow profiles (excl. of 7306.10-7306.40), welded, of circular cross-section, of alloy steel other than stainless steel	Semi-fabricated
Abiotic-NFNE	Other chemicals	262060	Slag,ash & residues (excl. from the manufacture of iron/steel) containing arsenic/mercury/thallium/their mixtures, of a kind used for the extraction of arsenic/those metals /for the manufacture of their chemical compounds	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	262091	Ash & residues (excl. from the manufacture of iron/steel) containing antimony/beryllium/cadmium/chromium/their mixtures	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	262099	Ash & residues (excl. from the manufacture of iron/steel), n.e.s. in Ch.26	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	280110	Chlorine	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	280511	Sodium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	280512	Calcium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	280519	Alkali/alkaline-earth metals other than sodium & calcium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	280540	Mercury	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	280800	Nitric acid; sulphonitric acids	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	281121	Carbon dioxide	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	281122	Silicon dioxide	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	281129	Inorganic oxygen comps. of non-metals (excl. of 2811.21& 2811.22),n.e.s.	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	281210	Chlorides & chloride oxides of non-metals	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	281290	Halides & halide oxides of non-metals other than chlorides & chloride oxides	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	281310	Carbon disulphide	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	281390	Sulphides of non-metals (excl. carbon disulphide); commercial phosphorus trisulphide	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	281420	Ammonia in aqueous solution	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282120	Earth colours containing 70%/more by weight of combined iron evaluated as Fe2O3	Primary/Processed/Secondary

Broad Category	Material/Product aggregate	Trade code (HS2007)	Commodity Description	Value chain stage
Abiotic-NFNE	Other chemicals	282510	Hydrazine & hydroxylamine & their inorganic salts	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282590	Inorganic bases other than hydrazine & hydroxylamine & their inorganic salts; other metal oxides, hydroxides & peroxides, n.e.s. in Ch 28.25	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282619	Fluorides other than of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282710	Ammonium chloride	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282720	Calcium chloride	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282739	Chlorides (excl. of 2827.10-2827.35), n.e.s.	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282749	Chloride oxides & chloride hydroxides other than of copper	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282751	Bromides of sodium/potassium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282759	Bromides & bromide oxides other than bromides of sodium/potassium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282810	Commercial calcium hypochlorite & other calcium hypochlorites	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282890	Hypochlorites (excl. calcium); chlorites; hypobromites	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282911	Chlorates, of sodium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282919	Chlorates other than of sodium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	282990	Perchlorates; bromates & perbromates; iodates & periodates	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283010	Sodium sulphides	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283090	Sulphides (excl. of 2830.10); polysulphides, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283110	Dithionites & sulphoxylates, of sodium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283190	Dithionites & sulphoxylates (excl. of sodium)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283210	Sodium sulphites	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283220	Sulphites (excl. of sodium)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283230	Thiosulphates	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283410	Nitrites	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283429	Nitrates other than of potassium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283510	Phosphinates (hypophosphites) & phosphonates (phosphites)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283522	Phosphates of mono- /disodium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283524	Phosphates of potassium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283525	Calcium hydrogenorthophosphate (dicalcium phosphate)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283531	Sodium triphosphate (sodium tripolyphosphate)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283539	Polyphosphates (excl. of 2835.31)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283630	Sodium hydrogencarbonate (sodium bicarbonate)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283711	Cyanides & cyanide oxides, of sodium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283719	Cyanides & cyanide oxides (excl. of 2837.11)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283720	Complex cyanides	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283911	Sodium metasilicates	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283919	Silicates of sodium other than sodiummetasilicates	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283990	Silicates other than of sodium; commercial alkali metal silicates	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284190	Salts of oxometallic/peroxometallic acids (excl. of 2841.30-2841.80)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284210	Double/complex silicates, incl. aluminosilicates, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284290	Salts of inorganic acids/peroxoacids (excl. of double/complex silicates), whether/not chemically defined (excl. azides)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284310	Colloidal precious metals	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Other chemicals	284430	Uranium depleted in U 235 & its compounds; thorium & its compounds; alloys, dispersions (including cermets), ceramic products & mixtures containing uranium depleted in U 235, thorium/compounds of these products	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284440	Radioactive elements & isotopes & compounds other than those of subheading 2844.10, 2844.20/2844.30; alloys, dispersions (including cermets), ceramic products & mixtures containing these elements, isotopes/compounds; radioactive residues	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284510	Heavy water (deuterium oxide)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284590	Isotopes other than those of 28.44 (excl. heavy water (deuterium oxide)); comps., inorganic/organic, of such isotopes, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284700	Hydrogen peroxide, whether/not solidified with urea	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284910	Carbides, of calcium, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284920	Carbides, of silicon, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	284990	Carbides (excl. of 2849.10 & 2849.20), whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	285000	Hydrides, nitrides, azides, silicides&borides, whether/not chemically defined, other than compounds which are also carbides of heading 28.49.	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	285200	Compounds, inorganic/organic, of mercury, excluding amalgams.	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	285300	Other inorganic compounds (including distilled/conductivity water&water of similar purity); liquid air (whether/not rare gases have been removed); compressed air; amalgams, other than amalgams of precious metals.	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283311	Disodium sulphate	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283319	Sodium sulphates other than disodium sulphate	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283322	Sulphates of aluminium	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283329	Sulphates other than Sodium sulphates(excl. of 2833.21-2833.27)	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283330	Alums	Primary/Processed/Secondary
Abiotic-NFNE	Other chemicals	283340	Peroxosulphates (persulphates)	Primary/Processed/Secondary
Abiotic-NFNE	Other mineral substances	253020	Kieserite, epsomite (natural magnesium sulphates)	Primary/Processed/Secondary
Abiotic-NFNE	Other mineral substances	253090	Mineral substance, n.e.s. in Ch.25	Primary/Processed/Secondary
Abiotic-NFNE	Other mineral substances	260120	Roasted iron pyrites	Primary/Processed/Secondary
Abiotic-NFNE	Other ores	261790	Ores & concentrates (excl. of 2601.11-2617.10)	Primary/Processed/Secondary
Abiotic-NFNE	Palladium	711021	Palladium, unwrought/in powder form	Primary/Processed/Secondary
Abiotic-NFNE	Palladium	711029	Palladium, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	Phosphate rock	280920	Phosphoric acid & polyphosphoric acids, whether/not chemically defined	Primary/Processed/Secondary
Abiotic-NFNE	Phosphorus	251010	Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, unground	Primary/Processed/Secondary
Abiotic-NFNE	Phosphorus	251020	Natural calcium phosphates, natural aluminium calcium phosphates & phosphatic chalk, ground	Primary/Processed/Secondary
Abiotic-NFNE	Phosphorus	280470	Phosphorus	Primary/Processed/Secondary
Abiotic-NFNE	Pig, sponge and direct reduced iron	720310	Ferrous products obt. by direct reduction of iron ore, in lumps/pellets/similar forms	Primary/Processed/Secondary
Abiotic-NFNE	Pig, sponge and direct reduced iron	720390	Spongy ferrous products (excl. of 7203.10), in lumps/pellets/similar forms; iron having a minimum purity by weight of 99.94%, in lumps/pellets/similar forms	Primary/Processed/Secondary
Abiotic-NFNE	Pig, sponge and direct reduced iron	720510	Granules of pig iron, spiegeleisen, iron/steel	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Pig, sponge and direct reduced iron	720529	Powders, of pig iron, spiegeleisen, iron/steel (excl. alloy steel)	Primary/Processed/Secondary
Abiotic-NFNE	Pig, sponge and direct reduced iron	720110	Non-alloy pig iron containing by weight 0.5%/less of phosphorus, in pigs/blocks/other primary forms	Primary/Processed/Secondary
Abiotic-NFNE	Pig, sponge and direct reduced iron	720120	Non-alloy pig iron containing by weight >0.5% of phosphorus, in pigs/blocks/other primary forms	Primary/Processed/Secondary
Abiotic-NFNE	Pig, sponge and direct reduced iron	720150	Alloy pig iron; spiegeleisen, in pigs/blocks/other primary forms	Primary/Processed/Secondary
Abiotic-NFNE	Platinum	711011	Platinum, unwrought/in powder form	Primary/Processed/Secondary
Abiotic-NFNE	Platinum	711019	Platinum, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	Platinum	711292	Waste & scrap of platinum, incl. metal clad with platinum but excl. sweepings containing other precious metals	Primary/Processed/Secondary
Abiotic-NFNE	Potash	281520	Potassium hydroxide (caustic potash)	Primary/Processed/Secondary
Abiotic-NFNE	Potash	281530	Peroxides of sodium/potassium	Primary/Processed/Secondary
Abiotic-NFNE	Potash	283421	Nitrates of potassium	Primary/Processed/Secondary
Abiotic-NFNE	Potash	310420	Potassium chloride	Primary/Processed/Secondary
Abiotic-NFNE	Potash	310430	Potassium sulphate	Primary/Processed/Secondary
Abiotic-NFNE	Potash	310490	Mineral/chemical fertilisers, potassic(excl. of 3104.20 & 3104.30)	Primary/Processed/Secondary
Abiotic-NFNE	Precious metals compounds	284390	Inorganic/organic compounds of precious metals (excl. of 2843.21 - 2843.30), whether/not chemically defined; amalgams of precious metals	Primary/Processed/Secondary
Abiotic-NFNE	Precious metals compounds	711299	Waste & scrap of precious metal/of metal clad with precious metal; other waste & scrap containing precious metal/precious metal compounds, of a kind used principally for the recovery of precious metal, other than gold/platinum, n.e.s. of 71.12	Primary/Processed/Secondary
Abiotic-NFNE	Precious stones/gems	710121	Cultured pearls, unworked	Semi-fabricated
Abiotic-NFNE	Precious stones/gems	710122	Cultured pearls, worked	Semi-fabricated
Abiotic-NFNE	Precious stones/gems	710420	Synthetic/reconstructed precious/semi-precious stones (excl. piezo-electric quartz), unworked/simplely sawn/roughly shaped	Semi-fabricated
Abiotic-NFNE	Precious stones/gems	710490	Synthetic/reconstructed precious/semi-precious stones, whether/not worked/graded but not strung, mounted/set; ungraded synthetic/reconstructed precious/semi-precious stones, temporarily strung for convenience of transport.	Semi-fabricated
Abiotic-NFNE	REEs	280530	Rare-earth metals, scandium & yttrium, whether/not intermixed/interalloyed	Primary/Processed/Secondary
Abiotic-NFNE	REEs	284610	Cerium comps.	Primary/Processed/Secondary
Abiotic-NFNE	REEs	284690	Compounds, inorganic/organic, of rare-earth metals/yttrium/scandium/mixtures of these metals, other than cerium comps.	Primary/Processed/Secondary
Abiotic-NFNE	Rhodium	711031	Rhodium, unwrought/in powder form	Primary/Processed/Secondary
Abiotic-NFNE	Rhodium	711039	Rhodium, in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	Selenium	280490	Selenium	Primary/Processed/Secondary
Abiotic-NFNE	Silicon	720221	Ferro-silicon, containing by weight >55% of silicon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Silicon	720229	Ferro-silicon, other than that containing >55% of silicon, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Silicon metal	280461	Silicon, containing by weight not <99.99% of silicon	Primary/Processed/Secondary
Abiotic-NFNE	Silicon metal	280469	Silicon, containing by weight <99.99% of silicon	Primary/Processed/Secondary
Abiotic-NFNE	Silver	261610	Silver ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Silver	284321	Silver nitrate	Primary/Processed/Secondary

Broad Category	Material/Product aggregate	Trade code (HS2007)	Commodity Description	Value chain stage
Abiotic-NFNE	Silver	284329	Silver comps. other than silver nitrate	Primary/Processed/Secondary
Abiotic-NFNE	Silver	710610	Silver (incl. silver plated with gold/platinum), in powder form	Primary/Processed/Secondary
Abiotic-NFNE	Silver	710691	Silver (incl. silver plated with gold/platinum), unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Silver	710692	Silver (incl. silver plated with gold/platinum), in semi-manufactured forms	Semi-fabricated
Abiotic-NFNE	Silver	710700	Base metals clad with silver, not further worked than semi-manufactured	Semi-fabricated
Abiotic-NFNE	Soda ash	283620	Disodium carbonate	Primary/Processed/Secondary
Abiotic-NFNE	Stainless steel	721810	Stainless steel in ingots & other primary forms	Primary/Processed/Secondary
Abiotic-NFNE	Stainless steel	721891	Stainless steel, of rectangular (excl. square) cross-section	Primary/Processed/Secondary
Abiotic-NFNE	Stainless steel	721899	Semi-finished products of stainless steel (excl. of 7218.91)	Primary/Processed/Secondary
Abiotic-NFNE	Stainless steel	721911	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, in coils, of a thickness >10mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721912	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, in coils, of a thickness of 4.75mm/more but not >10mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721913	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, in coils, of a thickness of 3mm/more but < 4.75mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721914	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, in coils, of a thickness of <3mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721921	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, not in coils, of a thickness >10mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721922	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, not in coils, of a thickness of 4.75mm/more but not >10mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721923	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, not in coils, of a thickness of 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721924	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than hot-rolled, not in coils, of a thickness of <3mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721931	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness of 4.75mm/more	Semi-fabricated
Abiotic-NFNE	Stainless steel	721932	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness of 3mm/more but <4.75mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721933	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness >1mm but <3mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721934	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness of 0.5mm/more but not >1mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721935	Flat-rolled products of stainless steel, of a width of 600mm/more, not further worked than cold-rolled (cold-reduced), of a thickness of < 0.5mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	721990	Flat-rolled products of stainless steel, of a width of 600mm/more, n.e.s. in 72.19	Semi-fabricated
Abiotic-NFNE	Stainless steel	722011	Flat-rolled products of stainless steel, of a width of <600mm, not further worked than hot-rolled, of a thickness of 4.75mm/more	Semi-fabricated
Abiotic-NFNE	Stainless steel	722012	Flat-rolled products of stainless steel, of a width of <600mm, not further worked than hot-rolled, of a thickness of <4.75mm	Semi-fabricated
Abiotic-NFNE	Stainless steel	722020	Flat-rolled products of stainless steel, of a width of <600mm, not further worked than cold-rolled (cold-reduced)	Semi-fabricated
Abiotic-NFNE	Stainless steel	722090	Flat-rolled products of stainless steel, of a width of <600mm, n.e.s. in 72.20	Semi-fabricated
Abiotic-NFNE	Stainless steel	722100	Bars & rods, hot-rolled, in irregularly wound coils, of stainless steel	Semi-fabricated

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Abiotic-NFNE	Stainless steel	722211	Bars & rods of stainless steel, not further worked than hot-rolled/hot-drawn/extruded, of circular cross-section	Semi-fabricated
Abiotic-NFNE	Stainless steel	722219	Bars & rods of stainless steel, not further worked than hot-rolled/hot-drawn/extruded other than of circular cross-section	Semi-fabricated
Abiotic-NFNE	Stainless steel	722220	Bars & rods of stainless steel, not further worked than cold-formed/cold-finished	Semi-fabricated
Abiotic-NFNE	Stainless steel	722230	Bars & rods of stainless steel, n.e.s. in 72.22	Semi-fabricated
Abiotic-NFNE	Stainless steel	722240	Angles, shapes & sections of stainless steel	Semi-fabricated
Abiotic-NFNE	Stainless steel	722300	Wire of stainless steel	Semi-fabricated
Abiotic-NFNE	Stainless steel	730411	Line pipe of a kind used for oil/gas pipelines, of stainless steel.	Semi-fabricated
Abiotic-NFNE	Stainless Steel	730422	Casing, tubing & drill pipe, of a kind used in drilling for oil/gas, of stainless steel	Semi-fabricated
Abiotic-NFNE	Stainless steel	730424	Other casing, tubing, of a kind used in drilling for oil/gas, of stainless steel, other than drill pipe.	Semi-fabricated
Abiotic-NFNE	Stainless steel	730429	Other casing, tubing, of a kind used in drilling for oil/gas (excl. of 7304.22/23/24), other than of drill pipe of stainless steel	Semi-fabricated
Abiotic-NFNE	Stainless steel	730441	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.39), seamless, of circular cross-section, of stainless steel, cold-drawn/cold-rolled (cold-reduced)	Semi-fabricated
Abiotic-NFNE	Stainless steel	730449	Tubes, pipes & hollow profiles (excl. of 7304.10-7304.39), seamless, of circular cross-section, of stainless steel other than cold drawn/cold rolled (cold reduced)	Semi-fabricated
Abiotic-NFNE	Stainless steel	730611	Line pipe of a kind used for oil/gas pipelines, welded, of stainless steel	Semi-fabricated
Abiotic-NFNE	Stainless steel	730621	Casing & tubing of a kind used in drilling for oil/gas, welded, of stainless steel	Semi-fabricated
Abiotic-NFNE	Stainless steel	730629	Casing & tubing of a kind used in drilling for oil/gas, other than welded/of stainless steel	Semi-fabricated
Abiotic-NFNE	Stainless Steel	730640	Tubes, pipes & hollow profiles (excl. of 7306.10-7306.30), welded, of circular cross-section, of stainless steel	Semi-fabricated
Abiotic-NFNE	Stones- precious & semi-precious	710310	Precious stones (excl. diamonds) & semi-precious stones, unworked/simplely sawn/roughly shaped but not strung/mounted/set	Primary/Processed/Secondary
Abiotic-NFNE	Stones- precious & semi-precious	710391	Rubies, sapphires & emeralds, worked othw. than simply sawn/roughly shaped but not strung/mounted/set	Primary/Processed/Secondary
Abiotic-NFNE	Stones- precious & semi-precious	710399	Precious stones (excl. diamonds, rubies, sapphires & emeralds) & semi-precious stones, whether/not worked/graded but not strung, mounted/set; ungraded precious stones...& semi-precious stones temporarily strung for convenience of transport	Primary/Processed/Secondary
Abiotic-NFNE	Stones- precious & semi-precious	710590	Dust & powder of other natural/synthetic precious/semi-precious stones (excl. diamonds)	Primary/Processed/Secondary
Abiotic-NFNE	Strontium	281640	Oxides, hydroxides & peroxides, of strontium/barium	Primary/Processed/Secondary
Abiotic-NFNE	Strontium	283692	Strontium carbonate	Primary/Processed/Secondary
Abiotic-NFNE	Ta/Nb/Va ores	261590	Niobium/tantalum/vanadium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Tantalum	720292	Ferro-vanadium, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Tantalum	810320	Unwrought tantalum, incl. bars & rods obt. simply by sintering; powders	Primary/Processed/Secondary
Abiotic-NFNE	Tantalum	810330	Tantalum waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Tantalum	810390	Tantalum & articles thereof , n.e.s. in 81.03	Semi-fabricated
Abiotic-NFNE	Thallium	811251	Thallium, unwrought; powders	Primary/Processed/Secondary
Abiotic-NFNE	Thallium	811252	Thallium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Tin	260900	Tin ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Tin	800110	Tin, not alloyed, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Tin	800120	Tin alloys, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Tin	800200	Tin waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Tin	800300	Tin bars, rods, profiles & wire	Semi-fabricated

Broad Category	Material/Product aggregate	Trade code (HS2007)	Commodity Description	Value chain stage
Abiotic-NFNE	Tin	800700	Other articles of tin.	Semi-fabricated
Abiotic-NFNE	Titanium	261400	Titanium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Titanium	282300	Titanium oxides	Primary/Processed/Secondary
Abiotic-NFNE	Titanium	720291	Ferro-titanium & ferro-silico-titanium, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Titanium	810820	Unwrought titanium; powders	Primary/Processed/Secondary
Abiotic-NFNE	Titanium	810830	Titanium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Titanium	810890	Titanium & articles thereof , n.e.s. in 81.08	Semi-fabricated
Abiotic-NFNE	Tungsten	261100	Tungsten ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Tungsten	284180	Tungstates (wolframates)	Primary/Processed/Secondary
Abiotic-NFNE	Tungsten	720280	Ferro-tungsten & ferro-silico-tungsten, in granular/powder form	Primary/Processed/Secondary
Abiotic-NFNE	Tungsten	810110	Tungsten (wolfram) powders	Primary/Processed/Secondary
Abiotic-NFNE	Tungsten	810194	Unwrought tungsten (wolfram), incl. bars & rods obt. simply by sintering	Primary/Processed/Secondary
Abiotic-NFNE	Tungsten	810196	Tungsten (wolfram) wire	Semi-fabricated
Abiotic-NFNE	Tungsten	810197	Tungsten (wolfram) waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Tungsten	810199	Other tungsten (wolfram) other than waste & scrap/wire/powder.	Semi-fabricated
Abiotic-NFNE	Vanadium	282530	Vanadium oxides & hydroxides	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	260800	Zinc ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	262011	Ash & residues (excl. from the manufacture of iron/steel), containing hard zinc spelter	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	262019	Ash & residues (excl. from the manufacture of iron/steel), containing zinc other than hard zinc spelter	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	281700	Zinc oxide; zinc peroxide	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	790111	Zinc, not alloyed, unwrought, containing by weight 99.99%/more of zinc	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	790112	Zinc, not alloyed, unwrought, containing by weight <99.99% of zinc	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	790120	Zinc alloys, unwrought	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	790200	Zinc waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	790310	Zinc dust	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	790390	Zinc powders & flakes	Primary/Processed/Secondary
Abiotic-NFNE	Zinc	790400	Zinc bars, rods, profiles & wire	Semi-fabricated
Abiotic-NFNE	Zinc	790500	Zinc plates, sheets, strip & foil	Semi-fabricated
Abiotic-NFNE	Zirconium	261510	Zirconium ores & concentrates	Primary/Processed/Secondary
Abiotic-NFNE	Zirconium	810920	Unwrought zirconium; powders	Primary/Processed/Secondary
Abiotic-NFNE	Zirconium	810930	Zirconium waste & scrap	Primary/Processed/Secondary
Abiotic-NFNE	Zirconium	810990	Zirconium & articles thereof , n.e.s. in 81.09	Semi-fabricated
Biotic-NFNE	Cork	450110	Natural cork, raw/simplely prepared	Primary/Processed/Secondary
Biotic-NFNE	Cork	450190	Waste cork; crushed/granulated/ground cork	Primary/Processed/Secondary
Biotic-NFNE	Cork	450200	Natural cork, debacked/roughly squared/in rectangular (incl. square) blocks/plates/sheets/strip (incl. sharp-edged blanks for corks/stoppers)	Primary/Processed/Secondary
Biotic-NFNE	Cotton	140420	Cotton linters	Primary/Processed/Secondary
Biotic-NFNE	Cotton	520100	Cotton, not carded/combed	Primary/Processed/Secondary
Biotic-NFNE	Natural gum	130120	Gum Arabic	Primary/Processed/Secondary
Biotic-NFNE	Natural gum	130190	Lac; Natural gums (excl. of 1301.20), resins, gum-resins & oleoresins (e.g., balsams)	Primary/Processed/Secondary
Biotic-NFNE	Natural rubber	400110	Natural rubber latex, whether/not pre-vulcanised	Primary/Processed/Secondary
Biotic-NFNE	Natural rubber	400121	Natural rubber (excl. latex), in smoked sheets	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Biotic-NFNE	Natural rubber	400122	Technically spec. natural rubber (TSNR)	Primary/Processed/Secondary
Biotic-NFNE	Natural rubber	400129	Natural rubber other than latex/smoked sheets/technically spec. natural rubber	Primary/Processed/Secondary
Biotic-NFNE	Natural rubber	400300	Reclaimed rubber in primary forms/in plates/sheets/strip	Primary/Processed/Secondary
Biotic-NFNE	Natural rubber	400400	Waste, parings & scrap, of rubber (excl. hard rubber) & powders & granules obt. therefrom	Primary/Processed/Secondary
Biotic-NFNE	Natural rubber	400811	Plates, sheets & strip, of cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	Natural rubber	400819	Rods & profile shapes, of cellular vulcanised rubber, other than hard rubber	Semi-fabricated
Biotic-NFNE	Natural rubber	400821	Plates, sheets & strip, of non-cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	Natural rubber	400821	Plates, sheets & strip, of non-cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	Natural rubber	400829	Rods & profile shapes, of non-cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	Natural rubber	400829	Rods & profile shapes, of non-cellular vulcanised rubber other than hard rubber	Semi-fabricated
Biotic-NFNE	Paper	470100	Mechanical wood pulp	Primary/Processed/Secondary
Biotic-NFNE	Paper	470200	Chemical wood pulp, dissolving grades	Primary/Processed/Secondary
Biotic-NFNE	Paper	470311	Chemical wood pulp, soda/sulphate, other than dissolving grades, unbleached, coniferous	Primary/Processed/Secondary
Biotic-NFNE	Paper	470319	Chemical wood pulp, soda/sulphate, other than dissolving grades, unbleached, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	Paper	470321	Chemical wood pulp, soda/sulphate, other than dissolving grades, semi-bleached/bleached, coniferous	Primary/Processed/Secondary
Biotic-NFNE	Paper	470329	Chemical wood pulp, soda/sulphate, other than dissolving grades, semi-bleached/bleached, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	Paper	470411	Chemical wood pulp, sulphite, other than dissolving grades, unbleached, coniferous	Primary/Processed/Secondary
Biotic-NFNE	Paper	470419	Chemical wood pulp, sulphite, other than dissolving grades, unbleached, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	Paper	470421	Chemical wood pulp, sulphite, other than dissolving grades, semi-bleached/bleached, coniferous	Primary/Processed/Secondary
Biotic-NFNE	Paper	470429	Chemical wood pulp, sulphite, other than dissolving grades, semi-bleached/bleached, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	Paper	470500	Wood pulp obt. by a combination of mechanical & chemical pulping processes	Primary/Processed/Secondary
Biotic-NFNE	Paper	470610	Cotton linters pulp	Primary/Processed/Secondary
Biotic-NFNE	Paper	470620	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard	Primary/Processed/Secondary
Biotic-NFNE	Paper	470630	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of other cellulosic material, of bamboo	Primary/Processed/Secondary
Biotic-NFNE	Paper	470691	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of fibrous cellulosic material (excl. of 4706.10-4706.30), mechanical	Primary/Processed/Secondary
Biotic-NFNE	Paper	470692	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of fibrous cellulosic material (excl. of 4706.10-4706.30), chemical	Primary/Processed/Secondary
Biotic-NFNE	Paper	470693	Pulps of fibres derived from recovered (waste & scrap) paper/paperboard/of fibrous cellulosic material (excl. of 4706.10-4706.30), semi-chemical	Primary/Processed/Secondary
Biotic-NFNE	Paper	470710	Recovered (waste & scrap) unbleached kraft paper/paperboard/corrugated paper/paperboard	Primary/Processed/Secondary
Biotic-NFNE	Paper	470720	Recovered (waste & scrap) paper/paperboard made mainly of bleached chemical pulp, not coloured in the mass	Primary/Processed/Secondary
Biotic-NFNE	Paper	470730	Recovered (waste & scrap) paper/paperboard made mainly of mechanical pulp (e.g., newspapers, journals & similar printed matter)	Primary/Processed/Secondary
Biotic-NFNE	Paper	470790	Recovered (waste & scrap) paper/paperboard (excl. of 4707.10-4707.30), incl. unsorted waste & scrap	Primary/Processed/Secondary
Biotic-NFNE	Plaiting veg. materials	140110	Bamboos	Primary/Processed/Secondary
Biotic-NFNE	Plaiting veg. materials	140120	Rattans	Primary/Processed/Secondary
Biotic-NFNE	Plaiting veg. materials	140190	Vetegable materials other than bamboos & rattans, of a kind used primarily for plaiting (e.g., reeds, rushes, osier, raffia, cleaned/bleached/dyed cereal straw, & lime bark)	Primary/Processed/Secondary
Biotic-NFNE	Rubber products	400130	Balata, gutta-percha, guayule, chicle & similar natural gums	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
Biotic-NFNE	Wood	440121	Wood, in chips/particles, coniferous	Primary/Processed/Secondary
Biotic-NFNE	Wood	440122	Wood, in chips/particles, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	Wood	440310	Wood, in the rough, whether/not stripped of bark/sapwood/roughly squared, treated with paint/stains/creosote/other preservatives	Primary/Processed/Secondary
Biotic-NFNE	Wood	440320	Wood, in the rough, whether/not stripped of bark/sapwood/roughly squared (excl. of 4403.10), coniferous	Primary/Processed/Secondary
Biotic-NFNE	Wood	440341	Dark Red Meranti, Light Red Meranti & Meranti Bakau, in the rough, whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	Wood	440349	Topical wood spec. in SH Note 1 to Ch.44 (excl. of 4403.41), in the rough, whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	Wood	440391	Oak ( <i>Quercus</i> spp.), in the rough, whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	Wood	440392	Beech ( <i>Fagus</i> spp.), in the rough, whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	Wood	440399	Wood, in the rough (excl. of 4403.10-4403.92), whether/not stripped of bark/sapwood/roughly squared	Primary/Processed/Secondary
Biotic-NFNE	Wood	440410	Hoopwood; split poles; piles, pickets & stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent/othw. worked, suitable for the manufacture of walking-sticks, umbrellas, tool handles/the like; chipwood & the like, coniferous	Primary/Processed/Secondary
Biotic-NFNE	Wood	440420	Hoopwood; split poles; piles, pickets & stakes of wood, pointed but not sawn lengthwise; wooden sticks, roughly trimmed but not turned, bent/othw. worked, suitable for the manufacture of walking-sticks, umbrellas, tool handles/the like; chipwood & the like, non-coniferous	Primary/Processed/Secondary
Biotic-NFNE	Wood	440500	Wood wool; wood flour	Primary/Processed/Secondary
Biotic-NFNE	Wood	440710	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, coniferous	Primary/Processed/Secondary
Biotic-NFNE	Wood	440721	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Mahogany ( <i>Swietenia</i> spp.)	Primary/Processed/Secondary
Biotic-NFNE	Wood	440722	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Virola, Imbuia&Balsa	Primary/Processed/Secondary
Biotic-NFNE	Wood	440725	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Dark Red Meranti, Light Red Meranti & Meranti Bakau	Primary/Processed/Secondary
Biotic-NFNE	Wood	440726	Wood sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of White Lauan, White Meranti, White Seraya, Yellow Meranti & Alan	Primary/Processed/Secondary
Biotic-NFNE	Wood	440727	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Sapelli	Primary/Processed/Secondary
Biotic-NFNE	Wood	440728	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of Iroko	Primary/Processed/Secondary
Biotic-NFNE	Wood	440729	Wood sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm, of tropical wood specified in Subheading Note 1 to this Ch. (excl. of 4407.21-4407.28)	Primary/Processed/Secondary
Biotic-NFNE	Wood	440791	Oak ( <i>Quercus</i> spp.), sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
Biotic-NFNE	Wood	440792	Beech ( <i>Fagus</i> spp.), sawn/chipped length wise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
Biotic-NFNE	Wood	440793	Maple ( <i>Acer</i> spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
Biotic-NFNE	Wood	440794	Cherry ( <i>Prunus</i> spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary

Broad Category	Material/Product aggregate	Trade code (HS2007)	Commodity Description	Value chain stage
Biotic-NFNE	Wood	440795	Ash(Fraxinus spp.), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
Biotic-NFNE	Wood	440799	Wood(excl. of 4407.10-4407.95), sawn/chipped lengthwise, sliced/peeled, whether/not planed, sanded/end-jointed, of a thickness >6mm	Primary/Processed/Secondary
ENERGY	Carbon black	280300	Carbon (carbon blacks & other forms of carbon, n.e.s.)	Primary/Processed/Secondary
ENERGY	Coal	270111	Anthracite coal, whether/not pulverised but not agglomerated	Primary/Processed/Secondary
ENERGY	Coal	270119	Coal other than anthracite & bituminous, whether/not pulverised but not agglomerated	Primary/Processed/Secondary
ENERGY	Coal	270120	Briquettes, ovoids & similar solid fuels manufactured from coal	Primary/Processed/Secondary
ENERGY	Coal	270210	Lignite, whether/not pulverised but not agglomerated (excl. jet)	Primary/Processed/Secondary
ENERGY	Coal	270220	Agglomerated lignite (excl. jet)	Primary/Processed/Secondary
ENERGY	Coal	270300	Peat (incl. peat litter), whether/not agglomerated	Primary/Processed/Secondary
ENERGY	Coke from coal	270400	Coke & semi-coke of coal/lignite/peat, whether/not agglomerated; retort carbon	Primary/Processed/Secondary
ENERGY	Fuel wood	440110	Fuel wood, in logs/billets/twigs/faggots/similar forms	Primary/Processed/Secondary
ENERGY	Gas	270500	Coal gas, water gas, producer gas & similar gases (excl. petroleum gases & other gaseous hydrocarbons)	Primary/Processed/Secondary
ENERGY	Gas	271111	Natural gas, liquefied	Primary/Processed/Secondary
ENERGY	Gas	271112	Propane, liquefied	Primary/Processed/Secondary
ENERGY	Gas	271113	Butanes, liquefied	Primary/Processed/Secondary
ENERGY	Gas	271119	Petroleum gases other than natural gas/propane/butanes/ethylene, propylene, butylene & butadiene, liquefied	Primary/Processed/Secondary
ENERGY	Gas	271121	Natural gas, in gaseous state	Primary/Processed/Secondary
ENERGY	Gas	271129	Petroleum gases & gaseous hydrocarbons, other than natural gas, in gaseous state	Primary/Processed/Secondary
ENERGY	Oils	270799	Oils & other products of the distillation of high temp. coal tar; similar products in which the weight of the aromatic constituents exceeds that of the non-aromatic constituents (excl. of 2707.10 - 2707.91)	Primary/Processed/Secondary
ENERGY	Oils	270900	Petroleum oils & oils obt. from bituminous mins., crude	Primary/Processed/Secondary
ENERGY	Oils	271011	Light petroleum oils & preparations	Primary/Processed/Secondary
ENERGY	Oils	271012	Light oils and preparations	Primary/Processed/Secondary
ENERGY	Oils	271019	Petroleum oils & oils obtained from bituminous minerals (other than crude) & preparations not elsewhere specified/incl., containing by weight 70 %/more of petroleum oils/of oils obtained from bituminous minerals, these oils being the basic constituents of the preparations, other than waste oils&light oils & preparations	Primary/Processed/Secondary
ENERGY	Petroleum coke	271311	Petroleum coke, not calcined	Primary/Processed/Secondary
ENERGY	Petroleum coke	271312	Petroleum coke, calcined	Primary/Processed/Secondary
ENERGY	Petroleum oils residues	271390	Residues of petroleum oils/oils obt. from bituminous mins., other than petroleum coke/petroleum bitumen	Primary/Processed/Secondary
ENERGY	Petroleum products	270600	Tar distilled from coal/lignite/peat, & other mineral tars, whether/not dehydrated/partially distilled, incl. reconstituted tars	Primary/Processed/Secondary
ENERGY	Petroleum products	270710	Benzol (benzene)	Primary/Processed/Secondary
ENERGY	Petroleum products	270720	Toluol (toluene)	Primary/Processed/Secondary
ENERGY	Petroleum products	270730	Xylol (xylenes)	Primary/Processed/Secondary
ENERGY	Petroleum products	270740	Naphthalene	Primary/Processed/Secondary
ENERGY	Petroleum products	270750	Aromatic hydrocarbon mixtures of which 65%/more by volume, incl. losses, distils at 250 â-°C by the ASTM D86 method (excl. benzol, toluol, xylol & naphthalene)	Primary/Processed/Secondary
ENERGY	Petroleum products	270791	Creosote oils	Primary/Processed/Secondary
ENERGY	Petroleum products	270810	Pitch, obt. from coal tar/other mineral tars	Primary/Processed/Secondary
ENERGY	Petroleum products	270820	Pitch coke, obt. from coal tar/other mineral tars	Primary/Processed/Secondary

<b>Broad Category</b>	<b>Material/Product aggregate</b>	<b>Trade code (HS2007)</b>	<b>Commodity Description</b>	<b>Value chain stage</b>
ENERGY	Petroleum products	271114	Ethylene, propylene, butylene & butadiene, liquefied	Primary/Processed/Secondary
ENERGY	Petroleum products	271210	Petroleum jelly	Primary/Processed/Secondary
ENERGY	Petroleum products	271220	Paraffin wax containing by weight <0.75% of oil	Primary/Processed/Secondary
ENERGY	Petroleum products	271290	Micro-crystalline petroleum wax, slack wax, ozokerite, lignite wax, peat wax, other mineral waxes, & similar products obt. by synthesis/other processes, whether/not coloured	Primary/Processed/Secondary
ENERGY	Petroleum products	271320	Petroleum bitumen	Primary/Processed/Secondary
ENERGY	Petroleum products	271410	Bituminous/oil shale & tar sands	Primary/Processed/Secondary
ENERGY	Petroleum products	271490	Bitumen & asphalt, natural; asphaltites & asphaltic rocks	Primary/Processed/Secondary
ENERGY	Petroleum products	271500	Bituminous mixtures based on natural asphalt/natural bitumen/petroleum bitumen/mineral tar/mineral tar pitch (e.g., bituminous mastics, cut-backs)	Primary/Processed/Secondary
ENERGY	Thorium	261220	Thorium ores & concentrates	Primary/Processed/Secondary
ENERGY	Uranium	261210	Uranium ores & concentrates	Primary/Processed/Secondary
ENERGY	Uranium	284410	Natural uranium & its comps.; alloys, dispersions (incl. cermets), ceramic products & mixtures containing natural uranium/natural uranium comps.	Primary/Processed/Secondary
ENERGY	Uranium	284420	Uranium enriched in U 235 & its compounds; plutonium & its compounds; alloys, dispersions (including cermets), ceramic products & mixtures containing uranium enriched in U 235, plutonium/compounds of these products	Primary/Processed/Secondary
ENERGY	Waste oils	271091	Waste oils containing polychlorinated biphenyls (PCBs)/polychlorinated terphenyls (PCTs)/polybrominated biphenyls (PBBs)	Primary/Processed/Secondary
ENERGY	Waste oils	271099	Waste oils other than those containing polychlorinated biphenyls (PCBs)/polychlorinated terphenyls (PCTs)/polybrominated biphenyls (PBBs)	Primary/Processed/Secondary
ENERGY	Wood charcoal	440210	Wood charcoal of bamboo (including shell/nut charcoal), whether/not agglomerated.	Primary/Processed/Secondary
ENERGY	Wood charcoal	440290	Wood charcoal (including shell/nut charcoal, excl. of 440210), whether/not agglomerated.	Primary/Processed/Secondary
ENERGY	Wood waste&scrap	440130	Sawdust & wood waste & scrap, whether/not agglomerated in logs/briquettes/pellets/similar forms	Primary/Processed/Secondary

(\*) HS 270112 includes also coke used for energy purposes

## **GETTING IN TOUCH WITH THE EU**

### **In person**

All over the European Union there are hundreds of Europe Direct centres. You can find the address of the centre nearest you online ([european-union.europa.eu/contact-eu/meet-us\\_en](https://european-union.europa.eu/contact-eu/meet-us_en)).

### **On the phone or in writing**

Europe Direct is a service that answers your questions about the European Union. You can contact this service:

- by freephone: 00 800 6 7 8 9 10 11 (certain operators may charge for these calls),
- at the following standard number: +32 22999696,
- via the following form: [european-union.europa.eu/contact-eu/write-us\\_en](https://european-union.europa.eu/contact-eu/write-us_en).

## **FINDING INFORMATION ABOUT THE EU**

### **Online**

Information about the European Union in all the official languages of the EU is available on the Europa website ([european-union.europa.eu](https://european-union.europa.eu)).

### **EU publications**

You can view or order EU publications at [op.europa.eu/en/publications](https://op.europa.eu/en/publications). Multiple copies of free publications can be obtained by contacting Europe Direct or your local documentation centre ([european-union.europa.eu/contact-eu/meet-us\\_en](https://european-union.europa.eu/contact-eu/meet-us_en)).

### **EU law and related documents**

For access to legal information from the EU, including all EU law since 1951 in all the official language versions, go to EUR-Lex ([eur-lex.europa.eu](https://eur-lex.europa.eu)).

### **Open data from the EU**

The portal [data.europa.eu](https://data.europa.eu) provides access to open datasets from the EU institutions, bodies and agencies. These can be downloaded and reused for free, for both commercial and non-commercial purposes. The portal also provides access to a wealth of datasets from European countries.

# Science for policy

The Joint Research Centre (JRC) provides independent, evidence-based knowledge and science, supporting EU policies to positively impact society



**EU Science Hub**

[joint-research-centre.ec.europa.eu](https://joint-research-centre.ec.europa.eu)



@EU\_ScienceHub



EU Science Hub - Joint Research Centre



EU Science, Research and Innovation



EU Science Hub



@eu\_science



Publications Office  
of the European Union