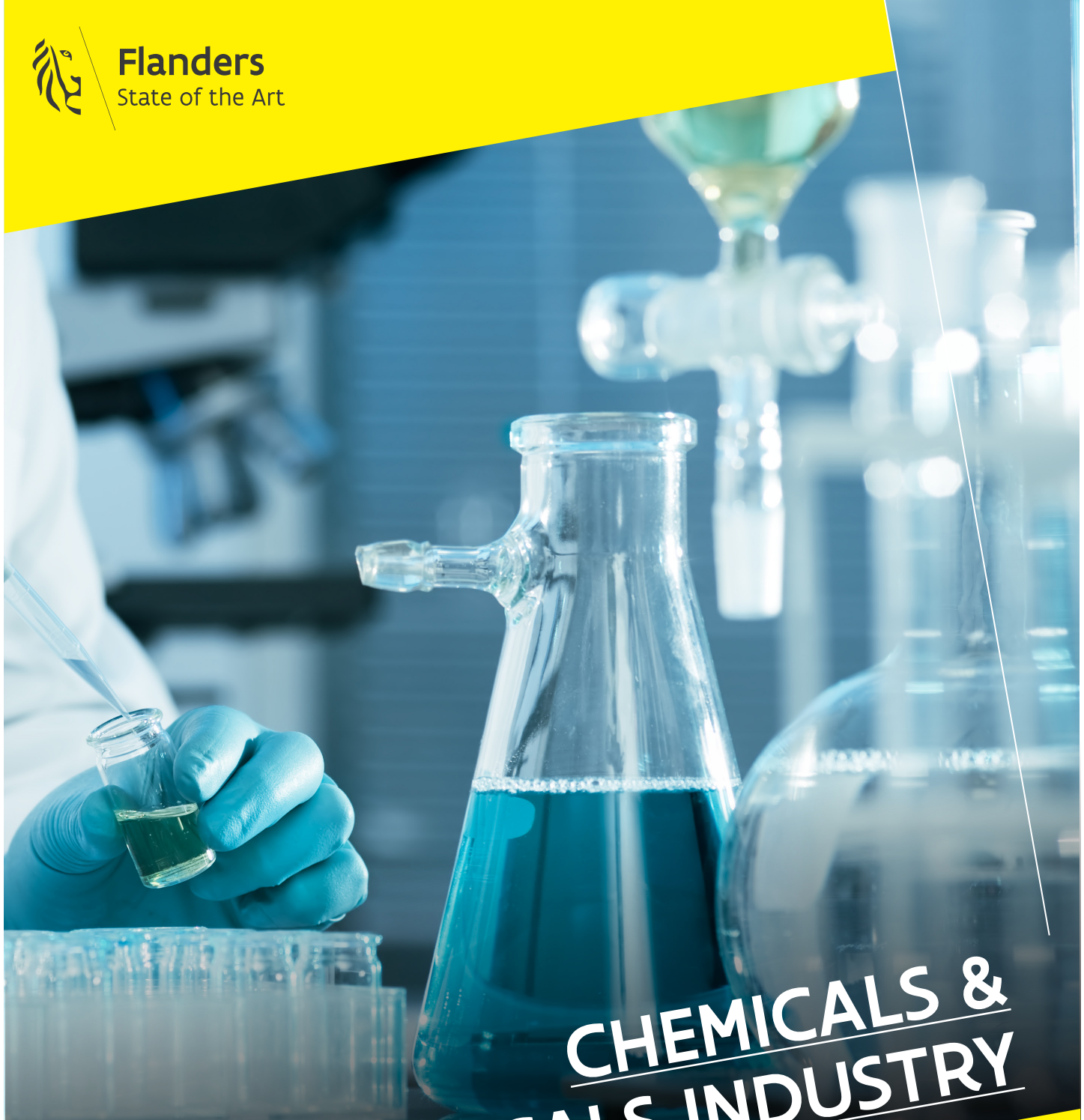




**Flanders**  
State of the Art



**CHEMICALS &  
PETROCHEMICALS INDUSTRY**

**IN MALAYSIA**

FLANDERS INVESTMENT & TRADE MARKET SURVEY



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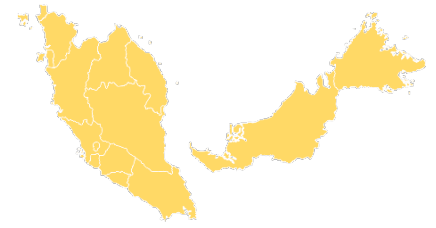
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# 1. MALAYSIA ECONOMIC OUTLOOK

Malaysia is strategically located in the **heart of Southeast Asia**, between the Indian Ocean and the South China Sea. All primary air and shipping lines service Malaysia. Malaysia is an **attractive, cost-competitive investment location and a preferred ASEAN and APAC regional hub**, supported by the country's highly diversified economic, business-ready environment, well-capitalised financial sector, future-forward focus and dynamic, skilled workforce.



330,000 km<sup>2</sup>  
(127,000 m<sup>2</sup>)  
13 states and  
3 federal  
territories



Population (2023):  
33.2 million



Currency:  
Ringgit Malaysia  
(RM)



Parliamentary  
democracy,  
constitutional  
monarchy



National  
Language:  
Bahasa Melayu



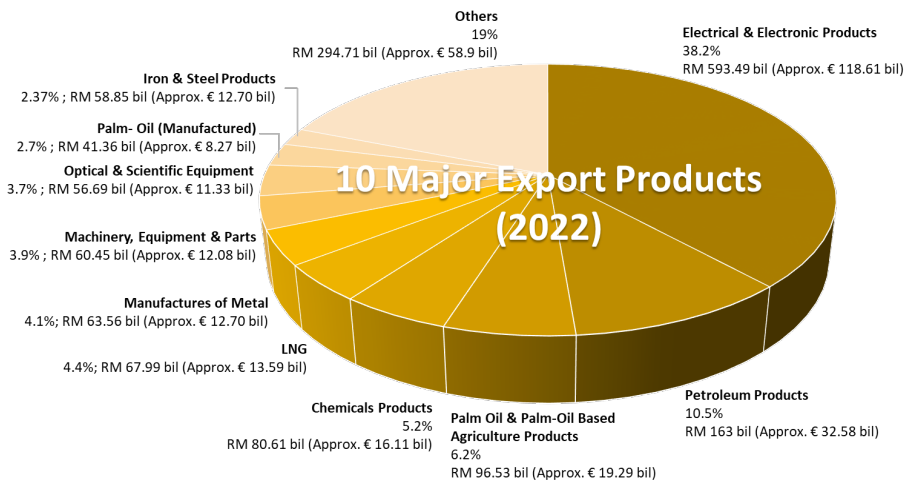
Gross Domestic Products At Current Prices (2022):  
RM 1,791.4 billion  
(approx. € 356.80 billion)



Gross National Income Per Capita At Current  
Prices (2022):  
RM 53,043 (approx. € 10,565)  
Upper-Middle Income Country

## TRADE STATISTICS

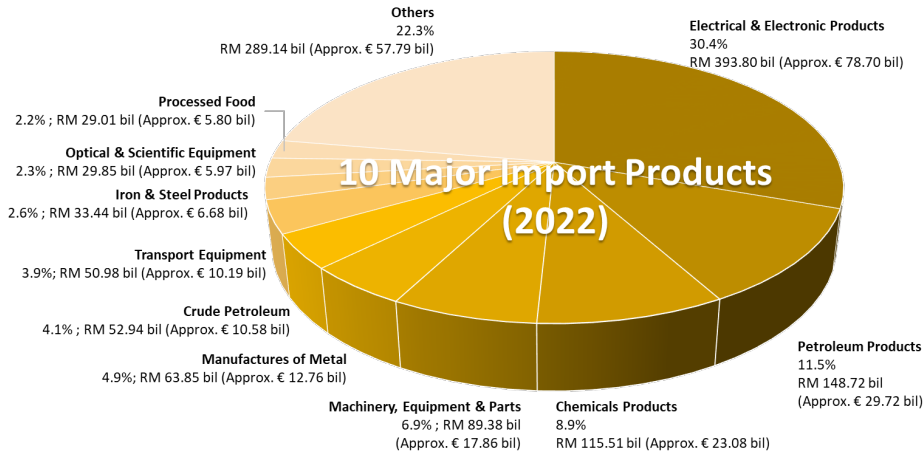
**Total Exports: RM 1.552 trillion (Approx. € 309.12 billion)**



Top 5 Export Countries:

1. Singapore
2. China
3. USA
4. Japan
5. Hong Kong

**Total Imports: RM 1.297 trillion (Approx. € 259.21 billion)**

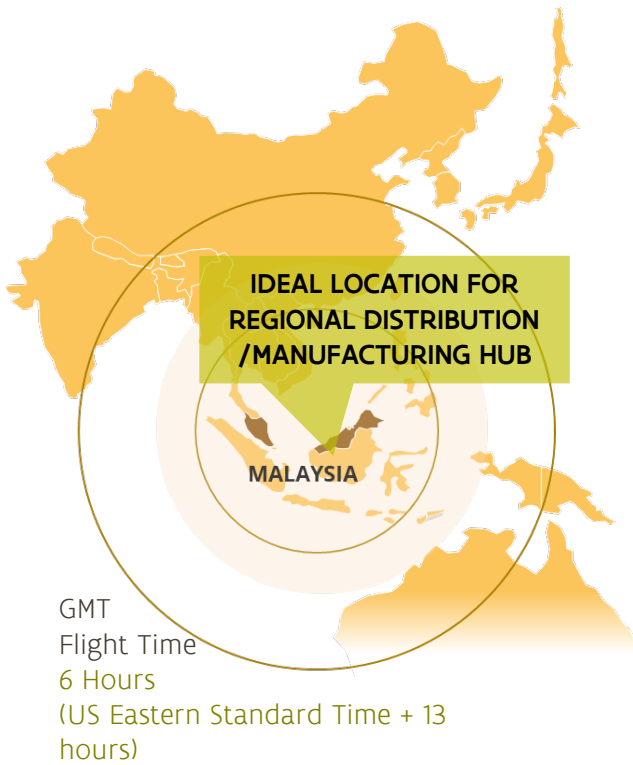


Top 5 Import Countries:

1. China
2. Singapore
3. USA
4. Japan
5. Indonesia

Sources: Malaysia External Trade Development Corporation (MATRADE), 2023

## 2. MALAYSIA: GATEWAY TO ASIA



ASEAN Market Access:

Over 660 million population  
with a combined GDP of US\$ 3.66 trillion  
Sources: Statista, 2022

Malaysia Is Market-Oriented Economy:

Potential 4 billion market population  
with 16 Free Trade Agreements

From Malaysia:

<b>Below 2 Hours</b>	Singapore, Thailand, Cambodia, Myanmar, Indonesia, Vietnam
<b>Within 2 Hours</b>	Brunei, Laos
<b>Within 4 Hours</b>	Philippines, Sri Lanka, Taiwan, Myanmar, Bangladesh, Hong Kong
<b>Within 6 Hours</b>	China, Pakistan, Nepal, India, Korea
<b>6 Hours</b>	Japan, Afghanistan, Mongolia, Papua New Guinea

### WHY MALAYSIA?



#### Heart of Southeast Asia

Strategic location with good interconnectivity, strong relations, and trade links regionally, providing easy access to the Asia Pacific region.



#### Well-Connected to Major Ports in Asia

Next to one of the world's busiest shipping lanes - Straits of Malacca. Providing access to the global supply chain via two key Malaysian ports, Port Klang and Port of Tanjung Pelepas.



#### Developed Infrastructure

One of Asia's best infrastructures, with future planned technology, logistics, transport, and finance major infrastructure projects to support business.



#### Lower Cost of Doing Business

Malaysia ranked 4th among 17 economies in terms of competitiveness as a manufacturing hub regarding the cost of doing business (KPMG, 2020).



#### Business Communication

Business English is widely used. The multilingual population is fluent in Malay, English, Mandarin, Hindi and Tamil. Most ASEAN languages are spoken in Malaysia.



#### Multicultural, Educated and Young Workforce

Malaysia is Asia's cultural melting pot and is among Asia's most diverse countries. A young, well-trained, and well-educated workforce.



### Extensive Trade Links

Malaysia has signed 16 FTAs and implemented 14 FTAs. Up to 98% of total products have 0% import duties under Malaysia's FTAs with ASEAN and ASEAN Partners.



### Investor-Friendly Policies

There is a large presence of over 5,000 foreign companies in Malaysia from over 40 countries. Attractive tax incentives and up to 100% business/ land ownership for foreign investors.



### Established Legal System

The Malaysian Constitution sets out the legal framework of the country. Accordingly, Malaysian law follows the legal system of the United Kingdom.



## MALAYSIA'S GLOBAL STANDING



## WELL-DEVELOPED TRADE INFRASTRUCTURES



**7**  
Bilateral Free Trade Agreements\*



**9**  
Regional Free Trade Agreements



**24**  
Free Commercial Zones  
(Aug 2023)



**21**  
Free Industrial Zones  
(Aug 2023)



**Over 600**  
Industrial Parks  
Source: MITI, MIDA, RMCD, 2023

### LIST OF FREE TRADE AGREEMENTS

#### Bilateral Free Trade Agreements

1. Malaysia-Japan Economic Partnership Agreement (MJEPA)
2. Malaysia-Pakistan Closer Economic Partnership Agreement (MPCEPA)
3. Malaysia-New Zealand Free Trade Agreement (MNZFTA)
4. Malaysia-India Comprehensive Economic Cooperation Agreement (MICECA)
5. Malaysia-Chile Free Trade Agreement (MCFTA)
6. Malaysia-Australia Free Trade Agreement (MAFTA)
7. Malaysia-Turkey Free Trade Agreement (MTFTA)

#### Regional Free Trade Agreements

1. ASEAN Free Trade Area (AFTA)
2. ASEAN-China Free Trade Agreement (ACFT)
3. ASEAN-Korea Free Trade Agreement (AKFTA)
4. ASEAN-Japan Comprehensive Economic Partnership (AJCEP)
5. ASEAN-Australia-New Zealand Free Trade Area (AANZFTA)
6. ASEAN-India Free Trade Agreement (AIFTA)
7. ASEAN-Hong Kong, China Free Trade Agreement (AHKFTA)
8. Regional Comprehensive Economic Partnership (RCEP)
9. Comprehensive and Progressive Agreement for

#### FTAs Currently Negotiated

- Malaysia-European Free Trade Association Economic Partnership Agreement (MEEPA)

## LIST OF FREE TRADE ZONES

1. Stulang Laut, Johor
2. Pelabuhan Pasir Gudang, Johor
3. Pelabuhan Tanjung Pelepas, Johor (Fasa I)
4. Terminal 2, Pelabuhan Johor, Pasir Gudang, Johor
5. Tanjung Langsat, Johor Bahru, Johor
6. Senai Airport City, Mukim Tebrau, Johor
7. Lapangan Terbang Antarabangsa Sultan Ismail, Johor
8. Rantau Panjang, Kelantan
9. Pengkalan Kubor, Kelantan
10. Dermaga Air Dalam, Pulau Pinang
11. Kargo MAS, Pulau Pinang
12. Kompleks Kargo Udara Kedua (KKUK), Pulau Pinang
13. North Butterworth Container Terminal (NBCT)
14. Bukit Kayu Hitam, Kedah
15. Pekan Bukit Kayu Hitam, Kedah
16. Pelabuhan Utara, Selangor
17. Pelabuhan Barat, Selangor
18. Pelabuhan Selatan, Selangor
19. Port Klang Free Zone (PKFZ), Selangor
20. MILS Logistik Hub, Selangor
21. Lapangan Terbang Antarabangsa Kuala Lumpur
22. Tasik Kenyir, Terengganu
23. Pulau Layang-Layang
24. Pelabuhan Kuantan, Pahang

## LIST OF FREE INDUSTRIAL ZONES

1. Pelabuhan Pasir Gudang, Johor
2. Pelabuhan Tanjung Pelepas, Johor (Fasa I)
3. Pelabuhan Tanjung Pelepas, Johor (Fasa II)
4. Pelabuhan Tanjung Pelepas, Johor (Fasa II)
5. Tanjung Bin, Johor
6. Lapangan Terbang Antarabangsa Sultan Ismail, Johor
7. Senai Airport City Fasa Satu, Mukim Senai, Johor
8. Senai Airport City Fasa Satu, Mukim Tebrau, Johor
9. Batu Berendam, Melaka (Fasa I)
10. Batu Berendam, Melaka (Fasa II)
11. Batu Berendam, Melaka (Fasa III)
12. Tanjung Kling, Melaka
13. Seberang Perai, Pulau Pinang
14. Bayan Lepas, Pulau Pinang (Fasa I)
15. Sama Jaya, Kuching, Sarawak
16. Jelapang, Perak
17. Kinta, Perak
18. Sungai Way, WPKL
19. Ulu Klang
20. Port Klang Free Zone (PKFZ)
21. Telok Panglima Garang

## REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP (RCEP):



- Known as World's largest free trade pact.
- FTA between 10 ASEAN member countries and 5 ASEAN FTA Partner countries, namely Australia, China, Japan, New Zealand, South Korea.
- Aims to create a highly integrated global/regional value chain, making the RCEP region a significant FDI destination.

### Benefits of RCEP:

- Elimination or reduction of import duties.
- Promotion, facilitation, protection and investment liberalisation.
- Protection of intellectual property rights, facilitation in e-commerce.
- Economic and technical cooperation.

## MALAYSIA: GATEWAY TO CHINA



### LICENSED MANUFACTURING WAREHOUSE (LMW)

- A manufacturing unit (factory) granted to any person for warehousing and manufacturing approved products on the same premise.
- It is primarily intended to cater for export-oriented industries.
- **Customs duty exemption is given to all raw materials and components used directly in the manufacturing process** of approved produce from the initial stage of manufacturing until the finished product is finally packed and ready for export.

### Estimated Shipping Time from Kuantan Port to:

- Qinzhou Port: 3 - 4 days
- Other Chinese Ports: 4 - 8 days

Source: MITI, Kuantan Port, 2023

## SUB-REGIONAL INFRASTRUCTURE SUPPORT FOR MALAYSIA

### Thailand

Nakohn Si Thammarat;  
Narathiwat; Pattani;  
Phthalung; Satun;  
Songkhla; Trang; Yala;  
Chumphon; Krabi; Phang  
Nga; Phuket; Ranong;  
Surat Thani



### Malaysia

Melaka; Kedah; Kelantan;  
Negeri Sembilan;  
Penang; Perak; Perlis;  
Selangor

### Indonesia

Aceh; Bangka Belitung;  
Bengkulu; Jambi; Lampung;  
North Sumatra; Riau; Riau  
Islands; South Sumatra;  
West Sumatra

Established in 1993, the IMT-GT is a cooperation between Indonesia, Malaysia and Thailand in 32 member provinces to provide a regional framework for accelerating economic transformation in the region.

### Initiatives and Development Projects:

Boosting Infrastructure and Connectivity	Facilitating Easier Trade and Investment	Human Resources, Education and Culture
<ul style="list-style-type: none"> <li>• Boosting Infrastructure in less-developed areas</li> <li>• Multiple major transport and digital infrastructure projects</li> <li>• Liberalised Transport Agreements</li> </ul>	<ul style="list-style-type: none"> <li>• Sub-regional Economic Corridors</li> <li>• Multiple policy development projects to support trade and investment</li> <li>• Utilising country's complementariness and comparative advantages to mutually grow</li> </ul>	<ul style="list-style-type: none"> <li>• Improving quality of life through economic development</li> <li>• Encouraging culture and social exchange</li> <li>• Enhancement of Human Resource Development through IMT-GT University Network (UNINET)</li> </ul>

Sources: MIDA, MCKIP, IJM Corporation, Asian Development Bank (ADB), IMT-GT, MITI

### 3. EXECUTIVE SUMMARY

The Chemicals and Petrochemicals industry is the major contributor to Malaysia's economic performance and is closely tied with almost all other economic sectors, such as automotive, electrical and electronics, pharmaceutical, and construction. This report covers three (3) main sub-sectors:

INDUSTRY	KEY FIGURES	
Chemicals and Chemical Products	Imports	RM 115.51 billion (approx. € 23.08 billion), 2022
	Exports	RM 80.61 billion (approx. € 16.11 billion), 2022
Petroleum Products, Including Petrochemicals	Industry Annual Production Capacity	12.9 million tonnes, 2021
	Imports	RM 148.72 billion (approx. € 29.72 billion), 2022
	Exports	RM 163 billion (approx. € 32.58 billion), 2022
Oleochemicals	Industry Annual Production Capacity	2.70 million tonnes, 2021
	Imports	RM 10.9 billion (approx. € 2.18 billion), 2022
	Exports	RM 37.2 billion (approx. € 7.43 billion), 2022

- Chemicals and Chemical Products

The industry contributed 12.6% to the growth of the manufacturing sector in 2021 and played a critical supporting role for many manufacturing industries, such as food, pharmaceuticals, medical devices, rubber products, and E&E. Major sourcing countries for chemical products include China, Singapore, the United States, Japan, and Thailand. In 2019, Malaysia imported US\$ 245.26 million (approx. € 225.62 million) of chemicals from Belgium.

Over 90% of industry players are small and medium-sized enterprises; the rest are multinational corporations and large local companies. Significant players include PETRONAS Chemicals Group (PCG), Malayan Electro-Chemical Industry Co., Linde Group, BASF Chemicals, Evonik, Dow Chemicals and DuPont. In addition, the local demand for speciality chemicals (petrochemicals/ oleochemicals) is constantly growing.

- Petroleum Products, Including Petrochemicals

Malaysia's abundant feedstock at competitive prices, well-developed infrastructure, strategic location, and close proximity to major markets in the Asia Pacific fueled the industry's growth, making Malaysia a viable petrochemical hub in ASEAN. As a result, many large petrochemical companies such as Idemitsu, Lotte Chemicals, and BASF set up production plants in the country. In addition, Malaysia maintains a strong foothold in essential petrochemicals production and exports commodity-grade polymers and petrochemical derivatives throughout the ASEAN region.

Over 42 petrochemical companies have a combined capacity to produce 12.9 million tonnes per annum of chemical-related products in Malaysia. Besides, there are 4 petrochemical complexes in the country, well-equipped with shared state-of-the-art supporting services. Petroliaam Nasional Berhad (PETRONAS) is a government wholly-owned company that acts as the O&G industry regulator and holds exclusive ownership rights to all O&G exploration and production projects. Therefore, a company must register/obtain a license from PETRONAS for any O&G upstream and downstream activities.

- Oleochemicals

Malaysia is the world's second-largest palm oil producer and one of the world's largest producers and exporters of basic oleochemicals (fatty acids, fatty alcohols, fatty methyl esters). Malaysia accounted for 20% of the worldwide oleochemical production and 25% of the global total fatty acid and natural fatty alcohol production. The oleochemical industry is almost dependent on raw materials, i.e. palm oil/palm kernel oil and other palm oil products, as the major feedstock. In 2021, Malaysia's 19 oleochemical plants produced 2.7 million tonnes of basic and speciality oleochemicals. Large domestic corporations primarily drive the industry. Most manufacturers are owned by local plantation companies or joint ventures with multinationals. Some of these companies are vertically integrated (i.e. active in both upstream and downstream activities, from oil palm plantation management to the actual manufacturing of oleochemicals)

**List of Potential Opportunities Available for Flemish Companies In Malaysia:**

NO.	SECTORS	KEY MARKET OPPORTUNITIES	
1.	Chemicals & Chemical Products	<ul style="list-style-type: none"> <li>- R&amp;D and advanced/high-technology services for product innovation, e.g. Crude Oil-To-Chemicals technology and biotechnology</li> <li>- Smart manufacturing solutions</li> <li>- Machinery and equipment solutions</li> <li>- Training and talent development solutions</li> <li>- NPK compound fertilisers and mixtures</li> <li>- Paints, printing inks, inkjet ink</li> <li>- RFID chips</li> <li>- Organic and inorganic chemicals</li> <li>- Speciality chemicals</li> </ul>	<ul style="list-style-type: none"> <li>- High value-added graphene, i.e. lithium-ion, battery anodes/ ultracapacitors, conductive inks, rubber additives, plastics additives, and nanofluids</li> <li>- Environmental management, e.g. Waste and chemicals management</li> <li>- Chemical derivatives/ preparations from organic or inorganic sources</li> <li>- Pigment preparation</li> <li>- Dispersions and speciality coatings</li> <li>- Desiccant</li> <li>- Bio-resin (biopolymer)</li> </ul>
2.	Petroleum products, including Petrochemical	<ul style="list-style-type: none"> <li>- O&amp;G fields services, construction, engineering solutions</li> <li>- Smart manufacturing solutions</li> <li>- Training and talent development solutions</li> <li>- Machinery and equipment solutions</li> <li>- Integrated logistics solutions</li> <li>- Shipbuilding and ship repair services</li> <li>- LNG regasification, petrochemicals, refineries, storage and trading</li> </ul>	<ul style="list-style-type: none"> <li>- Specialisation in High CO<sub>2</sub>, High Pressure/High Temperature, EOR, facilities rejuvenation, deepwater development, and floating production systems (FLNG)</li> <li>- O&amp;G-related parts, components, equipment &amp; system</li> <li>- Speciality petrochemicals</li> <li>- Environmental management, i.e. waste and chemical management</li> <li>- R&amp;D, e.g. polymer or biopolymers, nanoparticles and their formulations</li> </ul>
3.	Oleochemicals	<ul style="list-style-type: none"> <li>- R&amp;D and advanced/high-technology services for product innovation</li> <li>- Technology/knowledge transfer</li> <li>- Smart manufacturing solutions</li> <li>- Machinery and equipment solutions</li> <li>- Training and talent development solutions</li> <li>- Sustainability of biodiesel production, e.g. technologies for second-generation biodiesel</li> </ul>	<ul style="list-style-type: none"> <li>- Oleochemicals or oleochemical derivatives or preparations</li> <li>- Alternatives, e.g. palm-based chemicals for the rubber industry</li> <li>- Palm-based and other green chemicals as intermediates for polymer production</li> </ul>



## 4. MARKET FEATURES

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The Chemicals and Petrochemicals industry is the third-largest contributor to Malaysia's trade of manufactured goods, with strong forward linkages to other sectors such as electrical and electronics (E&E), automotive, agriculture, and pharmaceuticals. The availability of oil and gas (O&G) as feedstock, well-developed infrastructure, a strong base of supporting services, strategic location, and a well-connected network to Asia and the Middle East markets drives the industry growth.

This report covers three (3) main sub-sectors of the Chemicals and Petrochemicals industry:

- Chemicals & Chemical Products
- Petroleum Products, including Petrochemicals
- Oleochemicals

### 4.1 CHEMICALS AND CHEMICAL PRODUCTS

With the country's abundant natural resources, the chemicals and chemical products industry remains amongst Malaysia's most valuable strategic industries, contributing 6% to the gross domestic product (GDP) in 2022. The industry contributing 12.6% to the growth of the manufacturing sector in 2021, played a critical supporting role in manufacturing industries such as food, pharmaceuticals, medical devices, rubber products, and E&E. Petrochemicals and oleochemicals are the primary products of this sector – raw materials supplied to the manufacturing industry. In 2022, the industry recorded exports at RM 80.61 billion (approx. € 16.11 billion) and imports at RM 115.51 billion (approx. € 23.08 billion). Major sourcing countries for chemical products include China, Singapore, the United States, Japan, and Thailand. In 2019, Malaysia imported US\$ 245.26 million (approx. € 225.62 million) of chemicals from Belgium.

Over 90% of chemical companies are small and medium-sized enterprises (SMEs), and the rest are multinational corporations (MNCs) and large local enterprises (LLEs). Significant players in the sector include PETRONAS Chemicals Group (PCG), Malayan Electro-Chemical Industry Co., Linde Group, BASF Chemicals, Evonik, Dow Chemicals and DuPont. In addition, many quicklimes and other lime product manufacturers have invested and taken advantage of the country's natural resources - quality limestone deposits, such as Schaefer Kalk.

In addition, the local demand for speciality chemicals (petrochemicals/oleochemicals) is also constantly growing. Therefore, the government actively engages the private sector, research and academic institutes.

Malaysia's Ministry of Investment, Trade and Industry (MITI) launched the Chemical Industry Roadmap 2030 (CIR2030) on 4 August 2023, which is the key towards providing a sustainable growth path for the industry. CIR2030 outlines 5 core principles, 22 strategic focus areas, and 10 key enablers for Malaysia to transform the chemical industry landscape over the next 7 years. Also, 11 priority segments have been identified in base chemicals and intermediates, plastics and polymers, and speciality chemicals, where targeted investments, industrial development, and export programmes will be enhanced to support the CIR2030 implementation.

#### **Latest significant investments by industry players:**

- PETRONAS Chemicals Group (PCG) and PCC SE (Germany) joint ventured into producing alkoxyates (non-ionic surfactants and polyether polyols).
- PCG and LG Chemicals Ltd. (Japan) joint ventured into producing nitrile butadiene latex (NBL) and collaborating in R&D, innovation, and developing high-value-added products.
- SPCI and OSC (Taiwan) joint ventured into producing sodium silicate with an annual production capacity of 80,000 tonnes.



## 4.1.1 Chemicals And Chemical Products Industry Value Chain

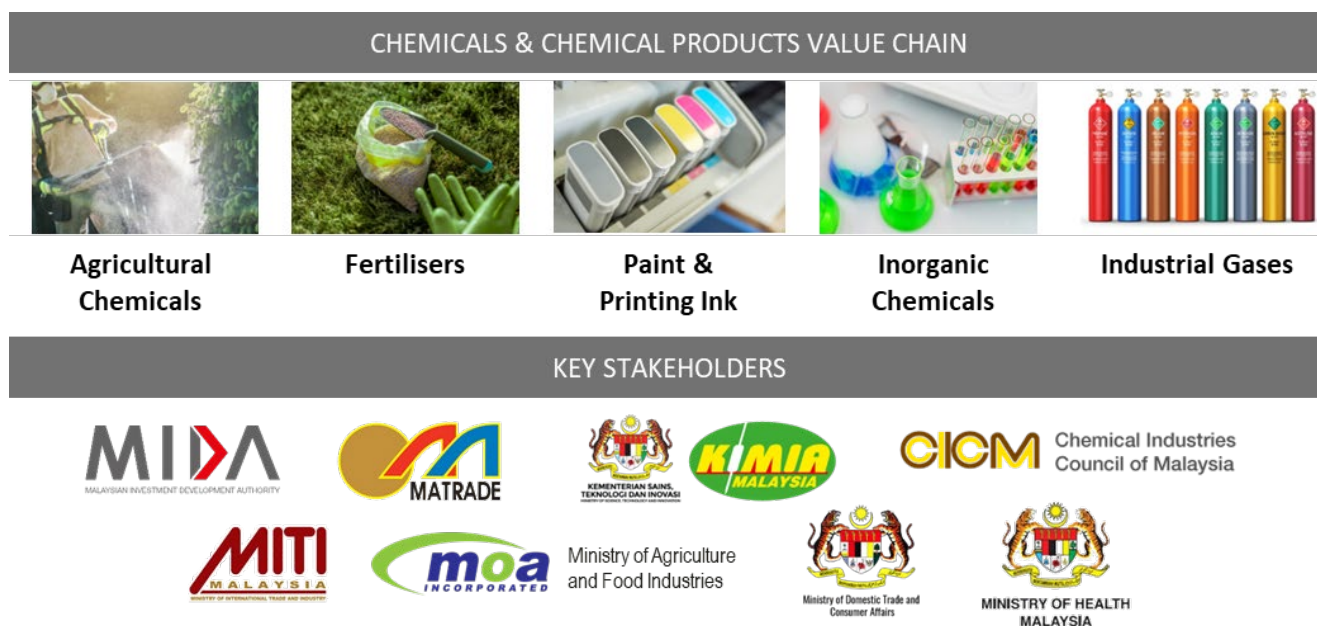


Figure 1: Chemicals and Chemical Products Value Chain

Source: MIDA, 2021

## 4.1.2 Agricultural Chemicals

Demand for agricultural chemicals, such as fertilisers, pesticides, adjuvants and plant growth regulators in Malaysia has grown significantly. Especially pesticides and fertilisers, mainly driven by the rapid expansion of palm oil and rubber plantations, active implementation of modern farming practices, urbanisation and arable land decline. Many local companies are involved in the mixing and blending or formulating of agricultural chemicals.

The fertiliser production in Malaysia has been on the rise, with an output of around 7.58 million MT in 2022. Primary fertilisers include urea, ammonium sulphate, calcium ammonium nitrate, phosphate rock, superphosphates, ammonium phosphate, potassium chloride, potassium sulphate, and NPK compounds. Over 90% of the local-use fertilisers are mineral fertilisers, such as NPK fertiliser, widely used for palm oil plantations. Malaysia imports most potassium fertilisers and exports most urea (raw material) and nitrogen fertilisers. In addition, the government is also actively promoting the use of organic fertilisers.

## 4.1.3 Paint

Malaysia's paint and coating industry is highly advanced regarding various product types. According to the Department of Statistics Malaysia (DOSM), in 2018, the sector recorded a sales revenue of US\$ 616,030 (approx. € 575,926). The construction sector expects slow growth in 2023 as labour supply issues increase the cost of operations.

The industry comprises about 80 producers, with 15 large producers accounting for nearly 85% of the market share by value, including Akzo Nobel, Kansai Paint, Hempel, Synthomer and BASF. Many reputable local players, such as MCI Paint, IEC Plant Engineering, Sancora Paint, Federal Paints Manufacturing and Mercury Paints Factory, meet the local demand except for special grades. Basic raw materials are available locally for production, e.g. alkyd resins, acrylic resins, TiO<sub>2</sub>, zinc oxide, vinyl acetates, CaCO<sub>3</sub> and zinc dust. Types of paints manufactured include emulsion, water, marine, aluminium, and bituminous paints.

#### 4.1.4 Printing Ink

Over 20 ink producers serve the local ink industry. Leading global MNCs include Toyo Chem, DIC Corporation, Sakata INX, Siegwerk and Hubergroup Swan Coatings, and local players include Guomax, K.N.E. Ink System and Unicolour Printing Ink Manufacturer. In 2022, the industry recorded production at approximately 21,970 metric tonnes, with an annual production capacity of nearly 40,000 metric tonnes. According to Statista, in 2022, the sales value of manufactured printing ink in Malaysia was worth approximately RM 1.15 billion (approx. € 230 million). Demand for flexo and gravure ink increased with the growing demand for packaging, especially food packaging.

#### 4.1.5 Inorganic Chemicals

Malaysia has around 10 inorganic chemical manufacturers, such as chlorine alkali, sulphuric acid, phosphoric acid, titanium dioxide, cobalt manganese, activated carbon, etc. Malaysia is self-sufficient for the abovementioned chemicals and is the net exporter of hydrochloric acid, sodium silicate, phosphoric acid and titanium dioxide. Local manufacturers meet local demands except for special-grade chemicals met by imports. The government actively promote the speciality chemicals segment.

#### 4.1.6 Industrial Gases

In Malaysia, over 10 companies produce oxygen, nitrogen, hydrogen, carbon dioxide, acetylene, argon, and nitrous oxide. These industrial gases usually range from 99.5% to 99.9% for industrial applications such as welding, cutting, blanketing, and hydrogenation. Major players are PETRONAS Gas, Air Liquide, Linde Gas, Air Products, Iwatani and Southern Industrial Gas. Currently, demand for speciality gases is met by imports.

#### 4.1.7 Key Players

 CCM Chemicals Sdn. Bhd. <a href="http://www.ccmberhad.com/">www.ccmberhad.com/</a>	 Taiko Group <a href="http://www.taikogroup.net/">www.taikogroup.net/</a>	 BASF (Malaysia) Sdn. Bhd. <a href="http://www.basf.com/my/en.html">www.basf.com/my/en.html</a>
 Synthomer Sdn. Bhd. <a href="http://www.synthomer.com/">www.synthomer.com/</a>	 PETRONAS Gas Berhad <a href="http://www.petronasgas.com">www.petronasgas.com</a>	 Dow Chemical (M) Sdn. Bhd. <a href="http://www.dow.com/">www.dow.com/</a>

## 4.2 PETROLEUM PRODUCTS, INCLUDING PETROCHEMICALS INDUSTRY

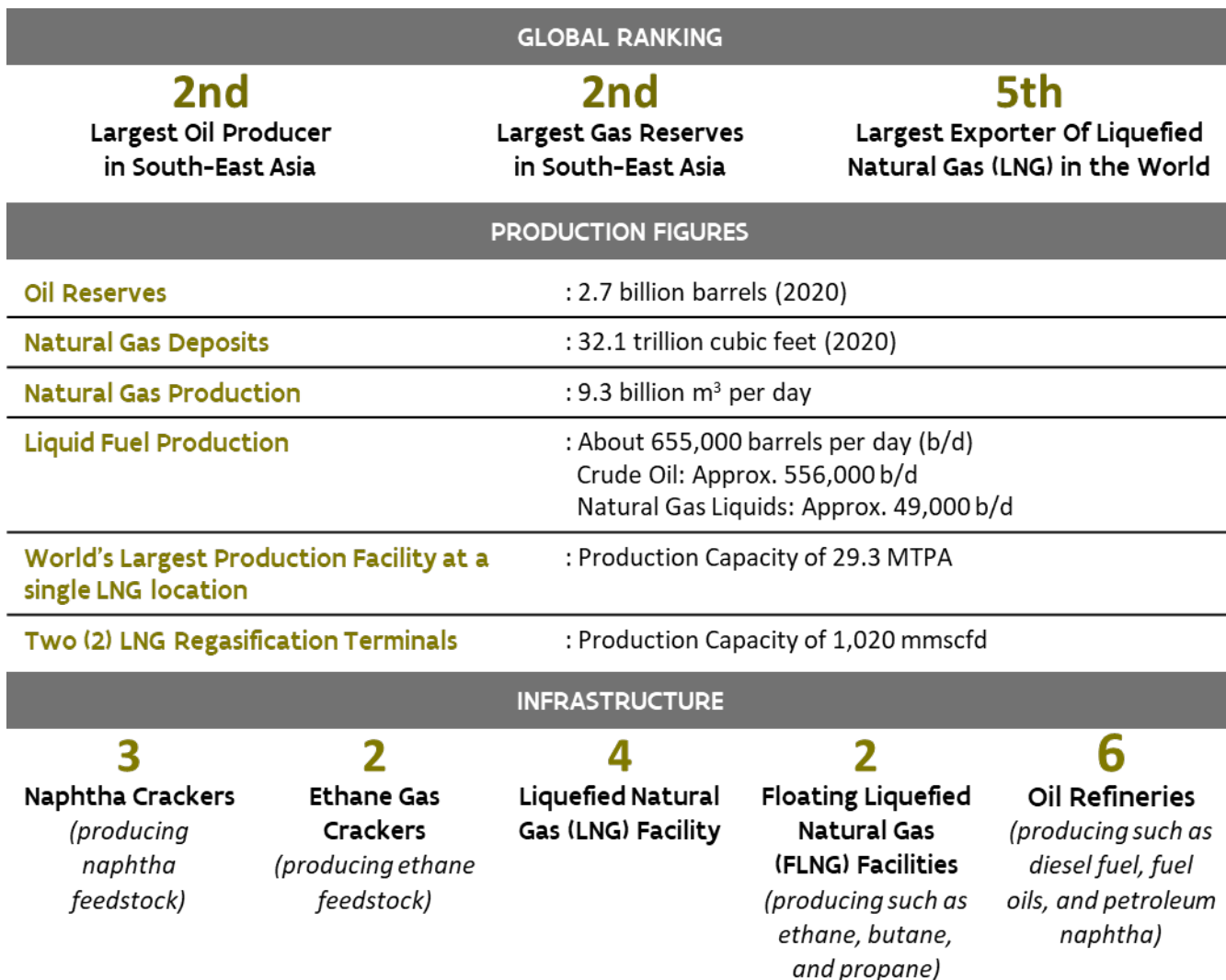


Figure 2: Key Facts and Figures of Malaysia's Oil & Gas Industry  
Source: BP Statistical Review of World Energy (2019) & Malaysian Investment Development Authority (MIDA) (2020), ISEAS - Yusof Ishak Institute (2020)

Malaysia's abundant feedstock at competitive prices, well-developed infrastructure, strategic location, and close proximity to major markets in the Asia Pacific fueled the petroleum products and petrochemicals industry's growth, making Malaysia a viable petrochemical hub in ASEAN. Natural gas and naphtha are the two locally available basic raw materials for the petrochemical industry. With readily available feedstocks, the industry is one of the significant contributors to the country's economy. Malaysia has successfully attracted large petrochemical companies such as Idemitsu, Lotte Chemicals, and BASF to set up production plants in the country. So far, over RM 55 billion (approx. € 10.99 billion) in investments in Malaysia have been recorded.

Malaysia maintains a strong foothold in basic petrochemicals production, such as olefins, polyolefins, aromatics, ethylene oxides, ethoxylates, glycols etc. Over 42 petrochemical companies have a combined capacity to

### PETROLEUM PRODUCTS INCLUDING PETROCHEMICALS

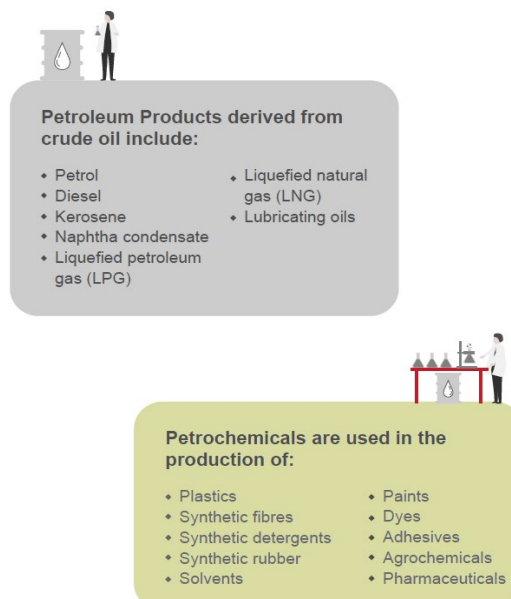


Figure 3: Petroleum Products and Petrochemicals

Source: MIDA, 2021

produce 12.9 million tonnes per annum of chemical-related products in Malaysia. Besides, there are 4 petrochemical complexes in the country, well-equipped with shared state-of-the-art supporting services such as R&D, connected waste material handling, smart warehousing, and advanced metering infrastructure for utilities.

The industry growth is supported by the constant demand for consumer goods, energy, automotive, and healthcare, and the rising use of petrochemical polymers. Refining products held the leading market share in 2020. In 2022, Malaysia recorded exports of petroleum products at RM 163 billion (approx. € 32.58 billion) and imports at RM 148.72 billion (approx. € 29.72 billion). Malaysia exports commodity-grade polymers and petrochemical derivatives throughout the ASEAN region, including Cambodia, Laos, Myanmar, and Vietnam. China is one of the target clients for high-value-added products - petrochemical derivatives.

Petroleum Nasional Berhad (PETRONAS) is a government wholly-owned company that acts as the upstream O&G industry regulator and licensing authority. PETRONAS holds exclusive ownership rights to all O&G exploration and production projects. Petroleum Management Unit (PMU) manages all upstream operations, including exploration, development and licensing. Accordingly, the company required a PETRONAS license to supply goods/services to O&G upstream and downstream sectors in Malaysia. Registering with Petronas is necessary for companies that provide goods/services to the O&G downstream, serving PETRONAS subsidiaries only.



Figure 4: Oil & Gas Industry Structure  
Source: MIDA, 2020

#### 4.2.1 Petrochemicals Industry Ecosystem



Figure 5: Petrochemicals Industry Ecosystem in Malaysia

Source: MIDA, 2021

## 4.2.2 Petrochemicals Zones in Malaysia

LOCATION	PETROCHEMICAL PRODUCTS	
Kertih, Terengganu	<ul style="list-style-type: none"> <li>• Paraxylene</li> <li>• Ammonia</li> <li>• Ethylene</li> <li>• Propylene</li> <li>• Ethoxylates</li> <li>• Butanol</li> <li>• Ethylene Oxide</li> </ul>	<ul style="list-style-type: none"> <li>• Benzene</li> <li>• Acetic Acid</li> <li>• Polyethene</li> <li>• Ethanolamine</li> <li>• Glycol Ethers</li> <li>• Butyl Acetate</li> <li>• Ethylene Glycols</li> </ul>
Gebeng, Pahang	<ul style="list-style-type: none"> <li>• Acrylic Acid &amp; Esters</li> <li>• Butyl Acrylate</li> <li>• Oxo-alcohols</li> <li>• Phthalic Anhydride and Plasticisers</li> <li>• Tetrahydrofuran</li> <li>• Polyester Copolymers</li> <li>• Dispersion Polyvinyl Chloride</li> <li>• Methyl Tertiary Butyl Ether (MTBE)</li> <li>• Polyacetal</li> <li>• N-Butane</li> <li>• DL-Isopulegol</li> <li>• Highly reactive polyisobutylene</li> <li>• Isoprenol, Citral, Citronellol, Menthol, Energol-Me &amp; Energol-C</li> </ul>	<ul style="list-style-type: none"> <li>• Syngas</li> <li>• 2- Ethyl Hexyl Acrylate</li> <li>• 2- Ethyhexanol</li> <li>• Butanediol</li> <li>• Gamma-butyrolactone</li> <li>• Purified Terephthalic Acid (PTA)</li> <li>• Methyl Methacrylate Copolymers</li> <li>• Propylene</li> <li>• Polybutylene Terephthalate (PBT)</li> <li>• Butyl Acetate</li> <li>• 2- Ethylhexanoic acid</li> <li>• N-Butyraldehyde</li> </ul>
Pasir Gudang- Tanjung Langsat, Johor	<ul style="list-style-type: none"> <li>• Ethylene</li> <li>• Propylene</li> <li>• Benzene, Toluene, Xylene (BTX)</li> <li>• Polyethene</li> <li>• Polypropylene</li> <li>• High impact Polystyrene</li> </ul>	<ul style="list-style-type: none"> <li>• Ethylbenzene</li> <li>• Styrene Monomer</li> <li>• Expandable Polystyrene</li> <li>• Ethylene Vinyl Acetate</li> <li>• Styrene-Butadiene rubber</li> <li>• Styrene acrylics &amp; full acrylics</li> </ul>
Pengerang Integrated Petrochemical Complex (PIPC), Johor	This new facility will develop value-added products such as refined petroleum, polymers, and glycols, eventually expanding the petrochemical market segments in Malaysia.	
Bintulu, Sarawak	<ul style="list-style-type: none"> <li>• Ammonia</li> <li>• Urea</li> <li>• LNG</li> <li>• Synthetic Gas Oil</li> <li>• Synthetic Paraffin Wax/ Waxy Raffinate</li> </ul>	<ul style="list-style-type: none"> <li>• Synthetic Naptha</li> <li>• Synthetic Solvents</li> <li>• Synthetic Detergent Feedstock</li> <li>• Synthetic Kerosene</li> </ul>
Sipitang Oil and Gas Industrial Park (SOGIP) - Sepitang, Sabah	<ul style="list-style-type: none"> <li>• Ammonia</li> <li>• Urea</li> </ul>	

Table 1: Petrochemicals Zones in Malaysia






Source: MIDA, 2021



Figure 6: Petrochemicals Zones in Malaysia

Source: MIDA, 2020

### 4.2.3 Key Players

 PETRONAS Chemicals Group Berhad <a href="http://www.petronas.com">www.petronas.com</a>	 Lotte Chemical Titan (M) Sdn. Bhd. <a href="http://www.lottechem.my">www.lottechem.my</a>	 Idemitsu Chemicals (M) Sdn. Bhd. <a href="http://www.idemitsu-ps.com.my">www.idemitsu-ps.com.my</a>
 Schaefer Kalk (M) Sdn. Bhd. <a href="http://www.schaeferkalk.de">www.schaeferkalk.de</a>	 Synthomer Sdn. Bhd. <a href="http://www.synthomer.com/">www.synthomer.com/</a>	 HRC Berhad <a href="http://www.hrc.com.my">www.hrc.com.my</a>

## 5. OLEOCHEMICALS INDUSTRY

Malaysia is the world's second-largest palm oil producer and one of the world's largest producers and exporters of basic oleochemicals (fatty acids, fatty alcohols, fatty methyl esters). Malaysia accounted for approximately 20% of the worldwide oleochemical production and 25% of the global total fatty acid and natural fatty alcohol production. In Malaysia, the oleochemical industry is almost dependent on local raw materials, i.e. palm oil/palm kernel oil and other palm products, as the significant feedstocks. Practically, all the oleochemicals can be produced from palm oil/palm kernel oil. Today, the industry is moving towards supplying palm-based chemicals as intermediates for other sectors, such as polymer and rubber-based products, as an alternative to petroleum-based chemicals.

The oleochemicals industry has 3 primary focuses:

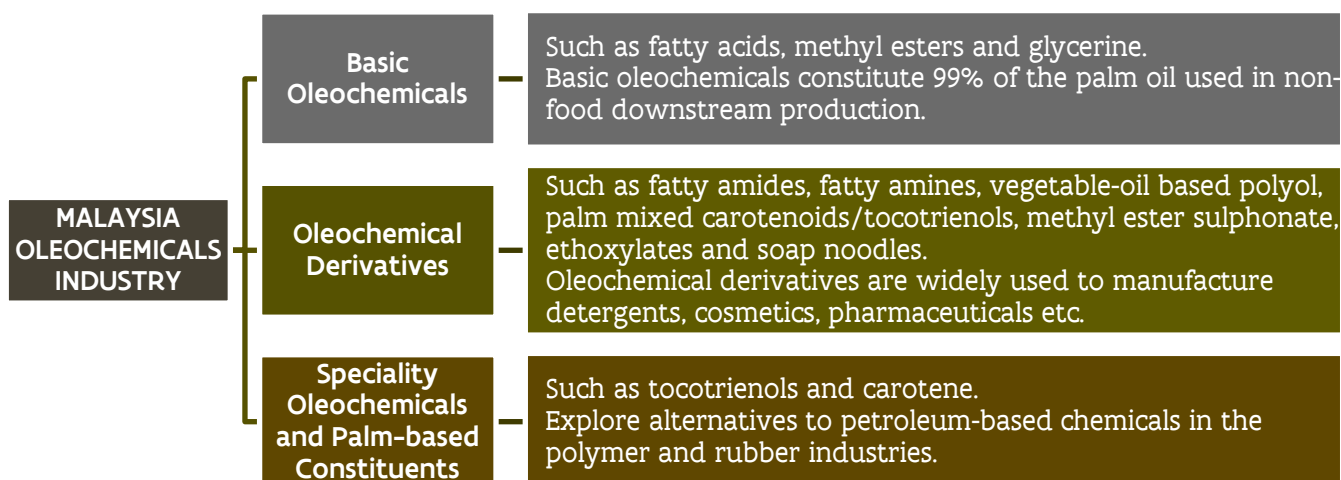


Figure 7: Malaysia's Oleochemical Industry Primary Focuses

Source: MIDA, 2020

In 2021, Malaysia's 19 oleochemical plants produced 2.7 million tonnes of basic and speciality oleochemicals. Large domestic corporations primarily drive the industry. Most manufacturers are owned by local plantation companies or joint ventures with multinationals. Some of these companies are vertically integrated (i.e. active in both upstream and downstream activities, from oil palm plantation management to the actual manufacturing of oleochemicals), such as IOI, KLK, Sime Darby, and FGV. To date, investments in the oleochemical industry exceed RM 7 billion (approx. € 1.40 billion).

In 2022, oleochemicals recorded total exports of RM 37.2 billion (approx. € 7.43 billion), while imports at RM 10.9 billion (approx. € 2.18 billion). China was the largest importer of Malaysian oleochemical products, followed by the EU, Japan, USA and India. Major export products included fatty acids, alcohols, methyl esters, soap noodles and glycerine.

The versatile oleochemical products are used in many downstream productions, such as detergents, surfactants, shampoos, soaps, cosmetics, pharmaceutical products, food additives and plastics. The industry growth is expected to be fueled by the continuing trend toward using natural or plant-based products and biodegradable chemicals.

### 5.1.1 Biodiesel (Palm Methyl Ester)

There are currently 18 biodiesel/palm methyl ester (PME) manufacturers in Malaysia. A total of 737,858 tonnes of PME were used in 2022. The manufacturing and trading of biodiesel are regulated by the Ministry of Plantation Industries and Commodities (MPIC) under the Malaysian Biofuel Industry Act 2007 (Act 666).

The National Biodiesel Programme was introduced in a phased approach, commencing with the B5 Biodiesel Programme in 2011, which involved a blend of 5% palm biodiesel and 95% petroleum diesel for the land transport sector. Subsequently, this initiative expanded to the B7 Biodiesel Programme, rolled out nationwide in 2014, followed by the B10 Biodiesel Programme in 2019.

The extension of the Biodiesel B10 Programme, which is the Biodiesel B20 Programme for the transport sector, commences in 2020 in Langkawi, Labuan, and Sarawak (except Bintulu). The expansion of the B20 Biodiesel Programme in Sabah and the Peninsula will be executed progressively, contingent on biodiesel blending infrastructure at national depots.

### 5.1.2 Oleochemicals Industry Ecosystem

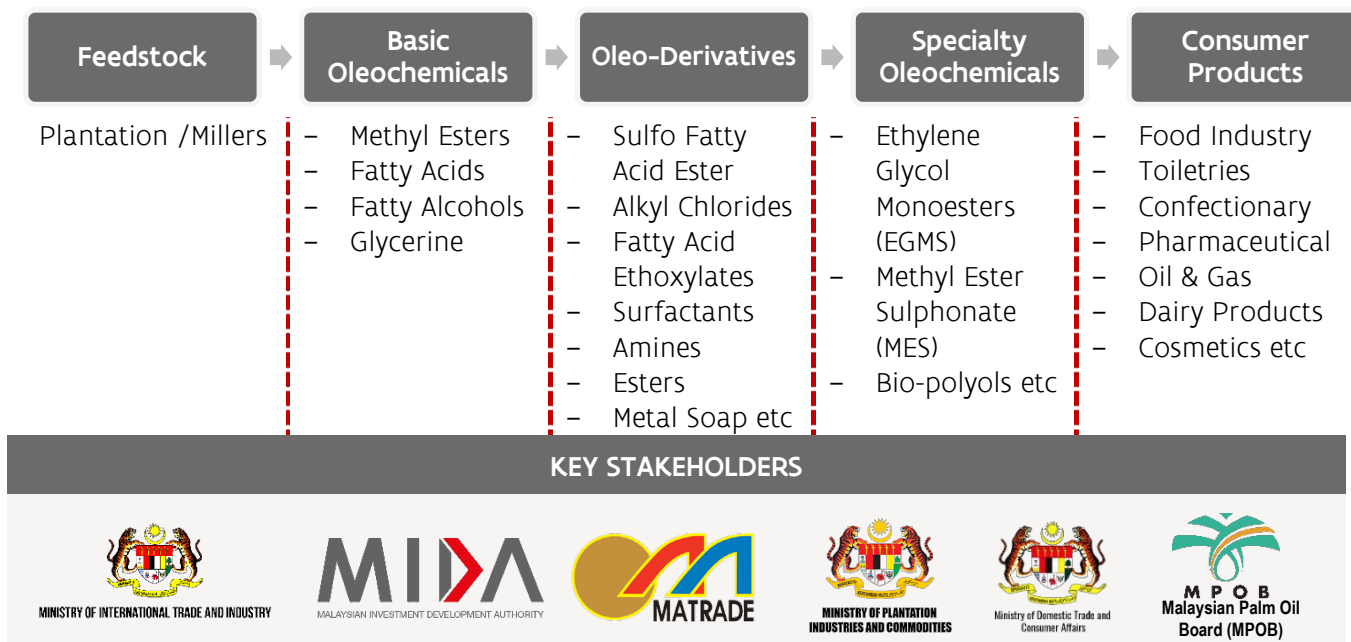


Figure 8: Malaysia's Oleochemicals Industry Ecosystem

Source: MIDA

### 5.1.3 Key Players

 <b>IOI GROUP</b> IOI Corporation Berhad <a href="http://www.ioigroup.com">www.ioigroup.com</a>	 <b>Sime Darby</b> Sime Darby Berhad <a href="http://www.simedarby.com">www.simedarby.com</a>	 <b>KLK OLEO</b> KLK Oleo Group <a href="http://www.klkoleo.com">www.klkoleo.com</a>
 <b>oleon</b> a natural chemistry <sup>ss</sup> Oleon Asia-Pacific Sdn. Bhd. <a href="http://www.oleon.com">www.oleon.com</a>	 <b>Emery</b> Oleochemicals Emery Oleochemicals (M) Sdn. Bhd. <a href="http://www.emeryoleo.com">www.emeryoleo.com</a>	 <b>PACIFIC OLEO</b> Pacific Oleochemicals Sdn. Bhd. <a href="http://www.pacificoleo.com">www.pacificoleo.com</a>



## 6. MARKET CHALLENGES & OPPORTUNITIES

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### 6.1 CHEMICALS AND CHEMICAL PRODUCTS INDUSTRY

#### 6.1.1 Challenges

- Inadequate Hazardous Chemicals Management

Industrial and agricultural activities have become Malaysia's leading causes of rampant environmental problems, especially pollution from hazardous chemicals. Despite legislation regulating 77 types of hazardous waste, the lack of enforcement and evasion of disposal fees and waste levy increased illegal dumping activities. In addition, most of the country's landfills and dumpsites are not designed adequately to collect and treat hazardous chemicals properly. In 2019, the Department of Environment (DOE) established the Toxic Waste Management and Scheduled Waste National Committee to tackle the country's hazardous waste disposal.

- Use of Unregistered Agricultural Chemicals

Many local farmers use agricultural chemicals not registered with the Department of Agriculture, such as pesticides in crop plantations. These not authorised chemicals may leave chemical residuals on the fields or plants and pose unknown detrimental threats to living organisms, human health, and the environment.

- Training Need for Skilled Workforces

The industry faces a shortage of skilled workforce with relevant technical skills and industry knowledge. As a result, many companies, especially in the manufacturing sector, rely on low- or unskilled foreign labour due to lower labour costs. Besides, local public and private R&D institutions lack technical knowledge in product and technology innovations, especially speciality chemical products. Therefore, the government actively promotes industry-academia collaboration via matchmaking and information-sharing sessions.

- Challenges in Ink Industry

In recent years, the demand for conventional offset inks, publication and paste inks has declined due to high costs and the shift in consumer preferences toward electronic reading/e-reader. Given the domestic competition in Malaysia, printers and the continuous ink supply are more expensive to buy domestically than on the world market. The industry also faces slight raw materials supply disruption and intense competition from China and other ASEAN countries.

#### 6.1.2 Opportunities

- **R&D and Advanced/High-Technology Service Providers**

Malaysia focuses on R&D, adoption and commercialisation for advanced, high-tech, and highly-automated industries. In response to customers' diversified needs, local players continuously explore/innovate new products/manufacturing solutions that deliver greater functionality, cost-effectiveness, operational efficiency, and environmental-friendliness.

- **Employee Training Programs & Talent Management/Development Solutions**

According to the critical occupational list (COL) by TalentCorp, highly skilled positions such as chemical engineer, chemical and physical science technicians, chemical products plant and machine operators, etc., are hard to fill. However, the government's training grants and incentives have

encouraged local companies (and foreign investors) to develop local talent. Therefore, there are potential opportunities for training and talent development solutions providers.

- **Organic and Inorganic Fertiliser Products**

Over 90% of the local-use fertilisers are mineral fertilisers, such as NPK fertiliser, widely used for palm oil plantations. Malaysia imports most NPK compound fertilisers and mixtures, and the government actively promotes organic fertilisers. Malaysia's imports of fertilisers were US\$1.28 billion (approx. € 1.20 billion) in 2021, according to the United Nations COMTRADE.

- **Opportunities under National Graphene Action Plan (NGAP) 2020**

The National Graphene Action Plan (NGAP) 2020 aims to enhance downstream applications and enable a local graphene ecosystem. In addition, Malaysia is exploring high graphene value-added manufacturing, i.e. 5 application areas: Lithium-ion, battery anodes/ultracapacitors, Conductive inks, Rubber additives, Plastic additives, and Nanofluids.

Moreover, Malaysian RFID system integrators choose to import RFID chips manufactured in Taiwan and China and assemble them locally. Also, there are potential opportunities for Flemish products/service/ machinery/solutions providers in the graphene field.

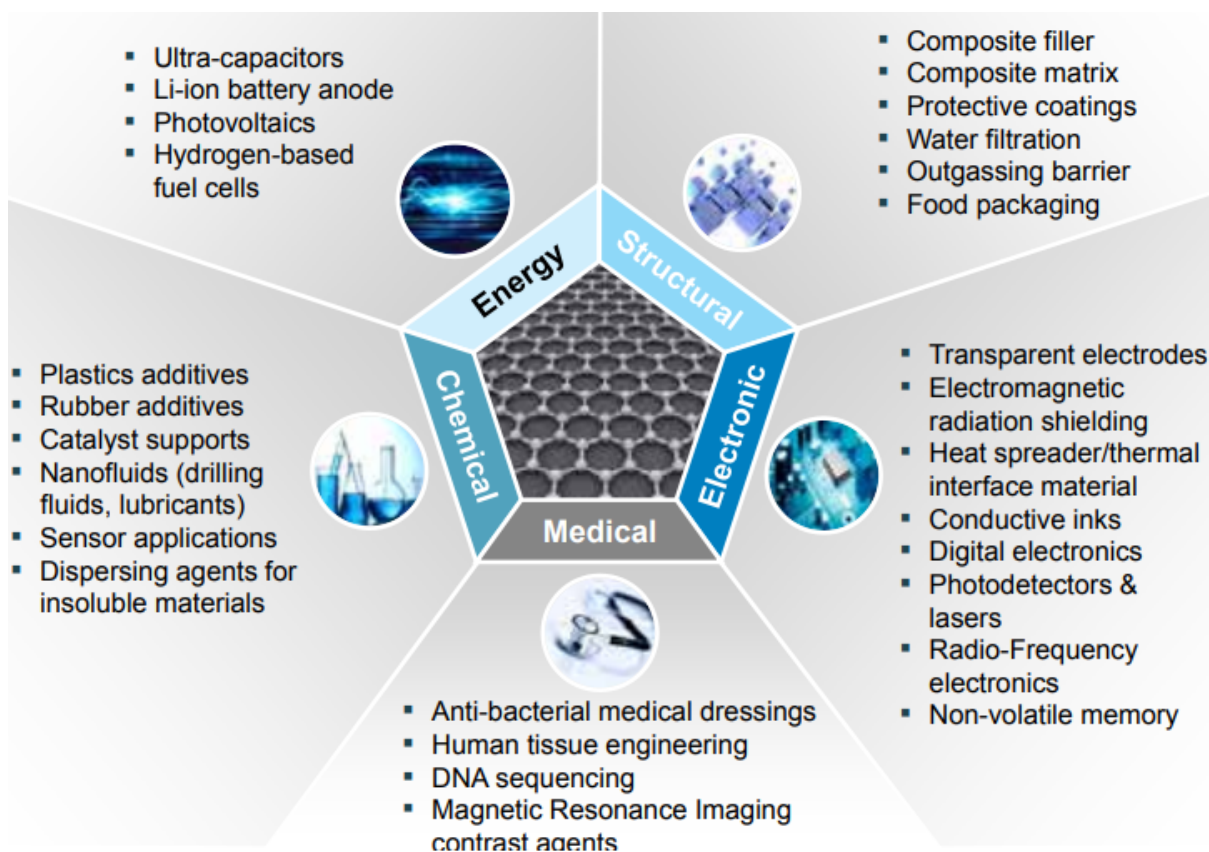


Figure 9: Application Areas Under the National Graphene Action Plan 2020

Source: NGAP 2020, Malaysia

- **Chemical Industry Roadmap 2030 (CIR 2030)**

Chemical Industry Roadmap 2030 (CIR2030) on 4 August 2023 is the key towards providing a sustainable growth path for the chemicals industry. CIR2030 outlines 11 priority segments identified in 3 priority segments: base chemicals and intermediates, plastics and polymers, and speciality chemicals. There are potential opportunities for Flemish products/service/ machinery/solutions providers in these targeted segments.

TARGETED PRIORITY SEGMENTS	TARGETED CHEMICAL SEGMENTS	
1. Base chemicals and intermediates	1. Fertilisers	6. Plastics (commodity, engineering, high performance)
2. Plastics and polymers	2. Oleochemicals	7. Agrochemicals
3. Speciality chemicals	3. C1 intermediates	8. Care chemicals
	4. High-performance composites	9. Nutrition chemicals
	5. Synthetic rubber	10. Electronics chemicals
		11. Construction chemicals

Table 2: Targeted Segments Under Malaysia Chemical Industry Roadmap 2030

Source: MIDA, 2021

- **Speciality Chemicals**

Imports fill the most local demand for speciality chemicals; thus, the government actively promotes DDI/FDI in the speciality chemicals segment to establish an efficient ecosystem that interconnects all related activities. Malaysia is looking to venture into new sub-segments under speciality chemicals, such as speciality gases, inorganic chemicals, paints & printing inks, and fertilisers.

Industry players have begun exploring using Crude Oil-To-Chemicals (COTC) technology to produce speciality chemicals from crude oil directly. Non-fuel products such as catalysts, aromatics, white spirits (naphtha), wax, and white oil offer a vast market potential. These products can be used as additives for various industries such as food and beverages, construction and automotive.

- **Products And Services Related to Chemicals & Chemical Products**

Business activities listed under the Promotion of Investments Act 1986 are the government's industry promotion focus (DDI & FDI – manufacturing/import/export). Incentives and grants were introduced to encourage local companies and foreign investors' ventures. It also highlights potential export opportunities for Flemish companies, products and services related to the listed industries, such as manufacturing, machinery and equipment solutions, and chemicals.

PROMOTED ACTIVITIES UNDER THE PROMOTION OF INVESTMENTS ACT 1986
1. Chemicals Derivatives/Preparations from Organic/Inorganic Sources
2. Environmental Management: Recycling of waste such as toxic & non-toxic waste/chemicals
3. Biotechnology: Development, testing and manufacture of fine chemicals
4. Advanced Materials: Nanoparticles and their formulations thereof, high-strength composite
5. Small-scale Chemicals: Pigment preparation, dispersions and speciality coatings, Desiccant, Bio-resin (biopolymer), Inkjet inks

Table 3: Promoted Chemicals & Chemical Products Activities Under the Promotion of Investment Act 1986

Source: MIDA, 2020

- **Raw Materials for Downstream Activities**

Malaysia imports organic and inorganic chemicals for downstream production. For example, ethylene dichloride is imported to produce vinyl chloride and polyvinyl chloride resins. In 2019, Malaysia imported RM 6.05 billion (approx. € 1.21 billion) of organic and inorganic chemicals.

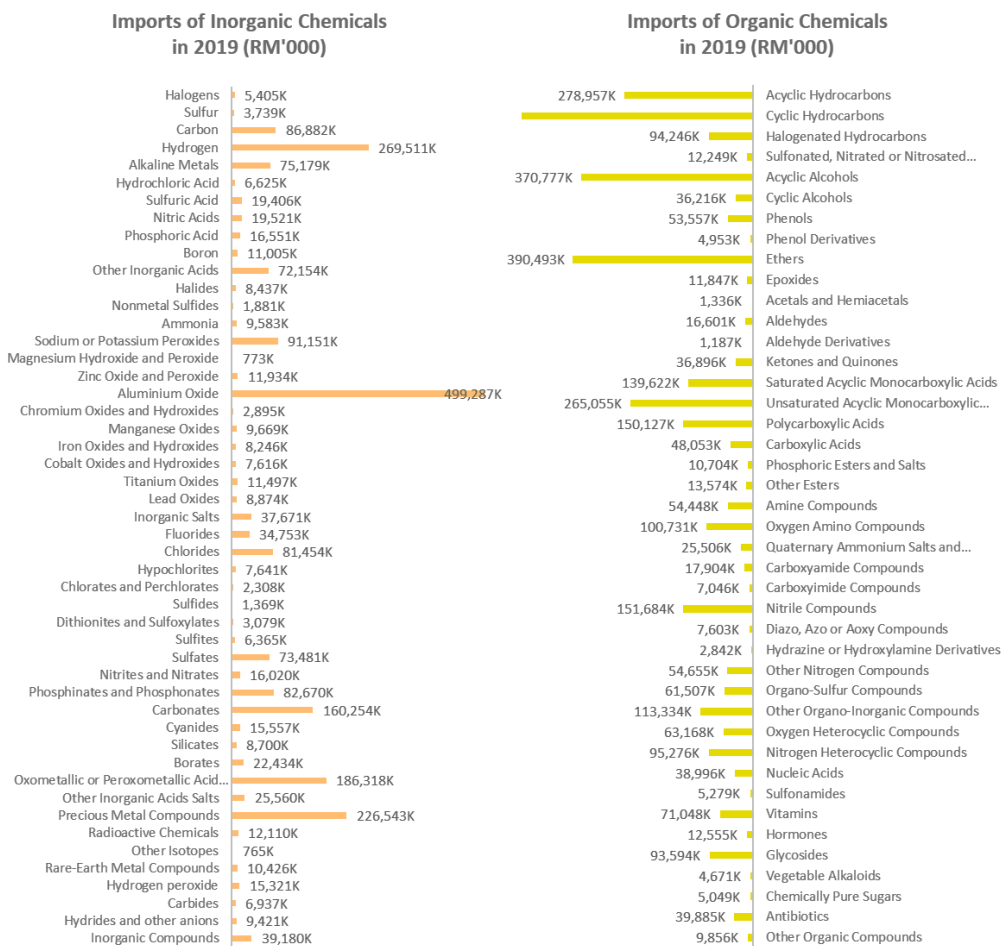


Figure 10: Import Value of Inorganic and Organic Chemicals in 2019

Source: OEC, BACI: International Trade Database at the Product Level, 2019

## 6.2 PETROLEUM PRODUCTS, INCLUDING PETROCHEMICALS INDUSTRY

### 6.2.1 Challenges

- **Strict Regulatory Framework**

One of the significant challenges facing the petrochemical industry in Malaysia is the strict regulatory framework enforced by Petroliaam Nasional Berhad (PETRONAS). As the country's primary regulator for oil and gas activities, PETRONAS plays a crucial role in overseeing and licensing petrochemical operations. This regulatory oversight aims to ensure environmental compliance, safety standards, and the responsible extraction and processing of petrochemical resources. Navigating the stringent licensing and compliance requirements set forth by PETRONAS can be a complex and time-consuming process for companies operating in the petrochemical sector, adding to the industry's challenges in Malaysia.

- **High Development and Maintenance Costs**

There are currently 6 petrochemical zones in Malaysia, and continuous investment is necessary to promote its future growth and maintain its competitiveness. However, the cost of developing and maintaining a petrochemical zone is high, as it involves developing many dedicated infrastructure facilities, such as ports and Centralised Utilities Facilities (CUF). Therefore, the government continues implementing measures to enhance the business environment, infrastructure development, human resources support, and feedstock supply to develop a stable and conducive investment environment for the industry's future growth.

- **Regional Industry Competition and Knowledge-Based Chemical Portfolio**

Malaysia's petrochemical industry faces intense competition in the global and regional O&G markets, especially West Asia and ASEAN markets, as they are developing their petrochemical industries. In addition, the petrochemicals industry is stepping up to a more knowledge-based chemical portfolio in the derivatives and speciality markets as consumer demand continuously evolves. To keep up industry competitiveness, the government introduced initiatives to enable the O&G industry's growth factor, promote more capital- and skill-intensive activities, and foster domestic entrepreneurship and FDI (O&G Services and Equipment (OGSE) and O&G downstream).

- **Volatile Oil Prices**

Many factors influence oil prices, such as supply, demand and public policy –from conventional output decisions to central bank interest rates or supply disruptions. Moreover, the volatility of oil prices significantly affects the government's fiscal revenue, with cost rises adding to the public purse and price crashes depleting it. As a result, the government has focused on reducing commodities exports and promoting downstream activities to develop more high-value-added products.

- **High Reliance on Imports of Raw Materials**

Natural gas and condensates from the gas fields off the Terengganu coast are the main raw materials for Kertih, Terengganu and Gebeng, Pahang petrochemicals zones. On the other hand, naphtha is the main raw material for Pasir Gudang-Tanjung Langsat, Johor Petrochemicals zone. Naphtha is available from the oil refineries in the country, but the current demand is still met mainly through imports.

## 6.2.2 Opportunities

- **Manufacturing and Machinery/Equipment Solutions**

There are emerging opportunities for service providers and contractors in the upstream segment that specialise in High CO<sub>2</sub>, High Pressure/High Temperature, EOR, facilities rejuvenation, deepwater development, and floating production systems (FLNG). Meanwhile, the downstream segment presents opportunities in LNG regasification, petrochemicals, refineries, storage and trading.

In addition, there is a need for large-scale technology development to increase production efficiency. Especially in benzene, styrene, butylenes, butadiene, and acrylonitrile production, to accommodate growing demand from synthetic rubber companies. This presents opportunities for high-technology service providers, such as manufacturing, machinery, and equipment solutions.

- **Products/Services in Key O&G Development Projects**

The country's O&G development project shows potential opportunities for Flemish companies involved in O&G field services, construction, engineering solutions, machinery and equipment, integrated logistics service, shipbuilding and ship repair, etc. Furthermore, as the sector grows, there is a continuous need for platform supply vessels, tankers, drillships, etc.

- **Pengerang Integrated Petrochemical Complex (PIPC) Development**

Pengerang Integrated Petroleum Complex (PIPC) is an industrial development under the purview of Johor Petroleum Development Corporation Berhad (JPDC). The PIPC stretches over 22,904 acres and is being developed over four phases from 2012 to 2037. The PIPC Master Plan includes a plastics and fine chemicals park, a light and medium industrial park, a waste management centre, and logistics and commercial hubs.

Pengerang Integrated Complex (PIC) is among the largest integrated petrochemical facilities in the region and is PETRONAS's most significant downstream investment – US\$ 27 billion. Strategically located in southern Peninsular Malaysia, PIC occupies 6,303 acres with easy access to major shipping lanes. This development also opens up opportunities for local plastic manufacturers to produce high-value-added products to serve the higher-end sophisticated clientele.

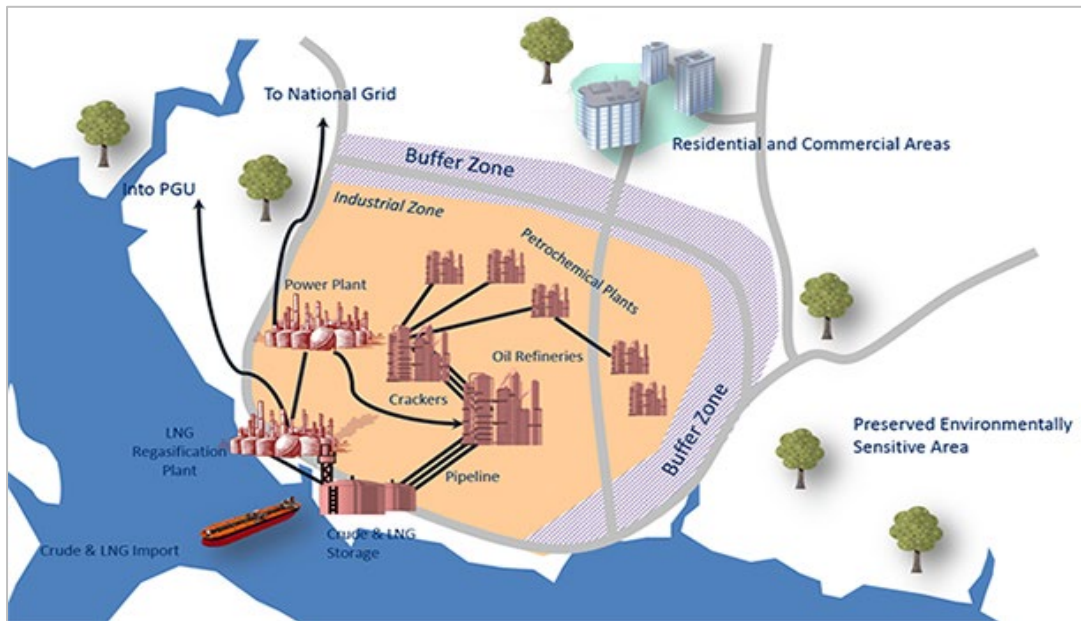
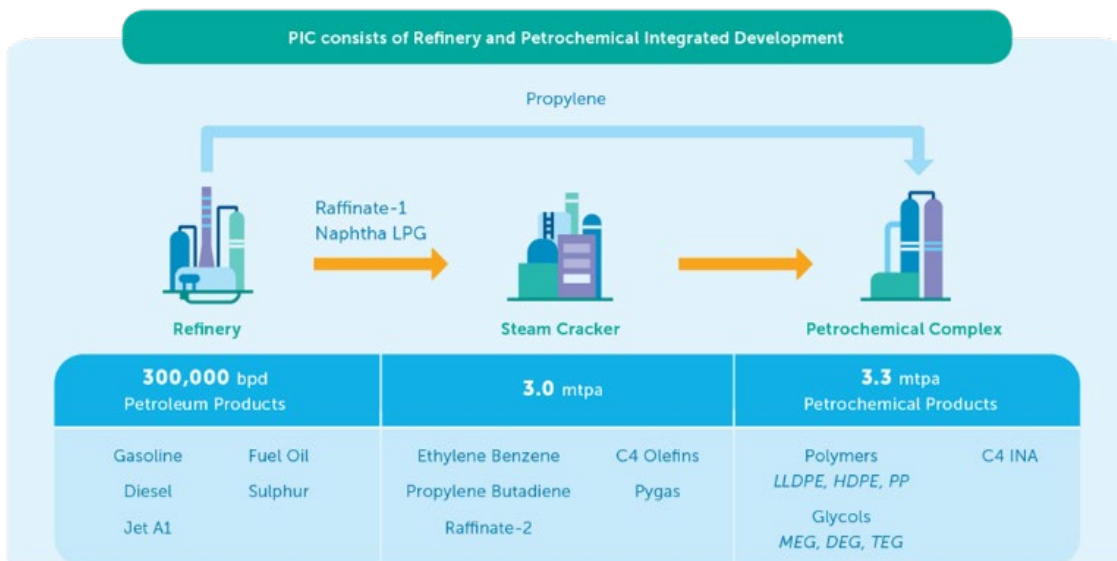


Figure 11: PIC Development Plan  
 Source: Johor Petroleum Development Corporation Berhad (JPDC), 2020



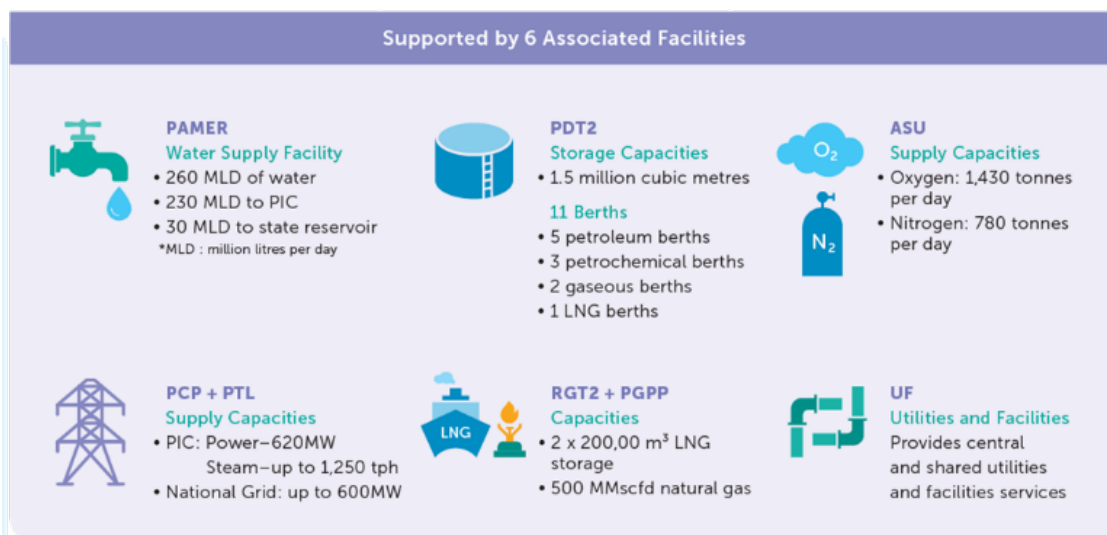


Figure 12: Key Facts of Pengerang Integrated Complex  
Source: Petroliam Nasional Berhad (PETRONAS), 2020

- **Advanced Chemical Recycling and Sustainable Practices**

Malaysia, aiming to implement more sustainable practices, needs advice and consultation on environmental impacts, cost reduction and efficiency improvement. For instance, petrochemical companies in Malaysia have ventured into advanced chemical recycling, such as recovering oil from plastic waste through pyrolysis to produce recycled resin/plastic. Pyrolysed oil can produce virgin-quality polymers, which can be marketed as certified circular polymers. This allows petrochemical companies to play a pivotal role in reducing plastic deposits in landfills and leakage into the environment while allowing them to recover valuable hydrocarbons.

- **Products And Services Related to Petrochemicals Products**

Promotion of Investments Act 1986 highlighted the government’s industry promotion focus (DDI & FDI – manufacturing/import/export) and potential export opportunities for Flemish companies, such as manufacturing, machinery and equipment solutions, and chemicals.

PROMOTED ACTIVITIES UNDER THE PROMOTION OF INVESTMENTS ACT 1986	
1.	Petrochemicals Products
2.	Environmental Management: Recycling of waste such as toxic & non-toxic waste/chemicals
3.	High-Technology/Advanced Materials: Polymer or biopolymers; Nanoparticles and their formulations thereof

Table 4: Promoted Petrochemicals Products Activities Under the Promotion of Investment Act 1986  
Source: MIDA, 2020

## 6.3 OLEOCHEMICALS INDUSTRY

### 6.3.1 Challenges

- **Supply Chain Disruptions**

There is an increased demand for products using natural or plant-based inputs, cosmetics, pharmaceuticals, and biochemicals. In addition, the demand for cleaning and personal care goods increased during the pandemic, e.g. disinfectants, sanitisers, and toiletries. As a result, the global oleochemicals industry faces upward pressure. The increased demand and reduced supply outweigh declining feedstock costs and cause shipping and logistics disruptions along the oleochemicals supply chain. Moreover, the crude oil price volatility also affects crude/refined glycerine production, a by-product of biodiesel production.

- **Intense Regional Market Competition**

Given the pressures from emerging regional markets such as Indonesia, India, and the Philippines, local players constantly seek to maintain and increase global competitiveness.

- **New Renewable Energy Directive in Europe**

Europe has been the largest export market for Malaysian oleochemicals products for many years. However, by 2030, Europe aims to phase out palm oil-based biofuels aligned with the introduction of the renewable energy directive to address the indirect land-use change (ILUC) issue, affecting the demand for palm-based palm oil-based biodiesels in Europe.

- **Environmental Regulatory**

Growing concerns on safety, toxicity, biodegradability, product marketability, and new technologies have challenged the oleochemicals sector. Therefore, the Malaysian Palm Oil Board (MPOB) has been focusing on the R&D of various oleochemical derivatives, ways to assess the environmental impact of the production, process feasibility and technology viability study.

### 6.3.2 Opportunities

- **R&D and Advanced/High-Technology Service Providers**

Malaysia focuses on R&D, adoption and commercialisation for advanced, high-tech, and highly-automated industries. Local industry players are also constantly looking to strengthen their manufacturing capabilities and develop further downstream activities with value-added products to maintain and increase global competitiveness. For instance, they continuously explore/innovate new products/manufacturing solutions such as value-added speciality oleochemicals that deliver greater functionality, excellent product performance, safe, environmentally compatible, efficient production, and biodegradable. Moreover, Malaysia is also looking at palm-based chemicals as alternatives to petroleum-based chemicals in the polymer and rubber industry.

- **Biodiesel Production and Sustainability Practice**

Biodiesel refers to fatty acids methyl ester produced through transesterification and esterification with methanol. Investors have potential opportunities to explore second-generation biodiesel from used cooking oil, palm oil mill effluent, and other biomass products. Local chemical and petrochemical companies seek to diversify production into biofuels and natural gas.

Another opportunity is technologies that increase the sustainability of biofuel processes. For instance, the government implemented the B10 (transportation) and B7 (industrial) biodiesel



programmes in 2019 to drive the demand for palm oil and increase the sustainability of energy resources, intending to bring down greenhouse gas emissions by 45% per unit of GDP by 2030.

- **Speciality/Derivative Oleochemicals**

Speciality oleochemicals contribute only around 5% of the 2.7 million tonnes of total oleochemical production. Thus, the demand is still mainly met by imports. The government is also looking into higher value-added derivatives, i.e. surfactants -agrochemicals, bio-lubricants, bio-polyols, and propylene glycol derivatives. Local players are looking into the production of value-added speciality oleochemicals or derivatives. There are opportunities for companies that provide innovative manufacturing solutions and product development.

- **Products And Services Related to Oleochemicals Products**

Promotion of Investments Act 1986 highlighted the government’s industry promotion focus (DDI & FDI – manufacturing/import/export) and potential export opportunities for Flemish companies, products and services related to the listed industries, such as manufacturing, machinery and equipment solutions, and chemicals.

PROMOTED ACTIVITIES UNDER THE PROMOTION OF INVESTMENTS ACT 1986
<ol style="list-style-type: none"> <li>1. Oleochemicals or oleochemical derivatives or preparations</li> <li>2. Processed products - palm kernel cake, palm oil mill effluent, palm biomass</li> <li>3. Palm oil products &amp; derivatives - processed products from palm oil, processed products from palm biomass/waste/by-products</li> </ol>

Table 5: Promoted Oleochemicals Products Activities Under the Promotion of Investment Act 1986

Source: MIDA, 2020

- **Products/Services in Reinvestment Activities**

The government introduced special incentives for local companies that reinvest in their business activities, including resource-based oil palm and rubber and oil palm biomass. The promoted reinvestment activities include manufacturing solutions, machinery and equipment, and raw materials. This also highlights opportunities for Flemish companies to advise on sustainable practices, cost reduction, and efficiency improvement. In addition, solutions to palm-based and other green chemicals as intermediates for polymer production are also highly sought-after.

# 7. MARKET ACCESS

## 7.1 CHANNEL OF DISTRIBUTION

The proper selection of distribution channels is instrumental to successfully penetrating a new market or introducing a new product, depending on how the company wants to position itself in the new market.

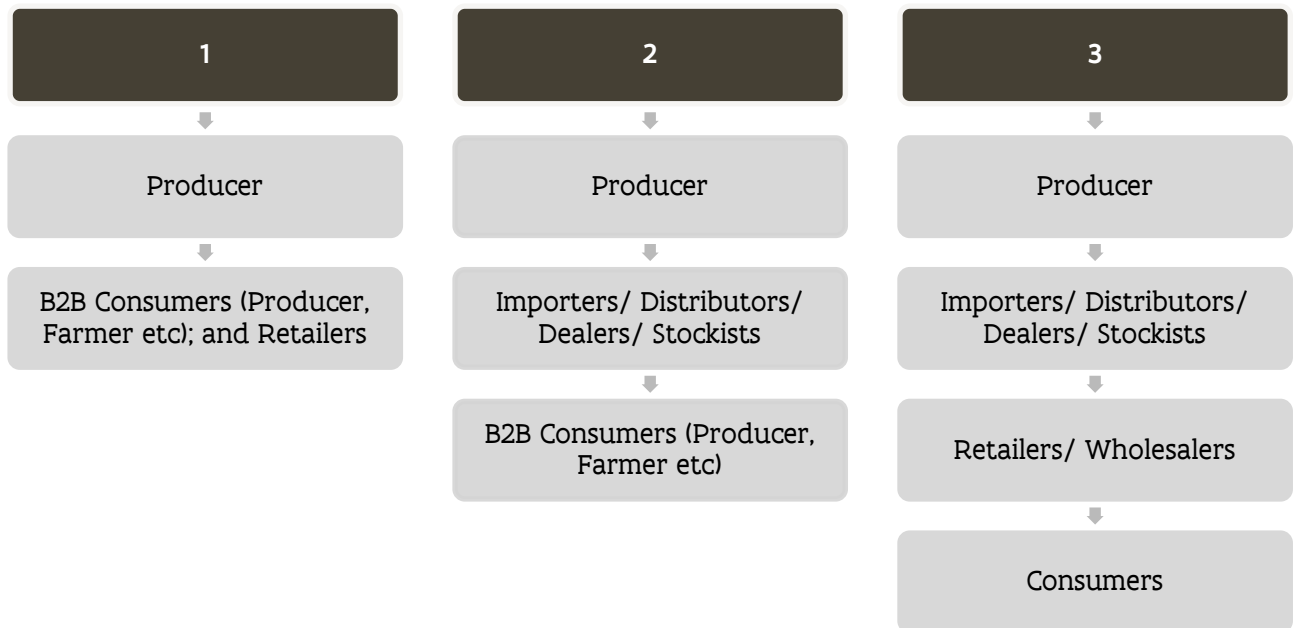


Figure 13: General Overview of Distribution Channels

## 7.2 MARKET ENTRY MODE

SUGGESTION: INITIAL MARKET ENTRY MODE		
NO.	ENTRY MODE	KEY TAKEAWAY
1.	Direct Export	<ul style="list-style-type: none"> <li>• Allow Flemish manufacturers/exporters to gain immediate access and better understand the Malaysian market.</li> <li>• To eliminate the middleman costs by exporting products directly to end consumers, wholesalers, retailers, etc.</li> <li>• Allows Flemish manufacturers/exporters to test the local market potential.</li> <li>• Flemish manufacturers/exporters need to handle export and distribution activities by themselves.</li> </ul>
2.	Indirect Export	<ul style="list-style-type: none"> <li>• Flemish companies may appoint a local distributor to deal with exports, sales, marketing, and distribution.</li> <li>• The local distributor will act as an agent to the company, handling the imports and utilising its distribution network to distribute the products across Malaysia.</li> <li>• Having a local partner enables the Flemish companies to leverage their assets, such as networks and relationships.</li> <li>• For example: <ul style="list-style-type: none"> <li>○ Products are exported and stored at the local partner's facility.</li> <li>○ Local partner to market technology solutions, such as machinery and IT solutions.</li> </ul> </li> </ul>
3.	Joint Venture	<ul style="list-style-type: none"> <li>• Allow Flemish companies to leverage local partners' assets, such as networks and relationships.</li> <li>• Flemish companies are advised to choose local partners that understand the local market, culture and consumer preferences.</li> <li>• Most local manufacturers prefer to source raw materials from local distributors/wholesalers to access various options. <ul style="list-style-type: none"> <li>○ Small-size manufacturers might be incapable of importing large volumes of raw materials or handling the tedious import process.</li> </ul> </li> </ul>
4.	Set Up A Local Office	<ul style="list-style-type: none"> <li>• Set up a local Representative/Regional Office to research, identify, and analyse local market potential.</li> <li>• Set up a local subsidiary/sales office to handle the sales and marketing activities.</li> </ul>

Table 6: Suggestions on Market Entry Modes

Flemish companies are **strongly advised to work with local partners** when considering their market entry strategy. This allows them to effectively identify the most appropriate market entry strategy tailored to their needs and objectives. Furthermore, it can assist the company in identifying potential local partners, including distributors, wholesalers, retailers, and even end-consumers.

## 7.2.1 Malaysia: Regional Export Gateway

### ASEAN Market Access:

Over 660 million population  
with a combined GDP of US\$ 3.66 trillion

Sources: Statista, 2022

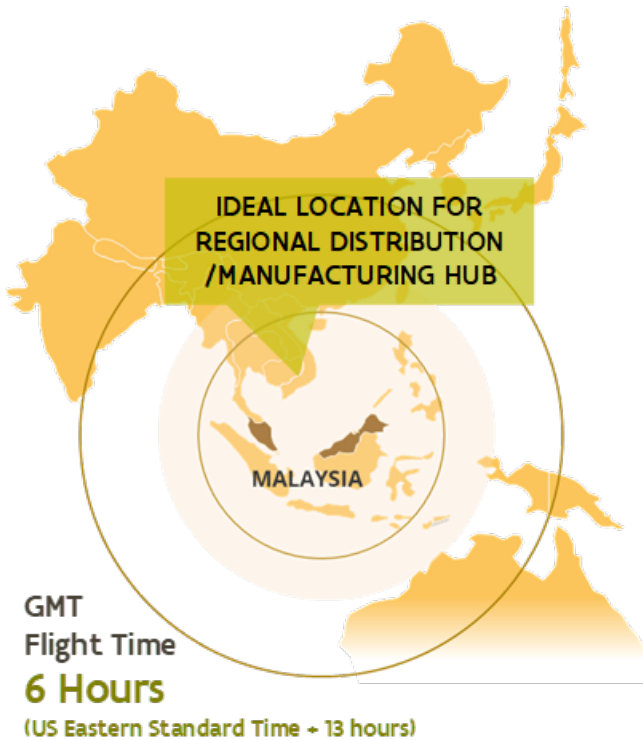


Figure 14: Malaysia As the Regional Export Gateway

Over the last decade, ASEAN has transformed itself into an economic superpower. According to Statista, in 2022, the estimated total GDP of all ASEAN states amounted to approximately US\$ 3.66 trillion (approx. € 3.42 trillion). **Malaysia**, Thailand, and Indonesia are the three most appealing ASEAN nations to foreign exporters. They account for more than half of the ASEAN bloc's population and more than 60% of its GDP, providing excellent prospects for exporters targeting the mid-market segment.

Malaysia is a forward-thinking, visionary country. It provides exporters with strategic access to 650 million people in the ASEAN region, supported by its strategic location, business-friendly environment and solid infrastructure. As a result, many foreign companies have established their export hubs in Malaysia to serve the regional markets.

## 7.3 REGULATORY FRAMEWORK

KEY AGENCIES/MINISTRIES	KEY POLICIES/REGULATIONS	RELEVANT SECTORS
Department of Environment (DOE) under Ministry of Environment and Water (KASA)	Environmental Quality Act 1974 – <i>Environment and Health Risk Assessments and Environment Hazardous Substances</i>	Hazardous waste (Scheduled waste)
Department of Occupational Safety and Health (DOSH) under Ministry of Human Resources (MOHR)	Occupational Safety and Health Act 1994 – <i>Classification, Labelling and Safety Data Sheet of Hazardous Chemicals Regulation 2013 (CLASS 2013)</i> – <i>Control of Industrial Major Accident Hazards Regulations 1996 (CIMAHS Regulation)</i> – <i>Prohibition of Use of Substance (Order 1999)</i> – <i>Use and Standards of Exposure of Chemical Hazardous to Health Regulation 2000 (USECHH Regulation)</i>	Hazardous substances Industrial chemical
	Factories and Machinery Act 1967	Factories and machinery
Department of Agriculture (Pesticide Board) under Ministry of Agriculture and Food Industries (MAFI)	Pesticide Act 1974 – <i>Pesticides Registration and Information System</i>	Agriculture (Pesticides)
Ministry of Health (MOH)	Poisons Act 1952	Poison
	Dangerous Drugs Act 1952	Drug
Ministry of International Trade and Industry (MITI)	Industrial Coordination Act 1975 (Act 156) – <i>Issue Manufacturing License</i> Petroleum Development Act (PDA) 1974 – <i>Issue PDA Approval: Permits for the refining of crude petroleum, processing of natural gas &amp; manufacturing of petroleum and petrochemical products</i>	Petroleum or Petrochemicals products
Ministry of Domestic Trade and Consumer Affairs (MDTCA)	Consumer Protection Act 1999 – <i>Regarding safety issues, not chemical content</i> Petroleum Development Act (PDA) 1974 – <i>Marketing or distribution of petroleum or petrochemical products</i>	Consumer Products Petroleum or Petrochemical products
Petroleum Nasional Berhad (PETRONAS)	Petroleum Development Act 1974 (Act 144)	O&G activities
Royal Malaysian Customs Department	Customs Duties Order 2022	All products (Import/Export)
National Authority Chemical Weapons Convention (NACWC), Ministry of Foreign Affairs	Chemical Weapons Convention (CWC) Act 2005	Schedule I Chemicals

Table 7: Key Policies and Regulations Related to Malaysia's Chemical and Chemical Products Industry

### 7.3.1 Regulations in the O&G Industry

The O&G value chain is divided into two segments:

- Upstream: Exploration, development and production of hydrocarbon resources.
- Downstream: Refine crude oil and gas processing into various marketable products, marketing, trading and distributing end products to consumers.

Petroleum Development Act 1974 is the primary legislation governing the O&G industry in Malaysia. There are 4 key agencies/companies:

VALUE CHAIN	UPSTREAM	DOWNSTREAM		
<b>ACTIVITY</b>	Exploration, development, production	Processing of natural gas, refining of crude petroleum, manufacturing of petrochemical products	Marketing, trading, and distribution of petroleum products	Supply of gas to customers through pipelines
<b>REGULATOR</b>	Petroleum Nasional Berhad (PETRONAS)	Malaysian International Trade & Industry (MITI)	Ministry of Domestic Trade and Consumer Affairs (MDTCA)	Energy Commission (EC)

Table 8: Key Agencies in Malaysia's O&G Value Chain

Source: Malaysia Productivity Corporation (MPC), 2016

- **Application Type**

**Petroleum Nasional Berhad (PETRONAS)** is the regulator for the O&G activities in Malaysia.

LICENSE	REGISTRATION
<p>A company with a valid license from PETRONAS is allowed to supply goods/services to both upstream and downstream sectors of the O&amp;G industry in Malaysia.</p> <p>Examples of clients are: <i>Petroleum Arrangement Contractors (PACs), PETRONAS subsidiaries, Offshore Fabrication Contractors, MISC and others.</i></p>	<p>A company with valid registration with PETRONAS is allowed to supply goods/services to the downstream sector of the O&amp;G industry, serving PETRONAS subsidiaries only.</p> <p>Examples of clients are: <i>PETRONAS subsidiaries such as PETRONAS Chemicals Group, PETRONAS Gas Berhad, PETRONAS Dagangan Berhad.</i></p>

- License Applications Involving Foreign Companies

<p>1. Appointing a local company as an agent</p> <pre> graph TD     FC[Foreign Co.] --&gt; ABC[ABC Sdn. Bhd.]     ABC -- "Licensed/registered with" --&gt; PETRONAS             </pre>	<p>In appointing a local agent, foreign companies are encouraged to select local agents from the existing PETRONAS licensed/registered vendors to ensure that PETRONAS License and Registration requirements are fully met.</p>
<p>2. Joint-Venture with a local partner</p> <pre> graph TD     FC[Foreign Co.] --- Plus[+]     Plus --- ABC[ABC Sdn. Bhd.]     Plus --&gt; DEF[DEF Sdn. Bhd.]     DEF -- "Licensed/registered with" --&gt; PETRONAS             </pre>	<p>In appointing a local JV partner or opening a local branch, foreign companies must comply with the requirements stipulated in the General Guidelines and apply for License and Registration via Petronas Licensing Management System (PLMS).</p>
<p>3. By opening a local branch in Malaysia</p>	

### 7.3.2 Regulations in the Chemicals & Chemical Products Industry

Chemical Weapons Convention (CWC) Act 2005 regulates the usage of industrial chemicals listed as Scheduled Chemicals and Unscheduled Discrete Organic Chemicals (DOC). However, there are a few Scheduled Chemicals listed under the CWC Act 2005 which are under the purview of other agencies:

- *Arsenic Trichloride*: Pharmaceutical Services Division, Ministry of Health
- *Amiton, Hydrogen Cyanide and Chloropicrin*: Pesticide Board, Ministry of Agriculture

SCHEDULE	DESCRIPTION	EXAMPLE	AGENCIES THAT AUTHORISE/ISSUE IMPORT/EXPORT PERMIT
SCHEDULE 1	<ul style="list-style-type: none"> <li>- Very toxic chemicals</li> <li>- Little or no use for permitted purposes</li> </ul>	Sarin, Soman, Tabun, VS, Lewisite, Mustard Gas, Nitrogen Mustard, Saxitocin, Ricin	<ul style="list-style-type: none"> <li>- National Authority Chemical Weapons Convention (NACWC)</li> <li>- Ministry of International Trade and Industry (MITI)</li> </ul>
SCHEDULE 2	<ul style="list-style-type: none"> <li>- Poses significant risk/potential to become CW</li> <li>- It is not produced in large commercial quantities</li> </ul>	BZ, Thiodiglycol, Pinacolyl Alcohol	Ministry of International Trade and Industry (MITI)
SCHEDULE 3	<ul style="list-style-type: none"> <li>- It may be produced in large commercial quantities</li> </ul>	Phosgene, Triethanolamine, Phosphorus Trichloride	
UNSCHEDULED DISCRETE ORGANIC CHEMICALS (DOC)	<ul style="list-style-type: none"> <li>- Containing the elements phosphorus, Sulphur and fluorine (PSF)</li> <li>- Focus on plant capabilities</li> </ul>		National Authority Chemical Weapons Convention

Table 9: Schedules Chemicals Under the Chemical Weapons Convention (CWC) Act 2005

Source: [Schedules Chemicals under CWC 2005](#)

#### • CLASS Regulations 2013

The Classification, Labelling and Safety Data Sheet of Hazardous Chemicals Regulations 2013 (CLASS Regulations 2013) regulates handling hazardous chemicals via the Global Harmonised System. CLASS Regulations 2013 require chemical manufacturers, importers, formulators and distributors to classify, label and package chemicals and compile safety data sheets according to the Industry Code of Practice.



Figure 15: Hazard Pictogram

Source: Department of Occupational Safety and Health

#### • Non-Hazardous Chemicals

The Department of Occupational Safety and Health (DOSH) states that chemicals not classified under CLASS Regulations 2013 are not required to follow the packing and labelling SDS and inventory requirements. However, the importer is responsible for keeping the classification record of imported goods. Therefore, the company needs to appoint a freight forwarding agent who will act on behalf of the importers and exporters to handle the transport of goods.

#### • Fertilisers

The Department of Malaysian Quarantine and Inspection Services (MAQIS) is the authority under the Malaysian Quarantine and Inspection Services Act 2011 (Act 728) for the issuance of the Import Permit (IP) for the importation of plant, plant products and regulated articles into Peninsular Malaysia and Federal Territories of Labuan. In addition, the importation of plants, plant products and regulated articles to Sabah and Sarawak is subjected to an import permit under Plant Quarantine Act 1976 (Act

167) and Plant Quarantine Regulation 1981, administered by the Department of Agriculture, Sabah and Department of Agriculture, Sarawak respectively.

## 7.4 TARIFF INFORMATION

The Royal Malaysian Customs Department (RMCD) is the government agency responsible for administrating its indirect tax policy, border enforcement and narcotics offences.

Harmonised Commodity Description & Coding System (HS Codes) was created and used by the Royal Malaysian Customs Department to classify commodities when they are being declared at the custom frontiers of exporters and importers for trade with non-ASEAN countries. Moreover, the requirement for a Health Certificate, Certificate of Analysis, Import and Export Permit/License, labelling other relevant licenses/permits/regulations, and import processes vary based on product types. In addition, designated government agencies are responsible for licenses/permits issuance for different industries.

For trade information reference, kindly log on to [JKDM HS Explorer](#). Malaysia does not have an FTA with Belgium; thus, tariff information should refer to the Customs Duties Order 2022 (PDK 2022).

[Access2Markets Portal](#) is also helpful for importers/exporters in finding trade information. FIT Malaysia can also assist you in finding trade information. Please do not hesitate to contact us via the [FIT Official Portal](#) or by [email/phone](#).

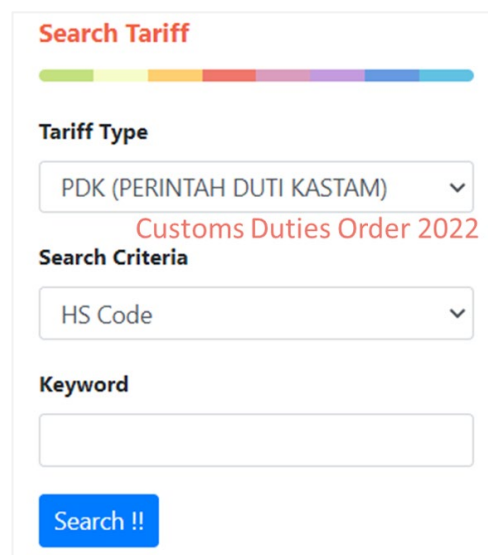


Figure 16: Guideline on How to Use JKDM HS Explorer

## 7.5 IMPORT REGULATIONS

### • Import License

Import licensing is an administrative procedure requiring the importer to submit an application or other documentation (other than those required for customs purposes) to the relevant administrative body as a prior condition for importing goods.

Import licenses are classified into 2 categories:

- **Automatic Import Licensing:** Import licensing procedures where the approval of the application is granted in all cases. The objective is to collect statistical and other factual information on imports.
- **Non-Automatic Import Licensing:** Non-automatic import licensing procedures are used, among others, to administer Quantitative Restrictions and Tariff Rate Quotas justified within the WTO Agreement.

### • Crucial Documents for the Clearance of Imports

- Declaration of Goods Imported (Customs No.1)
- Bill of Lading or Air Waybill
- Invoice
- Packing List
- Import License (if applicable)
- Certificates of Origin (if applicable)
- Other relevant documents such as catalogue, product ingredients, etc





• **Overview of Typical Import By Sea Process Flow**

The flow chart below shows the general guidelines for import by sea in Malaysia:

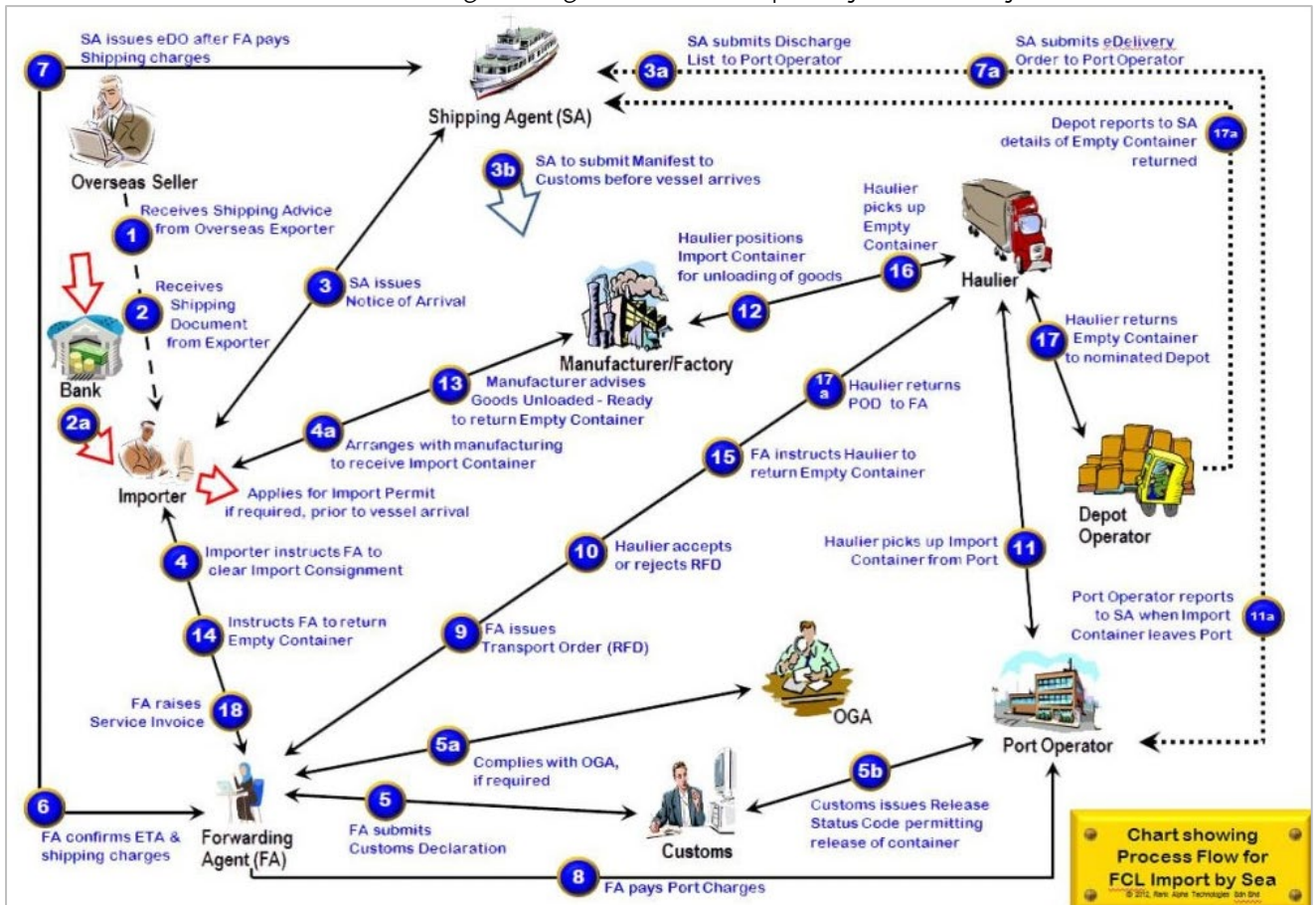


Figure 17: Overview of A Typical Import By Sea Process Flow

Source: SMEinfo Portal

## 8. LIST OF TRADE EVENTS

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Below trade event details are subject to changes from time to time. Flemish companies are advised to contact **Flanders Investment & Trade Malaysia** for a comprehensive list of trade events with up-to-date information. Please do not hesitate to contact us via the [Flanders Investment & Trade Official Portal](#) or by [email/phone](#).

### 8.1 OIL AND GAS ASIA (OGA)

**Profile:** OGA presents an ideal ground for the O&G stakeholders to meet critical decision-makers from national and international oil companies and attain current and relevant information on the industry's trends, technology, and solutions. It highlights Malaysia and its potential in the Oil, Gas and Energy (OGE) sector to strengthen its position as a powerful O&G nation, especially in the Asian region.



Website: <https://www.oilandgas-asia.com/>

### 8.2 AGRI MALAYSIA

**Profile:** Agri Malaysia is the annual Malaysia International Agriculture Technology Exhibition. Agri Malaysia will be at the forefront of Malaysia's industrial revolution, offering a unique breadth of insight, discussion, and networking opportunities connecting business, strategy, and technical leadership across the elements of the agriculture sector and its related value chain.



Website: <https://agrimalaysia.com/>

### 8.3 INTERNATIONAL CONFERENCE ON CHEMICAL AND PROCESS PLANT ENGINEERING (ICCPE)

**Profile:** ICCPE was started in 2017 by gathering researchers and engineers from several countries. This conference is an excellent platform for networking, information exchange, intellectual discourses and collaborations among the delegates in realising IR4.0.



Website: <http://ic-cpe.org/>

## 9. FLANDERS INVESTMENT & TRADE MALAYSIA: CONTACT

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We hope this report has provided a good overview of the Malaysian Chemicals & Petrochemicals Industry.

On top of this market information, Flanders Investment & Trade also offer more tailored services to assist the Flemish companies in entering the Malaysian market or even utilising Malaysia as a gateway to tackle the ASEAN market:

- Basic market information on the subsector you are working in (e.g. competitive environment, tariff information, trade regulations ...);
- List of addresses and contact information of potential partners and customers in Malaysia (distributors, importers, manufacturers...);
- Preparing an individual tailor-made B2B program for your company.

Please do not hesitate to contact us via the [Flanders Investment & Trade Portal](#) or by [email/phone](#) for more information.



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