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सत्यमेव जयते

Azadi Ka Amrit Mahotsav

CHEMICAL AND PETROCHEMICAL STATISTICS AT A GLANCE - 2022

Government of India
Ministry of Chemicals and Fertilizers
Department of Chemicals and Petrochemicals
Statistics and Monitoring Division
New Delhi
Website: www.chemicals.gov.in

" जीतने वाले किसी अवसर का इन्तजार
नहीं करते, वे जीत के अवसर बनाते हैं।"

– स्वामी विवेकानन्द

"Be the change that you wish to
see in the world."

- Mahatma Gandhi

"Accept your past without regret,
handle your present with confidence,
and face you future without fear."

- Dr. A.P.J. Abdul Kalam

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Amrit Mahotsav

डॉ. मनसुख मांडविया
DR. MANSUKH MANDAVIYA

सत्यमेव जयते

आज़ादी का अमृत महोत्सव

मंत्री
स्वास्थ्य एवं परिवार कल्याण
व रसायन एवं उर्वरक
भारत सरकार
Minister
Health & Family Welfare
and Chemicals & Fertilizers
Government of India

MESSAGE

Department of Chemicals and Petrochemicals under the Ministry of Chemicals and Fertilizers is responsible to formulate and implement policy and programmes for achieving growth and development of the chemical and petrochemical sectors in the country. This sector is indeed a crucial sector in the Indian economy, with a significant contribution to the manufacturing output and employment. It has linkages with several downstream industries such as automotive, agriculture, consumer durables, engineering, food processing and many more.

I express my appreciation for efforts of the Department in releasing the **"Chemicals and Petrochemicals Statistics at a Glance 2022"** publication. This resource publication will be an invaluable tool to support chemical and petrochemical sector. I hope this publication will be useful for all stakeholders including policy makers, data users, academicians and business community associated for the development of chemical sector in the country.

I wish you all the best for future endeavors.

(Dr. Mansukh Mandaviya)

6th June 2023

कार्यालय: 348, ए-स्कंध, निर्माण भवन, नई दिल्ली - 110011 • **Office:** 348, A-Wing, Nirman Bhawan, New Delhi - 110011
Tele.: (O): +91-11-23061661, 23063513 • **Telefax** : 23062358 • E-mail : india-hfm@gov.in

भगवंत खुबा
ಭಗವಂತ ಖೂಬಾ
BHAGWANTH KHUBA

सत्यमेव जयते

रसायन एवं उर्वरक एवं
नवीन एवं नवीकरणीय ऊर्जा राज्य मंत्री
भारत सरकार
Minister of State
Chemicals & Fertilizers and
New & Renewable Energy
Government of India

Date: 25.05.2023

MESSAGE

It's exciting to hear about the Department of Chemicals and Petrochemicals' commitment to serving the Chemical and Petrochemical sector in India. The efforts to create a more conducive atmosphere for the industry are crucial for achieving higher and sustainable growth in the sector. I applaud the Department's dedication towards fulfilling Hon'ble Prime Minister's dream of an Atmanirbhar Bharat for a better tomorrow. The Chemical and Petrochemical sector's potential for trade and investment is immense, and its growth can significantly contribute to achieve the vision of a USD 5 trillion economy. I believe that the Department's efforts in promoting the sector will undoubtedly bring many positive benefits to the country and help drive economic growth.

2. I congratulate Department of Chemicals & Petrochemicals on the release of **'Chemical & Petrochemical Statistics at a Glance-2022'** publication. I appreciate the efforts made by the Department in providing detailed statistics and analysis on key indicators of the chemical sector. The publication will undoubtedly be an essential resource for various stakeholders, including policy makers, data users, academicians, and the chemical business community. It will provide valuable insights into the sector's performance and its contribution to the Indian economy.

3. I wish the Department all the best in its endeavors towards the growth and development of the Chemical and Petrochemical sector in India. Further, I appreciate the hard work done by the Department in bringing out the said publication.

Congratulations to all.

(Bhagwanth Khuba)

Chemicals & Fertilizers : Room No. 315, 'A'-Wing Shastri Bhawan, New Delhi-110001 Tel : 011- 23382364, 23383686, 23381768
Fax : 011-23381713, E-mail : mos-mocf@nic.in
New & Renewable Energy : Room No. 202, IInd Floor, 14 Block, CGO Complex, New Delhi - 110003, Tel. : 011-24360359

अरूण बरोका, भा.प्र.से.
ARUN BAROKA, IAS

सचिव
भारत सरकार
रसायन और उर्वरक मंत्रालय
रसायन और पेट्रोरसायन विभाग
Secretary
Government of India
Ministry of Chemicals & Fertilizers
Department of Chemicals & Petrochemicals

29th May, 2023

MESSAGE

The 'Chemical & Petrochemical Statistics at a Glance' - an annual publication by the Department is a reliable source of information to gauge the performance of the chemical and petrochemical sector in the country, which is a very important sector for the economy of India - providing building blocks for the manufacturing sector and also has immense potential for the economy.

2. I am glad to mention that the 'Chemical & Petrochemical Statistics at a Glance-2022' publication by the Statistics and Monitoring Division of the Department includes statistical analysis on various key indicators of the chemical sector. The publication's data and analysis will also be useful in tracking the progress made in the industry and identifying areas where further improvements are needed.

3. I appreciate the work done by the Statistics and Monitoring Division in bringing out this year's publication of 'Chemical & Petrochemical Statistics at a Glance-2022.' The comprehensive publication has been possible due to their hard work and dedication towards gathering and analyzing data from various sources.

My best wishes to all.

(Arun Baroka)

कक्ष संख्या 501, 'ए' विंग, शास्त्री भवन, डॉ राजेन्द्र प्रसाद रोड़, नई दिल्ली – 110 001
Room No. 501, 'A' Wing, Shastri Bhavan, Dr. Rajendra Prasad Road, New Delhi - 110 001
दूरभाष / Tel.: 011-23384196, 23382467, फैक्स / Fax : 011-23387892, ई–मेल / E-mail : sec.cpc@nic.in
Department Website : www.chemicals.gov.in

गंगा कुमार
उप महानिदेशक
Ganga Kumar
Dy. Director General
Tel. : 011-23387761
E-mail : kumar.ganga@nic.in

भारत सरकार
रसायन और उर्वरक मंत्रालय
रसायन और पेट्रोरसायन विभाग
Government of India
Ministry of Chemicals & Fertilizers
Department of Chemicals & Petrochemicals

1st June, 2023

Preface

Statistics & Monitoring (S&M) Division of the Department of Chemicals and Petrochemicals is actively engaged in the collection, compilation, and management of statistical data on Major Chemicals & Petrochemicals from different manufacturing units of the country. The publication of "Chemical & Petrochemical Statistics at a Glance-2022" will provide extensive and updated information on various aspects of the chemical sector, including group and product-wise trends on installed capacity, production, consumption, trade across various countries, and other important economic indicators such as the Index of Industrial Production (IIP), Wholesale Price Index, and GVA, etc.. Having a reliable and up-to-date source of information is crucial for policy-makers, data users, and stakeholders associated with the chemical sector. This publication will serve as a valuable resource for those seeking to gain insights into the sector's performance, identify growth opportunities, and formulate strategies for sustainable growth.

2. It is appreciable that various ministries/departments/organizations viz. M/o Statistics & PI , M/o Commerce & Industry, M/o P&NG , DGFT , DGCI&S and DIPP, etc. have extended their support by providing updated inputs for this publication. This publication will undoubtedly provide valuable insights and information to all the stakeholders associated with the chemical and petrochemical sector. Their work is essential in promoting transparency, accuracy, and consistency in the data used for decision-making and policy formulation.

3. I commend the team's efforts of S & M Division of the Department namely Shri Ram Sajeevan, Director; Shri Patil Naresh Dnyaneshwar, Research Officer; Shri Devendra Kumar Singh, Sr. Statistical Officer; Shri Jayant Raushan, Consultant (Chemicals); Shri Kamal Upreti, Project Manager, PMU; Shri Rakesh Kumar, Jr. Statistical Officer and Shri Ankur Debnath, Jr. Statistical Officer in presenting the statistical information in a user-friendly format, making it easily accessible to all stakeholders, including policymakers, investors, researchers, and the industry. I wish them continued success in their efforts towards providing valuable statistical information to all stakeholders. This publication is also being released on the Department's website at https://www.chemicals.gov.in/reports.

4. I hope that the Department will continue to get feedback and try towards improving the publication's quality and relevance.

(Ganga Kumar)

कमरा नं. 419–सी, चतुर्थ तल, सी विंग, शास्त्री भवन, नई दिल्ली – 110 001
Room No. 419-C, 4th Floor, C Wing, Shastri Bhawan, New Delhi-110001

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Introduction

Chemical and Petrochemical Sector is one of the pioneering sector having an impact on day to day needs of the society. Chemical Industry is playing a vital role in addressing our basic needs in the fields of food and water security, shelter, clothing and textiles, health care, information, communication and entertainment. In order to boost domestic production capacities as a part of Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIRs) policy, a perspective planning for the chemical and petrochemical industry has been initiated to study demand supply scenario keeping in view the existing and under execution capacities. This will help to realize India's vision of becoming self-reliant and provide substantial employment to the youth in the Chemical Sector. The share of Gross Value Added (GVA) in the Manufacturing Sector in the FY 2020-21 is about 9.88% at current prices. GVA of Chemical Sector has grown with CAGR of 6.67% during the FY 2015-16 to FY 2020-21.

2. Statistics and Monitoring (S&M) Division under the Department of Chemicals & Petrochemicals (DCPC) compiles statistics on monthly production data and installed capacity of selected chemicals and petrochemicals products from large and Medium Scale units. It also derives estimates of consumption of the chemicals products in the country. Data on Export and Import of Chemicals and Petrochemicals items are being maintained by the DCPC based on the data received from the Directorate General of Commercial Intelligence and Statistics (DGCIS), Ministry of Commerce and Industry.

3. This publication consists seven chapters, namely,

- Chapter-1: An Overview of Chemical and Petrochemical Sector;
- Chapter-2: Global Scenario;
- Chapter-3: Important Economic Indicators;
- Chapter-4: India Trade Classification (Harmonized System) [ITC (HS)]-2017-An Abstract;
- Chapter-5: National Industrial Classification (NIC)-A Digest;
- Chapter-6: Indices Released by Government of India;
- Chapter-7: Glimpses of Important Trends during FY 2016-17 to FY 2020-21.

Chapter-1 besides defining Basic Chemicals, Specialty Chemicals & Agro-chemicals, also presents the latest status of Chemical Sector in India. Chapter-2 presents the status of Indian Chemical Sector vis-a-vis other countries of the world. Chapter-3 provides important statistics like GVA, Index of Industrial Production, Export and Import of Chemical sector. Chapter-6 describes important indices like Index of Industrial Production (IIP), Consumer Price Index (CPI) & Wholesale Price Index (WPI). Chapter-7 provides graphical presentation of trends for the FY 2017-18 to FY 2021-22 on Production, Installed Capacity, Import and Export for various groups under Major Chemicals and Major Petrochemicals along with brief analysis. At the end of the Appendices Section, Statistical tables presenting information inter-alia on Production, Installed Capacity, Capacity Utilization, Imports / Exports along with their growth rates during the FY 2014-15 to FY 2021-22 have also been provided. Detailed

table on Foreign Trade, FDI, IIP, WPI etc. related to Chemical and Petrochemical Sector have been included in the Appendices Section.

4. The production of Selected Major Chemicals and selected Major Petrochemicals for each Group is generally found to be growing consistently over the years. The annual growth of production during FY 2021-22 over previous year was increased by 13.34% with CAGR of 4.04% over a period of 8 years, in case of Major Chemicals. The annual growth of Basic Major Petrochemicals was increased by 7.99% over preceding year with CAGR of 5.35% during the same period.

5. Installed Capacity utilization of basic Major Chemicals was 78.8% in the FY 2021-22 as against 71.8% in the FY 2020-21 while it was around 90.5% as against 83.6% in case of Basic Major Petrochemicals over last year. The utilization of installed capacity was around 66.8% - 83.0% for the Inorganic Chemicals and Alkali Chemicals. The utilization of installed capacity was 114.8% for the Synthetic Detergent Intermediates. Whereas, it was 90.1%, 97.3%, 95.7% and 56.0% for Synthetic Fibres/Yarn, Polymers, Synthetic Rubber and Performance Plastics respectively during the FY 2021-22.

6. Among Selected Major Chemicals, there was a substantial import of Inorganic Chemicals and Organic Chemicals into the country during the FY 2021-22. Amongst Inorganic Chemicals, three products, namely, Carbon Black (Rs.1,559/- crore), Calcium Carbonate (Rs.1,035/-crore) and Aluminium Fluoride (Rs.529/- crore) had been imported worth more than Rs.3,100/- crores. (Table 17). Amongst Organic Chemicals, seven products, namely, Acetic Acid (Rs.7,788/- crore), Methanol (Rs.7,432/- crore), Phenol (Rs.2,102/- crore), Aniline (Rs.1,132/- crore), Maleic Anhydride (Rs.1,077/- crore), Citric Acid (Rs.1006/- crore) and Acetone (Rs.828/- crore) had approximately worth Rs.21, 300/- crore of imports into the country (Table 17).

7. Amongst Selected Basic Major Petrochemicals, substantial import was seen for Polymers, Synthetic Rubber and Synthetic Fibres/Yarn into the country during the FY 2020-21. Amongst Polymers, three products, namely, Polypropylene (Inc. Co-Polymer) (Rs.12,909/-crore), High Density Polyethylene (Rs.8,631/-crore) and Poly Vinyl Chloride (Rs.5,081/-crore) had import of approximately Rs.26,600/-crore (Table 25). Amongst Synthetic Rubber, four products, namely, Ethyl Vinyl Acetate (Rs.3,839/-crore), Styrene Butadiene Rubber (SBR) (Rs.2,565/-crore), Poly Butadiene Rubber (Rs.1,672/-crore) and Butyl Rubber (Rs.1,561/-crore), was imported of approximately worth Rs.9,600/-crore into the country (Table 25).

8. The trade deficit during the FY 2021-22 (i.e. net import) in Chemicals and Petrochemicals Sector (comprising chapters 28, 29, 32, 38, 39, 4002, 54 and 55 of HS code) was Rs.1,75,518/- crore as per information on DGCIS portal (Table 12 A). The trade deficit of selected Major Chemicals and Petrochemical Products was around Rs.32,305/-crore as per figures received from DGCIS, Kolkata (Tables 15 & 23). The export / import monitored by DCPC are basically intermediate in nature.

9. In respect of Major Chemicals at group level, it is observed that Organic Chemicals and Inorganic Chemicals were in trade deficit, whereas Alkali Chemicals, Pesticides (Technical Grade and formulation both) and Dyes & Pigments were trade surplus, during the FY 2021-22 (Table 18). However, in respect of Major Petrochemicals at group level Fibre Intermediates, Polymers, Synthetic Rubber, Synthetic Detergent Intermediates, Performance Plastics and Other Petro-based Chemicals were in trade deficit, whereas Synthetic Fibre, Aromatics and Olefins were in trade surplus during the same period (Table 26). This aggregates to overall trade surplus in Major Chemicals and overall trade deficit in Major Petrochemicals which resulted into net trade deficit for Chemicals and Petrochemicals sector.

Acronyms

AF	Acrylic Fibre (including Dry Spun)
ASI	Annual Survey of Industries
ACN	Acrylonitrile
CAGR	Compound Annual Growth Rate
CEFIC	European Chemical Industry Council
NSO	National Statistical Office
CSO	Central Statistics Office
CPI	Consumer Price Index
DGCIS	Directorate General of Commercial Intelligence & Statistics
DPIIT	Department for Promotion of Industry and Internal Trade
DMT	Dimethyl Terephthalate
EO	Ethylene Oxide
EPDM	Ethyl Propylene Dimers
EVA	Ethyl Vinyl Acetate
EX-PS	Expandable Polystyrene
FDI	Foreign Direct Investment
FY	Financial Year
GVA	Gross Value Added
HBR	Halo Butyl Rubber
HDPE	High Density Polyethylene
IIP	Index of Industrial Production
IIR	Iso Butylene Isoprene Rubber
ISIC	International Standard Industrial Classification

ITC (HS)	Indian Trade Classification (Harmonized System)
KTPA	Thousand Tons Per Annum
LAB	Linear Alkyl Benzene
LDPE	Low Density Polyethylene
LLDPE	Linear Low Density Polyethylene
MEG	Mono Ethylene Glycol
MEK	Methyl Ethyl Ketone
MMA	Methyl Methacrylate
MMSCM	Million Metric Standard Cubic Meters
MoSPI	Ministry of Statistics and Programme Implementation
MT	Metric Tons
NBR	Nitrile Butadiene Rubber
NFY	Nylon Filament Yarn
NIC	National Industrial Classification
NIY	Nylon Industrial Yarn
ONCB	Ortho Nitro Chloro Benzene
PAN	Phthalic Anhydride
PBR	Poly Butadiene Rubber
PBT	Polybutylene Terephthalate
PET	Polyethylene terephthalate
PIB	Poly Isobutylene
PFY	Polyester Filament Yarn
PG	Propylene Glycol
PMMA	Polymethyl Methacrylate
PNCB	Para Nitro Chloro Benzene
PO	Propylene Oxide
PP	Polypropylene
PPFY	Polypropylene Filament Yarn
PPSF	Polypropylene Staple Fibre

PS	Poly Styrene
PSF	Polyester Staple Fibre
PSFF	Polyester Staple Fibre Filament
PTA	Purified Terephthalic Acid
PVC	Poly Vinyl Chloride
SAN	Styrene Acrylonitrile
SBR	Styrene Butadiene Rubber
UNSC	United Nations Statistical Commission
VAM	Vinyl Acetate Monomer
WPI	Wholesale Price Index
CAS	Chemical Abstracts Service

Coverage

Major Chemicals			
S. No.	**Group**	**Products**	
I	**Alkali Chemicals**	Soda Ash	Caustic Soda
		Liquid Chlorine	
II	**Inorganic Chemicals**	Aluminium Fluoride	Calcium Carbide
		Carbon Black	Potassium Chlorate
		Sodium Chlorate	Titanium Dioxide
		Red Phosphorous	Hydrogen Peroxide
		Calcium Carbonate	
III	**Organic Chemicals**	Acetic Acid	Acetic Anhydride
		Acetone	Phenol
		Methanol	Formaldehyde
		Nitrobenzene	Citric Acid
		Maleic Anhydride	Pentaerythritol
		Aniline	Chloromethane
		ONCB	PNCB
		MEK	Acetaldehyde
		Ethanol amines	Ethyl Acetate
		Menthol	Ortho-Nitro Toluene
		Isobutyl Benzene	
IV	**Pesticides (Technical Grade)**	D.D.T.	Malathion
		Parathion(Methyl)	Dimethoate
		D.D.V.P.	Quinalphos
		Monocrotophos	Phosphamidon
		Phorate	Ethion
		Endosulfan	Fenvalerate
		Cypermethrin	Anilophos
		Acephate	Chlorpyrifos
		Phosalone	Metasystox
		Temephos	Fenthion
		Triazophos	Lindane
		Temephos	Deltamethrin
		Alphamethrin	Profenofos Technical
		Pretilachlor Technical	Lambda Cyhalothrin
		Phenthoate	Permethrin Tech
		Imidacaloprid Tech	Captan & Captafol
		Ziram (Thio Barbamate)	Carbendazim (Bavistin)
		Calixin	Mancozeb
		Copper-Oxychloride	Hexaconazole

S. No.	Group	Products	
		Metconazole	2, 4-D (2,4- Dichlorophe noxyacetic acid)
		Butachlor	Ethofumesate Technical
		Thiamethoxam Technical	Pendimethalin
		Metribuzin	Triclopyr Acid Tech
		Isoproturon	Basalin
		Glyphosate	Paraquat
		Diuron	Atrazin
		Fluchloralin	Zinc Phosphide
		Aluminium Phosphide	Methyl Bromide
		Dicofol	
V	**Dyes and Pigments**	Acid Direct Dyes (other than AZO)	Azo Dyes
		Basic Dyes	Disperse Dyes
		Oil soluble (Solvent Dyes)	Fast Colour Bases
		Ingrain Dyes	Solubilised Vat Dyes
		Optical Whitening Agents	Organic Pigments
		Inorganic Pigments	Pigment Emulsion
		Reactive Dyes	Sulphur Dyes
		Vat Dyes	Food Colours
		Naphthols	Other Dyes

Major Petrochemicals			
A. Basic Major Petrochemicals			
S. No.	**Group**	**Products**	
I	**Synthetic Fibres**	Acrylic Fibre	Polyester Staple Fibre Filament
		Nylon Filament Yarn	Nylon Industrial Yarn/Tyre Cord
		Polyester Filament Yarn	Polyester Staple Fibre
		Polypropylene Filament Yarn	Polypropylene Staple Fibre
		Polyster Industrial Yarn	Elastomeric/Spandex Filament Yarn
II	**Polymers**	Low Density Polyethylene	High Density Poly Ethylene
		Poly Styrene	Polypropylene (Inc. Co-Polymer)
		Expandable Poly Styrene	Poly Vinyl Chloride
		Linear Low Density Poly Ethylene	PVC Compound
III	**Synthetic Rubber El(astomers)**	Styrene Butadiene Rubber (SBR)	Poly Butadiene Rubber (PBR)
		Nitrile Butadiene Rubber (NBR)	Ethyl Propylene Dimers (EPDM)
		Ethyl Vinyl Acetate (EVA)	Butyl Rubber
IV	**Synthetic Detergent Intermediates**	Linear Alkyl Benzene (LAB)	Ethylene Oxide (EO)

S. No.	Group	Products	
V	**Performance Plastics**	Acrylonitrile Butadiene Styrene (ABS) Resin	Nylon-6
		Nylon 6,6	Poly Methyl Methacrylate (PMMA)
		Styrene Acrylonitrile (SAN) Resin	Polytetrafluoroethylene(PTFE)
		Polyester Chips/PET Chips	
B. Intermediates			
I.	**Fibre Intermediates**	Acrylonitrile	Caprolactum
		Mono Ethylene Glycol (MEG)	Dimethyl Terephthalate (DMT)
		Purified Terephthalic Acid (PTA)	
II.	**Building Blocks**	**(a) Olefins**	
		Ethylene	Propylene
		Butadiene	
		(b) Aromatics	
		Benzene	Toluene
		Ortho Xylene	Para Xylene
		Mixed Xylene	

C. Other Petro-based Chemicals		
Diethylene Glycol	Diacetone Alcohol	Ethylene Dichloride
Butanol	Oxo Alcohol	2-Ethyl Hexanol
Vinyl Chloride Monomer	Epichlohydrine	Iso Butylene
PET	PIB	Polycarbonate
Propylene Oxide	Propylene Glycol	Polyvinyl Acetate Resin
Unsaturated Polyster Resin	Methyl Methacrylate	Iso-Butanol
Ethyl Benzene	C4-Raffinate	Cellulose Acetate Butyrate
Polyacetal Resin	Phthalic Anhydride	Styrene
Vinyl Actate Monomer	Isopropanol	Polyol
Metaxylene	Methyl Isobutyl Ketone	PBT
Cellulose Acetate Sheet	Cellulose Nitrate Sheet	Melamine Moulding Powder

Data Sources & Definitions

The major sources of data presented in this publication are:	
(i) Production & Installed capacities	Production of Major Chemicals and Petrochemicals and their installed capacities have been aggregated based on monthly returns received from large and medium scale Chemicals & Petrochemicals Industries of the country.
(ii) Imports & Exports	Directorate General of Commercial Intelligence & Statistics (DGCIS) , Ministry of Commerce & Industry, Kolkata.
(iii) FDI	Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry, New Delhi.
(iv) IIP	National Statistical Office (NSO), Ministry of Statistics & Programme Implementation, New Delhi.
(v) WPI	Office of the Economic Adviser, Department for Promotion of Industry and Internal Trade, Ministry of Commerce & Industry, New Delhi.
(vi) Chemical Industry (Broad definition)	The chemical industry includes organic chemicals, inorganic chemicals, pharmaceuticals products, fertilizers, tanning or dyeing extracts, dyes pigments, paints and varnishes, putty and other mastics inks, essential oils, perfumery cosmetic, soap, organic surface, active agents, washing, lubricating, artificial waxes, dental waxes, polishing, albuminoidal substance, modified starches, glues, enzymes, explosive, pyrotechnic products, beverages, spirits and vinegar, matches, pyrophoric alloys, photographic or cinematographic goods, miscellaneous chemical products, petrochemicals, plastics synthetic, rubber, man-made filaments, man-made fibre.
(vii) Chemicals and Petrochemicals (Narrow definition)	The Chemicals and Petrochemical products monitored by the Department of Chemicals & Petrochemicals are selected major products and the list of these products is given in the tables 3 & 8 respectively. Unless contrary is mentioned, the terms 'Major Chemicals' and 'Major Petrochemicals' refer to the products or groups thereof as enumerated in the tables 3 & 8.

Chapter 1

Chapter 1

An Overview of Chemical and Petrochemical Sectors

The chemical industry is the backbone of industrial and agricultural development of the country and provides building blocks for several downstream industries, such as textiles, papers, paints, soaps, detergents, pharmaceuticals, varnish etc. It is one of the most diversified sector of all industrial sectors covering thousands of commercial products. Indian chemical industry comprises of both small scale as well as large scale units. With initiatives like "Make in India" programme gaining steam, investments, innovation and infrastructure are going to be the major thrust areas for chemical industry players. The current per capita consumption of chemical products in India is about 1/10 of the world average, indicating that the demand potential is yet to be realized. The industry is important as it has several linkages with other sectors of an economy. Petrochemicals have backward linkages with other industries in petroleum refining, natural gas processing and forward linkages with industries dealing variety of downstream products. Also, the industry offers alternatives, which serve as substitutes for natural products and therefore, it has the capacity to meet the constantly growing demand that would otherwise strain the natural resources. The value additions in the petrochemicals chain offer immense possibilities and cater to the need of textiles and clothing, agriculture, packaging, infrastructure, healthcare, furniture, automobiles, information technology, power, electronics and telecommunication, irrigation, drinking water, construction needs and host of other articles of daily and specialized usage, amidst other emerging areas.

2. In Chemicals sector, 100% FDI in India is allowed under the automatic route (except in the case of certain hazardous chemicals). Manufacture of most chemical products, inter-alia, covering organic/inorganic, dyestuffs & pesticides is de-licensed. The entrepreneurs need to submit only Industries Entrepreneur Memorandum (IEM) with the Department of Industrial Policy & Promotion provided location of the project falls outside standard urban area limits of metropolitan cities and municipal cities. However, the following items are still covered in the compulsory licensing list because of their hazardous nature as required by international conventions.

- Hydrocyanic acid & its derivatives
- Phosgene & its derivatives
- lsocynates & di - isocynates of hydrocarbons.

3. Chemicals can be broadly divided into the following sub-groups:-

i. Basic Chemicals

Chemicals, such as organic and inorganic chemicals, other chemical intermediates, dyes and pigments, printing inks, are basic chemicals. These are also known as commodity chemicals.

ii. Specialty Chemicals

Specialty Chemicals, also known as performance chemicals, are low-volume but high-value compounds. These

chemicals are derived from basic chemicals and are sold on the basis of their functions. For example, paints, adhesives, electronic chemicals, water management chemicals, oilfield chemicals, flavours and fragrances, rubber additives, paper additives, industrial cleaners and fine chemicals, sealants, coatings, catalysts etc. come under this category.

iii. Pesticides

Chemicals which essentially are meant for protecting agriculture crops against insects and pests are covered under this sub-group. Fertilizers and Pesticides played an important role in the "Green Revolution", during the 1960s and 1970s.

4. Petrochemical are broadly divided into Basic Petrochemical, Intermediates and Other Petro based Chemicals.

Synthetic fibres, Polymers, Synthetic rubber (elastomer), Synthetic detergent intermediates, and performance plastics are parts of basic petrochemicals; likewise, Fibre Intermediates, Olefins and Aromatics are part of Intermediates Petrochemicals. However, Olefins and Aromatics are being broadly classified as part of building blocks. Summary of Olefins and Aromatics may be seen as below:-

i. Olefins:

Olefin, also called as alkenes contains one or more pairs of carbon atoms linked by a double bond. Examples include ethylene, propylene and butadiene. Both ethylene and propylene are used in the industrial production of chemicals, plastics and plastics products while butadiene is used in the industrial production of synthetic rubber.

ii. Aromatics:

Aromatics are hydrocarbons derived from petroleum, characterized by a ring-like molecular structure. Examples include benzene, toluene, and xylene. Benzene is used in making dyes as well as in making synthetic detergents. A combination of benzene and toluene are used in making isocyanates which are required in making polyurethanes while xylenes are used in the industrial production of both plastics and synthetic fibres.

5. Growth Drivers for the Chemical Sector:

- A large population, huge domestic market, dependence on agriculture and strong export demand are the key growth drivers for this industry.
- A global shift towards Asia as the World's chemicals manufacturing hub.
- Per capita consumption of chemicals in India is lower compared to western countries, so immense scope for new investments.
- Rise in GDP and purchasing power generates huge growth potential for the domestic market.
- A focus on new segments such as specialty and knowledge chemicals.
- Availability of skilled science professionals.
- World-class engineering and strong R&D capabilities.

6. Research & Development (R&D)

The Chemical sector is highly heterogeneous encompassing many segments like organic, inorganics, dyestuffs, pesticides, paints, soaps and petrochemicals etc. R&D is critical and of paramount importance for the growth & development of this sector. Continued R&D efforts in the part of the industry helps to improve the quality standards, obtain higher yields resulting reduction in cost of production and to earn competitive edge in the International Market. Indian Chemical Industry spends on R&D to the extent of 2-3% of their total turnover, as against 9-10% by the multi-national companies in overseas countries. The industry would, therefore, have to make large investments in R&D to successfully counter competition from the international chemicals industry. India has a number of scientific institutions and the country's strength lies in its

large pool of highly trained scientific manpower. With the introduction of the Patent Act 2005, product innovation has assumed high importance.

7. Foreign Technology Agreements

Foreign Technology Agreements in India cater to the growth of the technology in the Indian industries. The foreign technology is transferred from foreign sources such as research and development agencies, foreign parent companies and other manufacturers to the Indian counterparts. The transfer of foreign technology takes place by the means of foreign direct investments and foreign technology collaboration agreements. Foreign Technology Agreements in India permit transfer of technology by the means of Government approval or through the automatic route delegated by the RBI.

8. The Chemical and Petrochemical Industries occupies a pivotal position in meeting some basic human needs and in improving the quality of life. It is extremely important to the economy and is an integral part of everyday life. India has a high population base and thus, faces formidable problems in providing sufficient food, medicines and adequate shelter. From a very modest level of 52 million MT in 1951-52, food grain production increased to about 315.7 million MT during FY 2021-22 in the country. The chemical industry provides the vital inputs required, chemical fertilizers and pesticides, to augment food production and save crops from attack by a variety of pests in a safe and selective way. The marked improvements in the average life expectancy of our countrymen can be at-least partially attributed to the Chemical Industry which has provided lifesaving drugs and other chemicals required for managing public health care. The problem of housing can be tackled effectively with the assistance of the Chemicals Industry. It plays a crucial role in housing development.

9. The Chemical Industry converts raw materials like water, salt, crude oil, natural gas, air, metals minerals, etc. into other valuable products. It is involved in almost every industrial process and therefore plays a significant role in economic and social development. Without Chemical Industry, there would be no electronics or microelectronics, refrigerators, recording tapes, automobiles, laser discs, super magnets, processed foods and virtually all consumer products etc. Even the power industry depends on the Chemical Industry for its operations. The use of chemicals (ion exchange resins) becomes indispensable for removing dissolved salts needs in boilers and other applications. In gold mining, cyanide solution is used for extracting gold. The crude oil refining process uses chemicals, catalysts, heat and pressure to separate and combine the basic types of hydrocarbon molecules naturally found in crude oil into groups of similar molecules. Apart from providing a variety of drugs for alleviation of human sufferings, the chemical industry provides safe anaesthetic agents and high quality artificial aids including a hip joint made from ultra-low molecular weight polyethylene. Other health products including dental fills, contact lenses and dialyses also depend on the Chemicals Industry.

10. Some of the most useful materials, synthetic polymers, also known as plastics, have transformed our lives in the last few decades. The driving force for this development was provided by the need for conservation of natural resources and energy efficiency and inherent advantages of the material which created possibilities of innovative designs and cost savings. Its usefulness, adaptability and flexibility of usage have led to a shift in manufacturing from the conventional material based products to synthetic products. The production of polymers has increased from 7.56 million tonne in the FY 2014-15 to 12.47 million ton in the FY 2021-22 (CAGR of 7.42%) while its consumption has increased from 10.39 million ton to 14.49 million ton during the same period. (Reference: Table: 6 of Section II)

11. Chemicals from petroleum may range from basic petrochemicals such as ethylene, propylene, benzene, xylenes to finished end-

products like plastics, rubbers, fibres, detergents, pesticides, dyes etc. These may be classified as (a) first generation, (b) second generation and (c) third generation petrochemicals.

First generation petrochemicals are chemicals directly available from basic inputs such as petroleum crude oil or natural gas, either by fractionation, isomerization, cracking etc. These can also be derived from coal gasification and bio mass. These generally represent the basic petrochemicals, which are the building blocks for various chemical syntheses. Examples of this class of chemicals are methane, ethane, propane, ethylene, propylene, toluene, xylenes etc.

Second generation petrochemicals are the derivatives of the first generation petrochemicals. Example of such products are styrene (derived from benzene and ethylene), dimethyl terephthalate or terephthalic acid (derived from p-xylene), acrylonitrile (derived from propylene), ethylene glycol (derived from ethylene), vinyl chloride monomer (derived from acetylene or ethylene) etc. Second generation petrochemicals constitute the intermediate chemicals which serve as the raw materials for consumer industries like plastics, rubbers, fibres, dyes, detergents etc.

Third Generation Petrochemicals are the consumer commodities derived generally from second generation petrochemicals and represent the most important commercial products such as plastics, rubbers, fibres, detergents etc. Examples are polystyrene (from vinyl chloride monomer), DDT from (chlorobenzene), azo dyes (from styrene), Polyvinyl chloride (from aniline) etc. However, some of the products may be directly synthesized from first generation petrochemicals. Polybutadiene rubber, for instance, is obtained by polymerizing butadiene. Since most of the plastics or rubbers are derived from second generation petrochemicals, polybutadiene rubber is regarded as a third generation petrochemical.[#]

12. Chemical sector is predominantly based on feedstock derived from crude oil, natural gas, salt and minerals. Naphtha (used for production of Urea, Aromatics and Olefins), Heavy Gas oil (propylene and ethylene) and Kerosene (Linear Alkyl Benzene) are derived from crude oil. Steam cracking/ Catalytic Reforming of low and high aromatic naphtha in oil refineries provide Olefins (Ethylene, Propylene and Butadiene) and Aromatics (benzene, toluene and xylenes). Natural gas contains Methane (CH4), Ethane (C2H6), Propane (C3H8) and Butane (C4H10). Rich natural gas, which contains C2 and C3 in extractable quantity, is used in producing Ethylene and Propylene. Methane is converted into synthesis gas. Synthesis gas is a mixture of carbon monoxide & hydrogen which is used to make ammonia & methanol. Ammonia is used to make Urea and Methanol is used to make acetic acid and derivatives. Consumption of naphtha in petrochemical sector has increased from 10011 thousand ton in the FY 2017-18 to 11904 (Provisional) thousand ton in the FY 2021-22. The consumption of natural gas for petrochemical sector has decreased from 4024 million standard cubic meter to 2864 million standard cubic meters during the same period. (Reference: Table- 42 of Section-VII).

13. Olefins and Fibre Intermediates (Acrylonitrile, Caprolactum, Mono Ehylene Glycol, Purified Terephthalic Acid, Dimethyl Terephthalate) form the basis of the petrochemical industries. Olefins and Aromatics are used in producing Fibre Intermediates. Salt is the feed stock for the chlor-alkali chemical industry, just as crude oil and Natural Gas for the petrochemical industry. Salt, Aromatics, Minerals (Limestone, Bauxite ore (Aluminium), Rock Phosphate, Sulphur, Iron ore, Indium ore (Tin), Chromite ore, Mica, Silca, Manganese ore, etc) and Basic metals (Copper, Zinc, Titanium, Aluminium, Iron, Chromium, Tin, Nickel, etc) form the basis of

[#]*Dr. G.N.Sarkar, Advanced Petrochemicals, First Edition, Khanna Publishers, New Delhi*

chemical industries producing Chlor-Alkali, Organic Chemicals, Inorganic Chemicals, Pesticides and Dyes & Pigments. Dyes are organic compounds and are mainly based on Benzene, Toluene, Naphthalene (from petroleum fractions and coke oven batteries of steel plants), Anthracene and Cyanuric Chloride. Pesticides are mainly based on Benzene, Naphthalene, Phosphorous (produced from phosphate rock) and Sulphur. Pharmaceuticals are mainly based on Benzene, Toluene and Xylene.

14. Innovations in additives, alloys, blends, compounds, composites and high grade reinforcement materials such as glass, nano-clays, carbon nano-tubes and carbon fibres require attention for technology development. New developments in the field of bio and photodegradable plastics, are also taking place all over the world. The chemical and petrochemical industries face the challenge to operate in an environmentally acceptable manner. Chemicals are globally tradable and unless chemicals produced in India are cost effective, these cannot contribute usefully to the Nation's economy. With an eye on emerging usages, research and development efforts may focus on the need to modernize and upgrade the existing manufacturing processes, improve the quality of existing products and make them safe for environment and human health.

15. According to the Annual Survey of Industries (ASI) 2019-20 (factory sector), 9.32 lakh persons were engaged in Chemicals and Chemical Products (Industry Division 20, NIC 2008), in organised sector in medium and large scale industries, whereas 1.66 crore persons engaged in all industries in the FY 2019-20.

Chapter 2

Chapter 2

Global Scenario

As per the The European Chemical Industry Council (CEFIC) Report 2023, the world chemicals (excluding pharmaceuticals) sales in 2021 are valued at €4,026 billion. India ranks 4th in Asia and 6th in world with chemicals sales valued at €104 billion in 2021. India's Capital spending in World Chemicals (excluding pharmaceuticals) is valued at €5.0 billion in 2021, as compared to €3.4 billion in 2011. India's R&I spending in the chemicals industry is valued at €1.7 billion in 2021, as compared to €1.1 billion in 2011. Top ten countries in World Chemical sales during 2021 are as under:

Rank	Country	Sales in 2021 (in € billion)
1	China	1729.3
2	EU27	593.7
3	USA	437.0
4	Japan	190.1
5	South Korea	133.0
6	**India**	**103.5**
7	Brazil	77.4
8	Taiwan	75.6
9	Russia	58.1
10	Saudi Arabia	57.6

Source: Cefic-Facts and Figures-2023

2. As per UN Comtrade Database for 2021, India ranks 11th in the world exports of chemicals (excluding pharmaceutical products) and ranks 4th in the world imports of chemicals (excluding pharmaceutical products). India's exports of chemicals (excluding pharmaceutical products) was 46.93 US$ billion in 2021, which is 2.36% share of World exports of chemicals (excluding pharmaceutical products). India's imports of chemicals (excluding pharmaceutical products) was 79.40 US$ billion in 2021, which is 3.91% share of World imports of chemicals (excluding pharmaceutical products). *(Reference: Table 32 of section III)*

3. The top five Chemical Products (in terms of value) exported to different countries in the FY 2021-22 were Other Herbicides-anti

Sprouting Products (Rs.1,975/- Cr.), Other Insecticides (Rs.10,833/- Cr.), Pigment Emulsion (Rs.7,576/- Cr.), Other Fungicide NSE (Rs.7,157/- Cr.) and Reactive Dyes (Rs.5,911/- Cr.). Other Herbicides-anti Sprouting Products exported to USA, Brazil, Australia, Argentina and France; Other Insecticides exported to Brazil, USA, Bangladesh PR, Nigeria and Netherland; Pigment Emulsion exported to China P RP, USA, Netherland, Belgium and Korea RP; Other Fungicide NSE exported to Brazil, Bangladesh PR, USA, Costa Rica and Indonesia; and Reactive Dyes exported to Bangladesh PR, Turkey, Honduras, Indonesia and Singapore. *(Reference: Table 16 of section III)*

4. During the FY 2021-22, top five Chemical products (in terms of value) imported from different countries were Acetic Acid (Rs.7,788/- Cr), Methanol (Rs.7,432/- Cr), Other Insecticides (Rs.3,858/- Cr), Other Fungicide Nes (Rs.2,265/- Cr) and Other Herbicides-Anti Sprouting Products (Rs.2,138/- Cr). Acetic Acid mainly imported from China PRP, Malaysia, Singapore, Taiwan and U Arab Emts; Methanol from Saudi Arab, Qatar, Oman, U Arab Emts and Iran; Other Insecticides from China P RP, Israel, USA, Korea RP and Netherland; Other Fungicide Nes imported from China P RP, Thailand, Germany, USA and Spain; and Other Herbicides-Anti Sprouting Products imported from China P RP, Israel, Taiwan, Japan and U K. *(Reference: Table 17 of section III)*

5. Export of top five Petrochemical Products (in terms of value) to different countries during the FY 2021-22 were Paraxylene (Rs.14,478/- Cr.), Benzene (Rs.13,882/- Cr.), Polyester Filament Yarn (Rs.9,669/- Cr.), Polypropylene (Inc. Co-Polymer) (Rs.5,471/- Cr.) and Polyester Staple Fibre (Rs.3,297/- Cr.). Paraxylene was mainly exported to China P RP, Malaysia, USA, Indonesia and Portugal; Benzene exported to Saudi Arab, Belgium, China PRP, Netherland and USA; Polyester Filament Yarn was exported to Turkey, Brazil, Egypt ARP, Argentina and Bangladesh PR; Polypropylene (Inc. Co-Polymer) was exported to Turkey, Bangladesh PR, China PRP, Nepal and Vietnam SOC Rep; and Polyester Staple Fibre was exported to USA, Turkey, Nepal, Mexico and Belgium. *(Reference: Table 24 of section III)*

6. Top five Petrochemical products (in terms of value) imported from different countries during the FY 2021-22 were Polypropylene (Inc. Co-Polymer) (Rs.12,909/-Cr.), High Density Polythylene (Rs.8,631/- Cr.), Purified Terephthalic Acid (Rs.8,474/- Cr.), Styrene (Rs.7,999/- Cr.) and Vinyl Chloride Monomer (Rs.5,528/-Cr.). Polypropylene (Inc. Co-Polymer) mainly imported from Singapore, U Arab Emts, Saudi Arab, China P RP and Thailand; High Density Polythylene imported from U Arab Emts, Qatar, Saudi Arab, USA and Oman; Purified Terephthalic Acid mainly imported from China P RP, Thailand, Taiwan, Korea RP and Malaysia; Styrene imported from Singapore, Kuwait, Korea RP, Saudi Arab and China P RP; and Vinyl Chloride Monomer imported from Qatar, Japan, France, Indonesia and Taiwan. *(Reference: Table 25 of section III*)

Chapter 3

Chapter 3

Important Economic Indicators

According to the National Accounts Statistics 2022, brought out by the Central Statistics Office (CSO), Chemicals and Chemical products sector, excluding pharmaceuticals (Industry Division 20 of NIC 2008), accounted for 1.48% of the GVA for All Economic Activity in the FY 2020-21. The share of Gross Value Added (GVA) in the Manufacturing Sector during the FY 2020-21 is about 9.88%. GVA of Chemical Sector has grown with CAGR of 6.67% during the FY 2015-16 to FY 2020-21. The average IIP for the Chemicals and Chemical products (Industry Division 20 of NIC 2008) for the FY 2021-22 stood at 121.0, which is 5.0% more as compared to the previous year. The size of the Indian Chemical industry, excluding Pharmaceuticals (Industry Division 20 of NIC 2008), in terms of Value of Output in the FY 2020-21 was Rs.9,87,644/- crores and it was 8.95% of Value of Output of Manufacturing Sector. The size of Chemical industry, including Pharmaceuticals (i.e. Industry Division 20 and 21 of NIC 2008), in terms of Value of Output in the FY 2020-21 was Rs.14,31,617/- crores and it was 12.98% of the Total Value of Output of Manufacturing sector. During last six years, i.e. within FY 2015-16 to FY 2020-21, real growth rate in output of Chemical Industry excluding Pharmaceuticals Industry (i.e. Industry Division 20) was 7.93% which was 7.92% for Chemical Industry including Pharmaceutical Industry {i.e. Industry Division 20 & 21}. Growth in value of output for Manufacturing Sector during the same period was 5.56%.

2. The exports and imports data of the FY 2021-22 shows that in the Chemical Sector, comprising of chapters 28, 29, 30, 31, 32, 38, 39, 4002, 54 and 55 of HS code, India was net importer in all categories except of four categories, namely, Pharmaceuticals Products (Chapter 30 HS code), Man-made staple fibres (Chapter 55 HS code), Man-Made Filaments (Chapter 54 HS code) and Tanning or Dyeing (Chapter 32 HS code). Pharmaceuticals products accounted Rs.1,18,978/- crore, Man-made staple fibres accounted Rs.7,688/- crore, Man-Made Filaments accounted Rs.6,926/- crore and Tanning or Dyeing accounted Rs.10,082/- crore in net exports. (Reference: Table 12A of section III)

3. As per Annual Survey of Industries (Factory Sector: 2019-20), top seven States, namely, Gujarat (33.66%), Maharashtra (13.96%), Uttar Pradesh (5.63%), Uttarakhand (5.40%), Tamil Nadu (4.13%), Himachal Pradesh (4.13%) and Odisha (3.96%), contributed around 70.9% in the Gross Value Added (GVA) for the Chemicals & Chemical products Sector (Industry Division 20 of NIC 2008) and seven States, namely, Gujarat (34.15%), Maharashtra (14.08%), Uttar Pradesh (6.87%), Tamil Nadu (5.16%), West Bengal (4.50%), Karnataka (3.88%) and Rajasthan (3.63%), contributed around 72.3% in the value of output.

4. The exports of chemicals & petrochemicals (excluding pharmaceutical products and fertilizers) has increased from Rs.1,77,813/-

crores in the FY 2014-15 to Rs.3,68,597/-crore in the FY 2021-22. The percentage share of the exports of chemicals & petrochemicals (excluding pharmaceutical products and fertilizers) in the total national exports increased from 9.4% to 11.7% during the same period. (Reference: Table 11 of Section III)

At the product level, the following products accounted more than Rs. One Thousand crore in the exports in the FY 2021-22 (Reference: Table 16 & 24 of Section III):

Product (Chemical)	Export (Rs. Crore)	Product(Petro-Chemical)	Export (Rs. Crore)
Other Herbicides-Anti Sprouting Products	11975	Para-Xylene	14478
Other Insecticides	10833	Benzene	13882
Pigment Emulsion	7576	Polyester Filament Yarn	9669
Other Fungicide NES	7157	Polypropylene (Inc. Co-Polymer)	5471
Reactive Dyes	5911	Polyester Staple Fibre	3297
Azo Dyes	2465	Polyester Chips/Pet Chips	2218
Menthol	2226	High Density Polythene	1928
Carbon Black	2182	Ortho-Xylene	1482
Food Colours	1434	Poly Tetra Fluoro Ethylene (PTFE)	1219
Ethyl Acetate	1333		
Caustic Soda	1320		
Cypermethrin	1266		
Disperse Dyes	1206		

5. The imports of Chemicals & Petrochemicals (excluding Pharmaceutical products and fertilizers) has increased from Rs.2,62,722/- crores in the FY 2014-15 to Rs.5,44,115/- crores in the FY 2021-22. The percentage share of the imports of Chemicals & Petrochemicals (excluding Pharmaceutical products and fertilizers) in the total national imports increased from 9.6% to 11.9% during the same period. (Reference: Table 11 of Section III)

At the product level, the following products accounted for more than Rs. One Thousand crores in the imports in the FY 2021-22 (Reference: Table 17 & 25 of Section III):

Product (Chemical)	Import (Rs. Crore)	Product (Petro Chemical)	Import (Rs. Crore)
Acetic Acid	7788	Polypropylene (Inc. Co-Polymer)	12909
Methanol	7432	High Density Polythene	8631
Vinyl Chloride Monomer	5528	Purified Terephthalic Acid	8474
Other Insecticides	3858	Styrene	7999
Other Fungicide NES	2265	Poly Vinyl Chloride	5081
Other Herbicides-Anti Sprouting Products	2138	Polycarbonate	4760
Phenol	2102	Mono Ethylene Glycol	4718
Carbon Black	1559	Para-Xylene	4130
Other Pesticides	1431	Ethyl Vinyl Acetate	3839
Aniline	1132	Ethylene Dichloride	3797

Product (Chemical)	Import (Rs. Crore)	Product (Petro Chemical)	Import (Rs. Crore)
Maleic Anhydride	1077	Polyol	3520
Calcium Carbonate	1035	Polyester Filament Yarn	3432
Citric Acid	1006	Linear Alkyl Benzene	3333
		Toluene	3153
		Acrylonitrile	2982
		Low Density Polythene	2688
		Styrene Butadiene Rubber	2565
		Vinyl Acetate Monomer	2529
		ABS Resin	2101
		Linear Low Density Polythene	2080
		Poly Butadiene Rubber	1672
		Butyl Rubber	1561
		Propylene Glycol	1298
		Poly Styrene	1215
		Epichlorohydrin	1189
		Isopropanol	1125
		Ethyl Propylene Dimers	1017

6. The net imports of Chemicals & Petrochemicals (excluding Pharmaceutical products and fertilizers) has increased from Rs. 84,909/- crore in the FY 2014-15 to Rs. 1,75,518/- crore in the FY 2021-22. The percentage share of the net imports of Chemicals & Petrochemicals (excluding Pharmaceutical products and fertilizers) in the total national net imports increased from 10.1% to 12.3% during the same period. At the product level, the following products accounted more than Rupees One Thousand crores in the net imports in the FY 2021-22. *(Reference: Table 12(a), 18 & 26)*

Product (Chemical)	Net Import (Rs. crore)	Product (Petro-Chemical)	Net Import (Rs. crore)
Acetic Acid	7584	Purified Terephthalic Acid	8138
Methanol	7371	Styrene	7577
Ethyl Vinyl Acetate	3805	Polypropylene (Inc. Co-Polymer)	7437
Phenol	1594	High Density Polythene	6703
Other Pesticides	1191	Vinyl Chloride Monomer	5528
Aniline	1130	Poly Vinyl Chloride	5052
Maleic Anhydride	1075	Polycarbonate	4694
		Mono Ethylene Glycol	4228
		Ethylene Dichloride	3765
		Linear Alkyl Benzene	3258
		Polyol	3115
		Toluene	3015
		Acrylonitrile	2948
		Vinyl Acetate Monomer	2466
		Styrene Butadiene Rubber	2185
		ABS Resin	2079
		Low Density Polyethylene	2023
		Linear Low Density Polythene	1426

Product (Chemical)	Net Import (Rs. crore)	Product (Petro-Chemical)	Net Import (Rs. crore)
		Poly Butadiene Rubber	1390
		Butyl Rubber	1266
		Propylene Glycol	1246
		Epichlorohydrin	1186
		Isopropanol	1009

The following products accounted more than Rs. One Thousand crore in the total net exports in the FY 2021-22: -

Product (Chemical)	Net Export (Rs. crore)	Product (Petro-Chemical)	Net Export (Rs. crore)
Other Herbicides-Anti Sprouting Products	9837	Benzene	13854
Other Insecticides	6975	Para-Xylene	10348
Pigment Emulsion	6923	Polyester Filament Yarn	6236
Reactive Dyes	5624	Polyester Staple Fibre	2512
Other Fungicide NES	4892	Polyester Chips/Pet Chips	1411
Azo Dyes	2418	Ortho-Xylene	1368
Menthol	1821		
Food Colours	1368		
Ethyl Acetate	1280		
Cypermethrin	1266		

7. 99.5% GVA of Chemical Sector (including Pharmaceutical) comes about from the organized Sector. The estimates of the Total Output (Factory Sector) of at 4-digit Industry class in the Chemicals and Chemical Products (Division 20-NIC 2008) during the FY 2018-19 and FY 2019-20 are given in the table below:

Class	Description	Total Output (Rs. Crore)	
		2018-19	2019-20
2011	Manufacture of basic chemicals	226165	233823
2012	Manufacture of fertilizers and nitrogen compounds	138193	128832
2013	Manufacture of plastics and synthetic rubber in primary forms	109899	82765
2021	Manufacture of pesticides and other agrochemical products	57753	61165
2022	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	60905	54096
2023	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	86521	103391
2029	Manufacture of other chemical products n.e.c.	77310	73674
2030	Manufacture of man-made fibres	64379	55349
Total		**821126**	**793096**

Source: Annual Survey of Industries, 2018-19 and 2019-20 (Factory sector), Ministry of Statistics & Programme Implementation

Chapter 4

Chapter 4

Important Definitions for CPC Coding System

4.1 Harmonized System:

Harmonized System is an internationally standardized system of names and numbers for classifying traded products. It has been developed and maintained by World Customs Organization (WCO). It is used by customs authorities around the world to identify products when assessing duties and taxes and for gathering statistics.

The HS is organized into 21 Sections, which are subdivided into 96 Chapters (Chapters 1 to 97 with Chapter 77 reserved for potential future use by the HS). The 96 HS Chapters are further subdivided into 1,228 headings and 5,612 subheadings in the current 2022 edition of the HS.

The HS code consists of 6-digits. The first two digits designate the Chapter wherein headings and subheadings appear. The second two digits designate the position of the heading in the Chapter

Eg: HS code 2901.30, for example, indicates Chapter 10 (Cereals), heading 10.06 (Rice), and subheading 1006.30 (Semi-milled or wholly milled rice, whether or not polished or glazed)

Most of countries use an 8-digit or 10-digit classification system, with the first 6-digit adopting the Harmonized System developed by the WCO and the last 2 or 4 digits representing a further breakdown in commodity classification to meet domestic needs.

4.2 Indian Trade Classification based on Harmonized System (ITC-HS) 2017

Indian Trade Classification (Harmonized System), 2017 was compiled and notified by the Directorate General of Foreign Trade, Ministry of Commerce and Industry, Government of India in January 2017. ITC-HS codes are divided into two schedules. ITC (HS) Import Schedule I describe the rules and guidelines related to import policies. Schedule II describes the rules and regulation related to export policies. Schedule I of the ITC-HS code is divided into 21 sections and each section is further divided into chapters. The total number of chapters in the schedule I is 98. The chapters are further divided into sub- heading under which different HS codes are mentioned. Export Policy Schedule II of the ITC-HS code contains 97 chapters giving all the details about the guidelines related to the export policies.

The Chapters dealing with Chemicals and Petrochemical products are falling under Section VI, VII & XI as depicted below:

Chapter/ Heading	Description	Section
28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare - earth metals, of radioactive elements or of; isotopes	SECTION VI
29	Organic chemicals	
38	Miscellaneous chemical products	
39	Plastics and articles thereof	SECTION VII
40	Rubber and articles thereof	
4002	Synthetic rubber and factice derived from oils, in primary Forms or in plates, sheets or strip; mixtures of any product of heading 4001 with any product of this heading, in primary forms or in plates, sheets or strip	
54	Man-made filaments	SECTION XI
55	Man-made staple Fibre	

Illustration of 8 digit Product Code:

Chapter	Exim Code	Item Description
28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of; isotopes	
	2801	Fluorine, Chlorine, Bromine and Iodine
	28011000	Chlorine
39	Plastics and articles thereof	
	3902	Polymers Of Propylene Or Of Other Olefins, In Primary Forms
	39021000	Polypropylene

Source: Directorate General Foreign trade (DGFT), Ministry of Commerce and Industry, Government of India (https://www.dgft.gov.in/CP/?opt=itchs-import-export)

4.3 CAS Registry Number:

Chemical Abstract Service (CAS) is a division of American Chemical Society. It is the only organization in the world whose objective is to find, collect and organize all publicly disclosed chemical substance information.

The registry maintained by CAS is an authoritative collection of disclosed chemical substance information. It identifies more than 182 million unique organic and inorganic substances and 68 million protein and DNA sequences, plus additional information about each substance. It is updated with around 15,000 additional new substances on daily basis.

A CAS Registry Number has no inherent meaning, but is assigned in sequential, increasing order when the substance is identified by CAS scientists for inclusion in the CAS REGISTRY database.

A CAS RN is separated by hyphens into three parts, the first consisting from two up to seven digits, the second consisting of two digits, and the third consisting of a single digit serving as a check digit. This format gives CAS a maximum capacity of 1,000,000,000 unique numbers. The check digit is found by taking the last digit times 1, the preceding digit times 2, the preceding digit times 3 etc., adding all these up and computing the sum modulo 10.

For example, the CAS number of water is 7732-18-5: the checksum 5 is calculated as $(8\times1 + 1\times2 + 2\times3 + 3\times4 + 7\times5 + 7\times6) = 105; 105 \bmod 10 = 5$.

4.4 UN Codes:

UN Numbers or UN IDS are four-digit numbers that Identify hazardous substances, and articles such as explosives, flammable Liquids, toxic substances etc.

The UN numbers range from UN0001 to about UN3600 and are assigned by the United Nations Committee of Experts on the Transport of Dangerous Goods.

For example, the UN Code for Nitrogen (compressed) is UN 1066

4.5 International Standard Industrial Classification

The International Standard Industrial Classification (ISIC) of All Economic Activities (ISIC) is the international reference classification of productive activities. Its main purpose is to provide a set of activity categories that can be utilized for the collection and reporting of statistics according to such activities.

Wide use has been made of ISIC, both nationally and internationally, in classifying data according to kind of economic activity in the fields of economic and social statistics, such as for statistics on national accounts, demography of enterprises, employment and others. In addition, ISIC is increasingly used for non-statistical purposes.

4.6 National Industrial Classification (NIC) - A Digest

The Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation being nodal Statistical Authority in the Country is vested with the responsibility of setting up Standards for collection, compilation and dissemination of Statistical data. The Official statistics is required to be collected and presented according to classification designed to facilitate its use for National Economic Policies and conform to International comparison. The need for comparability of Statistics available from various sources, on different aspects of the economy and usability of such data for economic analysis necessitated the need of standardization of a system of classification.

CSO being responsible for coordination of statistical activities in the country and with a view to evolve and maintain statistical standards, initiated task of bringing out Standard Industrial Classification as early as in 1960 and evolved a Standard Industrial Classification (SIC) in 1962. To take care of emerging changes in organizations and structure of Industries, the need for revision of this document was felt from time to time. With this objective, the CSO revised SIC 1962 in 1970 (NIC-70), NIC-1970 in 1987 (NIC-87) and NIC-87 in 1998 (NIC-98). It is during 1998 that 4-digit system of International Standard Industrial Classification (ISIC- 3) was followed and these 4 digits were extended up to 5 digits based on national needs. Consequent upon release of United Nations International Standard Industrial Classification (ISIC) – 2002 Rev. 3.1, NIC-1998 was updated to bring out NIC–2004. After adoption of ISIC Revision-4 by the United Nations Statistical Commission (UNSC) in the year 2008, an expert committee under the chairmanship of DG, CSO deliberated on the issues and approved the draft NIC-2008 incorporating revision in NIC-2004 consistent with ISIC revision 4.

Basic features of NIC-2008

All the activities are grouped into several "activity groups" or "tabulation categories" in a hierarchical manner. Activities are first grouped into 'section' alphabetically coded from A through U, every section is divided into 'division' with 2-digit numeric code, every division into 'group' with 3-digit numeric code, every group into 'class' with 4-digit numeric code and every 4-digit class into 5-digit 'sub-class'. The structure is illustrated below.

Level		Description
Section		Manufacturing
Division 20		Manufacture of Chemicals and Chemical Products
Group	201	Manufacture of Basic Chemicals, Fertilizer and Nitrogen Compounds, Plastics and Synthetic Rubber in Primary Forms
	203	Manufacture of man-made Fibre
Class	2011	Manufacture of Basic Chemicals
	2030	Manufacture of man-made Fibre
Sub-Class	20111	Manufacture of liquefied or compressed inorganic industrial or medical gases (elemental gases, liquid or compressed air, refrigerant gases, mixed industrial gases etc.)
	20301	Manufacture of synthetic or artificial filament

The structure of NIC-2008 is identical to the structure of ISIC Revision up to 4-digit level 'class'. Classes were then divided into 5-digit 'sub classes" according to national requirements.

Salient features of NIC-2008

- The sections A to Q of NIC-2004 have been replaced by sections A to U in respect of NIC-2008. NIC-2008 has 21 sections, 88 divisions, 238 groups, 403 classes and 1304 sub-classes.
- NIC-2008 is comparable with ISIC Rev.4 till 4-digit classes in totality.
- The concept of shadow classes introduced in NIC-2004 has been done away with in NIC- 2008 as the emphasis has been given on activity rather than type of operation and scale of operation.
- In NIC-2008 some of the 5-digit sub-classes of NIC-2004 have been made separate 4-digit classes e.g. 'Growing of Sugarcane (01115)", 'Growing of tobacco (01114)', 'Growing of fibre crops (01113)" 'Growing of flowers (01122)".
- Repair and installation of machinery and equipment has been classified as separate division (Division-33) in NIC-2008.
- Repair of Personal Household goods (5260 of NIC-2004) has been removed from Section-G (wholesale and retail trade; repair of motor vehicles and motor cycles) and now included in Section-S (other service activities).
- Publishing activity which was included in division-22 of manufacturing section in NIC-2004 is now included in division-58 (publishing activities) of NIC-2008 under Section-J (information and communication).
- Activity 'water supply' under division-41 (Electricity, Gas and Water Supply) of NIC-2004 is now included in Section-E (water supply; sewerage, waste management and remediation activities).
- Explanatory notes of ISIC Rev.4 at 1/2/3-digit level have been incorporated in NIC-2008 as Annexure for better understanding of the revised classification.
- Under 4-digit classes of NIC-2008, inclusion and exclusion statements have been included in the detailed structure itself to remove ambiguity in the scope of classification and to facilitate the classification of economic activity distinctly.

Division 20 and 21 of NIC-2008 relates to "Chemical and Chemical Products" and "Pharmaceutical, Medicinal and botanical products" respectively.

Source: website of Ministry of Statistics and Programme Implementation, Government of India http://mospi.nic.in/sites/default/files/main_menu/national_industrial_classification/nic_2008_17apr0 9.pdf may be followed for further details.

Chapter 5

Chapter 5

Important Definitions of Economic System

Gross domestic product (GDP):

Gross domestic product (GDP) is a monetary measure of the market value of all the final goods and services produced and sold in a specific time period by a country or countries. There are 2 types of GDP:

1) **Nominal GDP:** When the GDP is calculated on current prices, it is called as Nominal GDP.

Statistics:

Nominal GDP or GDP at Current Prices in the FY 2022-23 is estimated to attain a level of Rs.272.04 lakh crore, as against Rs.234.71 lakh crore in the FY 2021-22, showing a growth rate of 15.9 %.

(Source:https://mospi.gov.in/sites/default/files/press_release/PressNoteNAD_28feb23final.pdf)

2) **Real GDP or Gross GDP:** When the GDP is calculated taking the prices of some base year it is called as Real GDP, it is a more accurate reflection of the output of an economy than nominal GDP by eliminating the distortion caused by inflation or deflation or by fluctuations in currency rates

In India, Ministry of Statistics and Programme Implementation (MoSPI) defines the base year which is currently defined as year 2011-12

Statistics:

Real GDP or Gross Domestic Product (GDP) at Constant (2011-12) Prices in the FY 2022-23 is estimated to attain a level of Rs.159.71 lakh crore, as against the First Revised Estimate of GDP for the FY 2021-22 of Rs.149.26 lakh crore. The growth in GDP in the FY 2022-23 is estimated at 7.0 % as compared to that of 9.1 % in the FY 2021-22.

(Source:https://mospi.gov.in/sites/default/files/press_release/PressNoteNAD_28feb23final.pdf)

Net domestic product (NDP):

The net domestic product (NDP) equals the gross domestic product (GDP) minus depreciation on a country's capital goods.

Net domestic product accounts for capital that has been consumed over the year in the form of housing, vehicle, or machinery deterioration

NDP= GDP- Depreciation

Statistics:

Nominal NDP or NDP at Current Prices in the FY 2022-23 is estimated to attain a level of Rs.243.30 lakh crore, as against Rs.207.96 lakh crore in the FY 2021-22, showing a growth rate of 17.0 %.

Real NDP or Net Domestic Product (NDP) at Constant (2011-12) Prices in the FY 2022-23 is estimated to attain a level of Rs.138.93 lakh crore, as against the First Revised Estimate of GDP for the FY 2021-22 of Rs.129.77 lakh crore. The growth in GDP during the FY 2022-23 is estimated at 7.1 % as compared to that of 9.5 % in the FY 2021-22.

(Source:https://mospi.gov.in/sites/default/files/press_rele

ase/PressNoteNAD_28feb23final.pdf)

Gross Value Added (GVA):

Gross value added (GVA) is the measure of the value of goods and services produced in an area, industry or sector of an economy. "Gross value added is the value of output minus the value of intermediate consumption"

Relation between GDP & GVA:

The relationship between GVA and GDP is defined as:

GVA= GDP + subsidies on products – taxes on products

Statistics:

Nominal GVA or GVA at Current Prices in the FY 2022-23 is estimated to attain a level of Rs.247.07 lakh crore, as against Rs.214.38 lakh crore in the FY 2021-22, showing a growth rate of 15.2 %.

Real GVA or Gross Value Added (GVA) at Constant (2011-12) Prices in the FY 2022-23 is estimated to attain a level of Rs.147.12 lakh crore, as against the First Revised Estimate of GDP for the FY 2021-22 of Rs.137.98 lakh crore. The growth in GDP during the FY 2022-23 is estimated at 6.6% as compared to that of 8.8 % in the FY 2021-22.

(Source:https://mospi.gov.in/sites/default/files/press_release/PressNoteNAD_28feb23final.pdf)

Chapter 6

Chapter 6

Indices Released by Government of India

Indices are important economic indicators to demonstrate the relative change in the parameters over a specified period of time. Some of the important indices compiled and released by different Departments under the Government of India along with their inception and uses in different sectors of economy are summarized below:

A. Index of Industrial Production (IIP)

B. Consumer Price Index (CPI)- Industrial Worker, Agricultural Labourer / Rural Labourer, Rural / Urban / Combined

C. Wholesale Price Index (WPI)

A. Index of Industrial Production-(IIP)

1. The Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation Compiles and brings out an index of Industrial Production. CSO revises the base year of the macroeconomic indicators, as a regular exercise, to capture structural changes in the economy and improve the quality and representativeness of the indices. In this direction, the base year of the all-India Index of Industrial Production (IIP) has also been revised from the FY 2004-05 to FY 2011-12 to not only reflect the changes in the industrial sector but also to align it with the base year of other macroeconomic indicators like the Gross Domestic Product (GDP), Wholesale Price Index (WPI) etc.

2. IIP in the revised series is continued to represent the Mining, Manufacturing and Electricity sectors. The revised series uses the National Industrial Classification (NIC) 2008 for the purpose of classification of industrial production. 15 source agencies are proving production data for Index of Industrial Production (IIP) base year 2011-12.

Summary of Source Agencies of IIP in the new series with base year 2011-12.

Table 6.1

S. No	Source	Weights (%)
1	Department of Industrial Policy and Promotion (DIPP)	47.54
2	Indian Bureau of Mines	14.37
3	Ministry of Petroleum & Natural Gas	11.29
4	Joint Plant Committee	10.52
5	Central Electricity Authority	7.99
6	Department of Chemicals and Petrochemicals	2.54
7	Office of Textile Commissioner	1.94
8	Department of Fertilizers	1.06

S. No	Source	Weights (%)
9	Directorate Of Sugar and Vegetable Oils (for Edible Oils only)	0.97
10	Directorate Of Sugar and Vegetable Oils (for Sugar only)	0.76
11	Office of Coal Controller	0.49
12	Tea Board	0.29
13	Railway Board	0.13
14	Office of Jute Commissioner	0.07
15	Coffee Board	0.04
	GENERAL	**100.00**

3. Highlights of the changes in New Series of Index of Industrial Production are summarized below:

a. The selection of items in the new series has been done at the 3 digit level of NIC for better representation as compared to selection at 2 digit level done in 2004-05 series.

b. At the broad level, the new series has a total of 809 items occurring in the manufacturing sector in the item basket (405 item groups), where 149 new items like Steroids and hormonal preparations, Cement clinkers, Medical/Surgical accessories, Pre-fabricated concrete blocks, refined Palm Oil have been added and 124 items such as Biaxially Oriented Polypropylene (BOPP) Films, Calculators, Colour TV picture tubes, Gutka have been deleted from the 2004-05 series in the manufacturing sector. The sectoral composition of the IIP is as follows:

Table 6.2

Sector	Base year 2011-12		Base year 2004-05	
	Weights (%)	Item groups	Weights (%)	Item groups
Mining	14.373	1	14.157	1
Manufacturing	77.633	405	75.527	397
Electricity	7.994	1	10.316	1
Total	**100**	**407**	**100**	**399**

c. To reflect the increasing significance of electricity generation from renewable sources, it was decided to include data on electricity generation figures from these sources in the new series. This inclusion was done from April, 2014 onwards as monthly data for electricity generation from renewable sources for earlier months were not available.

d. For capital goods, data in the new series is captured in terms of 'work in progress' to better represent the growth of capital goods and to avoid reporting of production figures in bulk after the completion of production. Details on this methodology are available in the Report of the Working Group set up for the revision of base year, which may be accessed in the official website of Ministry of Statistics and Programme Implementation (www.mospi.gov.in).

e. The number of source agencies reporting data for compilation of IIP in the new series is 14 as compared to 15 in its previous. This is on account of the fact that data on 'Iodised Salt' in the new series is

being provided by the Department of Industrial Policy and Promotion (DIPP) as O/o Salt Commissioner was not in a position to supply Salt production data after abolition of Salt Cess Act, 1953 in Finance Bill 2016.f. In the Mining Sector the coverage was undergone a change on account of the MCDR Amendment Rules, 2016 resulting in 27 non-metallic minerals being designated as minor minerals and which were no longer monitored by Indian Bureau of Mines.

B. Consumer Price Index (CPI)

1. A Consumer Price Index (CPI) is designed to measure the changes over time in general level of retail prices of selected goods and services that households purchase for the purpose of consumption. Such changes affect the real purchasing power of consumer's income and their welfare. CPI numbers are widely used as macroeconomic indicator of inflation, and also as a tool by government and central banks for targeting inflation and monitoring price stability. CPI is also used as deflators in the National Accounts. Therefore, CPI is considered as one of the most important economic indicators.

2. Different types of CPIs, namely, CPI (IW), CPI (AL/RL), CPI (UNME) and CPI (R/U/C) compiled by different agencies of Government of India, are available for users in our country. First three indices, including CPI (UNME), are specific to population segments. The price collection for CPI (UNME) was discontinued with effect from April 2008 and linked all India CPI (UNME) numbers were brought out from April 2008 to December 2010. The fourth one i.e. CPI (R/U/C) is for general population, sector-wise, to be explained in subsequent paragraphs.

3. Salient features of different types of CPIs:

Consumer Price Index for Industrial Workers - CPI (IW)

This index is compiled by the Labour Bureau, Ministry of Labour and Employment. The target population is working class family, defined as a family: (i) located within the centre for industrial worker, (ii) has at least one member working as manual worker in an establishment in any of the seven sectors of employment covered viz., factories, plantations, mining, ports and docks, public motor transport undertakings, electricity generating and distributing establishments, and railways; and (iii) derived 50 per cent or more of its income during the calendar month preceding the day of enquiry through any manual work.

The present series of CPI (IW) is on base 2016=100. The weighting diagrams for the purpose of compilation of index numbers had been derived on the basis of average monthly family expenditure of the working class obtained from the Working Class Family Income Expenditure Survey conducted during 1999-2000.

The CPI (IW) is released every month (on the last working day of succeeding month) for each of the selected 88 centres as well at all India level. It is mainly used for the determination of Dearness Allowance (DA) being paid to Central/State Government employees and also to the workers in the industrial sectors, besides fixation and revision of minimum wages in scheduled employments. It is also used in moving the base year poverty lines for urban areas to the subsequent years.

Consumer Price Index for Agricultural/ Rural Labourers - CPI (AL/RL)

These indices are compiled by the Labour Bureau, Ministry of Labour and Employment. The target populations are agricultural and rural labourers. A rural labour household is defined as one, which derives major income from manual employment (rural labour) during the last 365 days. From amongst the rural labour households, those households, which earn 50% or more of their total income from gainful employment as manual labour in agriculture during the last 365 days, are categorized as agricultural labour households. Agricultural labour households form a major subset of rural labour households. A person is considered

engaged in agricultural labour if he/she follows one or more of the agricultural occupations in the capacity of wage paid manual labourer, whether paid in cash or kind (excluding exchange labour) or both. A person who does manual work in return for wages in cash or kind or partly in cash and partly in kind (excluding exchange labour) is a wage paid manual labourer. Persons who are self-employed doing manual work are not treated as wage paid manual labourers. People living in rural areas and engaged in manual labour by working in agricultural and/or non-agricultural occupations in return for wages paid either in cash or kind (excluding exchange labour) or both, are considered as rural labourers. Thus, rural labourers include both agricultural and other labourers.

The present series of CPI (AL/RL) is on base 1986-87=100. Estimates of average consumer expenditure per household generated from the results of the NSS 38th round (1983), CES formed the source of weights for different items of goods and services, used in compilation of CPI (AL) and CPI (RL).

For both the current series of CPI (AL) and CPI (RL), the retail prices in respect of goods and services are collected on monthly basis, from fixed markets in 600 sample villages in 20 states by the field workers of the Field Operations Division (FOD) of the National Sample Survey Office (NSSO). The various items (12) of goods and services are categorized into four main groups namely, (i) Food, (ii) Fuel and Light, (iii) Clothing, Bedding and Footwear; and (iv) Miscellaneous. The items of goods and services are common for the state as a whole but the varieties of most of the items differ from village to village. The collection of retail prices is staggered over four weeks of a month with one-fourth of the sample covered every week.

The CPI (AL/RL) is released every month (20th or preceding working day of the following month) for each of the selected states as well at all India level. It is mainly used for the determination/ fixation and revision of minimum wages in agricultural sector. CPI (AL) is also used in moving the base year poverty lines for rural areas to the subsequent years.

Consumer Price Index for Rural, Urban and Combined - CPI (R/U/C)

The indices are compiled by the CSO on base 2010=100. The consumption patterns (weighting diagrams) for this series of CPI have been derived on the basis of average monthly consumer expenditure of an urban/rural household obtained from the results of the 61st Round of CES conducted by the National Sample Survey Office during 2004-05.

C. Wholesale Price Index (WPI)

WPI is an important measure to monitor the dynamic movement of prices at the wholesale level. In a dynamic world, prices keep on changing. WPI is used as a deflator of various nominal macroeconomic variables including Gross Domestic Product (GDP). The WPI based inflation estimates also serve as an important determinant, in formulation of trade, fiscal and other economic policies by the Government. WPI is also used for the purpose of escalation clauses in the supply of raw materials, machinery and construction work. Business firms in search of effective methods for coping with changes in prices often employ price adjustment (escalation) clauses in long-term sales and purchase contracts. WPI is widely recognized among business people, economists, statisticians and accountants as a useful objective indexing tool in price adjustment clauses.

The base year of All-India WPI has been revised from 2004-05 to 2011-12 by the Office of Economic Advisor (OEA), Department of Industrial Policy and Promotion, Ministry of Commerce and Industry to align it with the base year of other macroeconomic indicators like the Gross Domestic Product (GDP) and Index of Industrial Production (IIP). The Wholesale Price Index (WPI) series in India has undergone six revisions in 1952-53, 1961-62, 1970-71, 1981-82, 1993- 94 and 2004-05 so far. The current series (base year 2011-12) is the seventh revision.

Features of WPI

- In the current series of WPI, prices used for compilation do not include indirect taxes in order to remove impact of fiscal policy. This is in consonance with international practices and will make the current WPI conceptually closer to 'Producer Price Index'.
- A current "WPI Food Index" is compiled to capture the rate of inflation in food items.
- Seasonality of fruits and vegetables has been updated to account for more months as these are now available for longer duration.
- Item level aggregates for current WPI are compiled using Geometric Mean (GM) following international best practice and as is currently used for compilation of All India CPI.
- A high level Technical Review Committee was set up for the first time to carry out dynamic review process in order to keep pace with the changing structure of the economy.

Chapter 7

Chapter 7

Glimpses of Important Trends during 2017-18 to 2021-22

This Chapter has been included in this publication to highlight important trends of chemicals and petrochemicals sector during the last five years i.e. FY 2017-18 to FY 2021-22, through graphical presentation with concise analysis. The graphical presentation contains tables alongside trends during the considered period in respect of Production, Installed Capacity, Export, Import and Net Export/Net Import relating to various groups of Major Chemicals and Major Petrochemicals with Compound Annual Growth Rate (CAGR) during the FY 2017-18 to FY 2021-22. The Chapter also contains pie charts depicting share of Major Groups under Major Chemicals and Major Petrochemicals in respect of Production, Installed Capacity, Export and Import along with Net Import / Net Export in the FY 2021-22.

2. This Publication has also contained detailed tables in Appendices Section showing group-wise, product-wise, year-wise information of selected Major Chemicals and Major Petrochemicals along with top five import and export destinations. The information relating to exchange rates of Indian Rupees' vis-a-vis US$, World export of Chemicals by top ten countries-2021, sector–wise FDI inflows etc. are also included in the Appendices Section.

3. Many of statistical tables appended in the Publication present temporal data for the FY 2014-15 to FY 2021-22. CAGR in these tables has also been reflected over the period of 8 years.

4. Hope trends indicated in this chapter and data contained in the publication would help users in understanding the emerging scenario in the sector with clarity and ease.

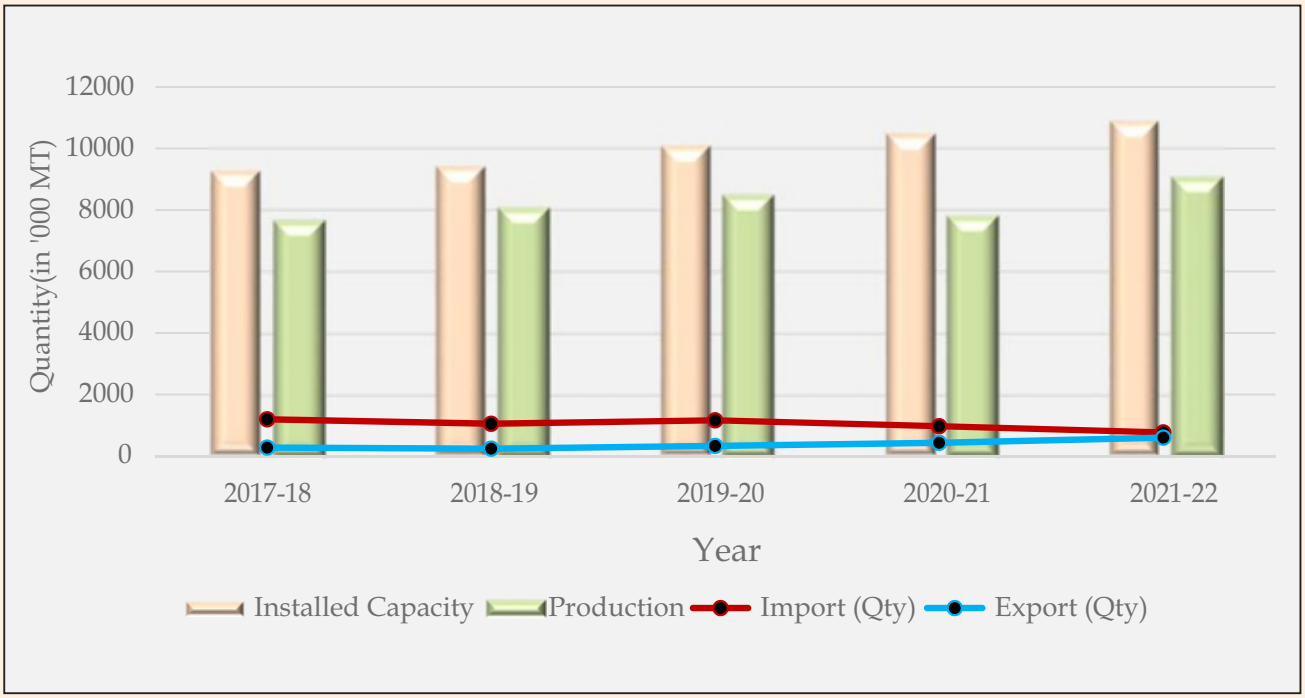
Alkali Chemicals

Table 7.1 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	9274	7631	1194	273
2018-19	9422	8043	1049	239
2019-20	10089	8457	1157	329
2020-21	10473	7776	968	429
2021-22	10889	9041	767	598
CAGR (%)	4.1	4.3	-10.5	21.6

Source : **DCPC**

Graph 7.1 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Alkali Chemicals chart displays a consistent rise in the installed capacity of these chemicals from the FY 2017-18 to FY 2021-22, reflecting a promising outlook for the industry. Over the same period, the chart shows a noteworthy increase in Alkali Chemicals production with a Compound Annual Growth Rate (CAGR) of 4.3%, indicating a positive trend for the market. Furthermore, the Alkali Chemicals chart exhibits a reduction in the gap between import and export, which suggests a strengthening domestic production capability and a reduction in reliance on imports.

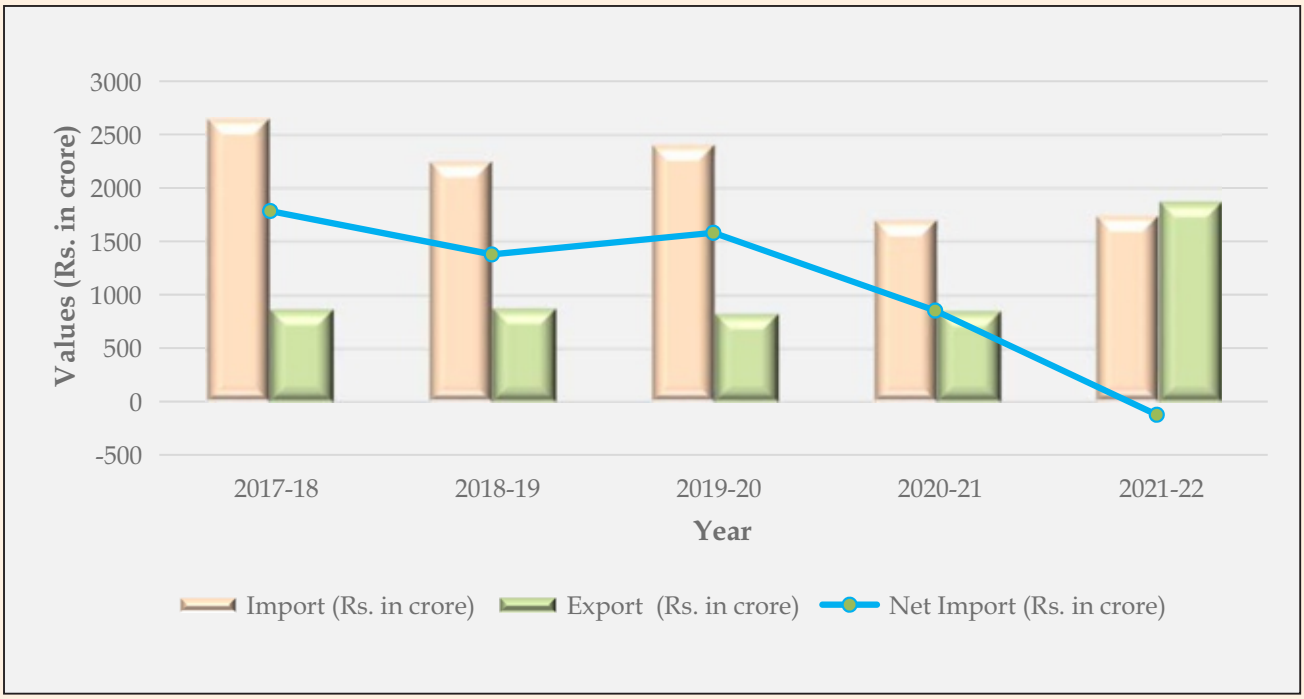
Alkali Chemicals

Table 7.2 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	2653	869	1785
2018-19	2255	878	1377
2019-20	2408	828	1580
2020-21	1705	853	852
2021-22	1747	1872	-124
CAGR (%)	-9.9	21.2	NA

Source : **DCPC**

Graph 7.2 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The trend of import value of Alkali Chemicals has been decreasing steadily during the FY 2017-18 and FY 2021-22. The trend of export value of Alkali Chemicals was stagnant between the FY 2017-18 and FY 2020-21, with only minor fluctuations. However, in the FY 2021-22, the export value increased significantly and surpassed the import value. The trend of net import value decreased significantly during the FY 2017-18 to FY 2021-22, indicating that the country is becoming less dependent on imported Alkali Chemicals.

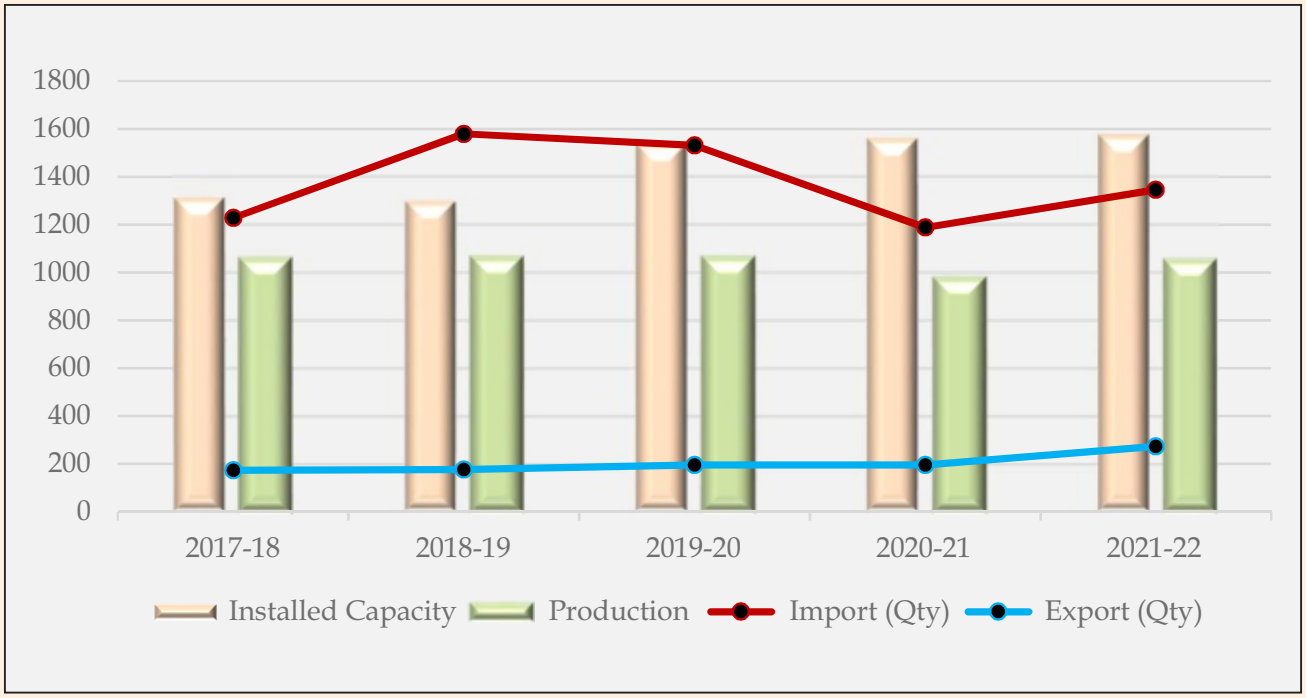
Inorganic Chemicals

Table 7.3 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	1315	1058	1229	173
2018-19	1300	1064	1580	177
2019-20	1538	1063	1532	196
2020-21	1560	978	1188	195
2021-22	1575	1052	1345	273
CAGR (%)	4.6	-0.2	2.3	12.1

Source : **DCPC**

Graph 7.3 : Installed Capacity, Production, Import & Export



Source : **DCPC**

Despite a notable increase in installed capacity from the FY 2018-19 to FY 2019-20, the Inorganic Chemicals chart exhibits a relatively consistent trend up to the FY 2021-22. This may suggest a mature market with a steady level of supply to meet demand. The chart shows a stable production of Inorganic Chemicals from the FY 2017-18 to FY 2021-22, reflecting a consistent output for the market. While there was a sharp increase in the export of Inorganic Chemicals during the same period, the chart also highlights a relatively high import rate, which may suggest a reliance on foreign markets for supply.

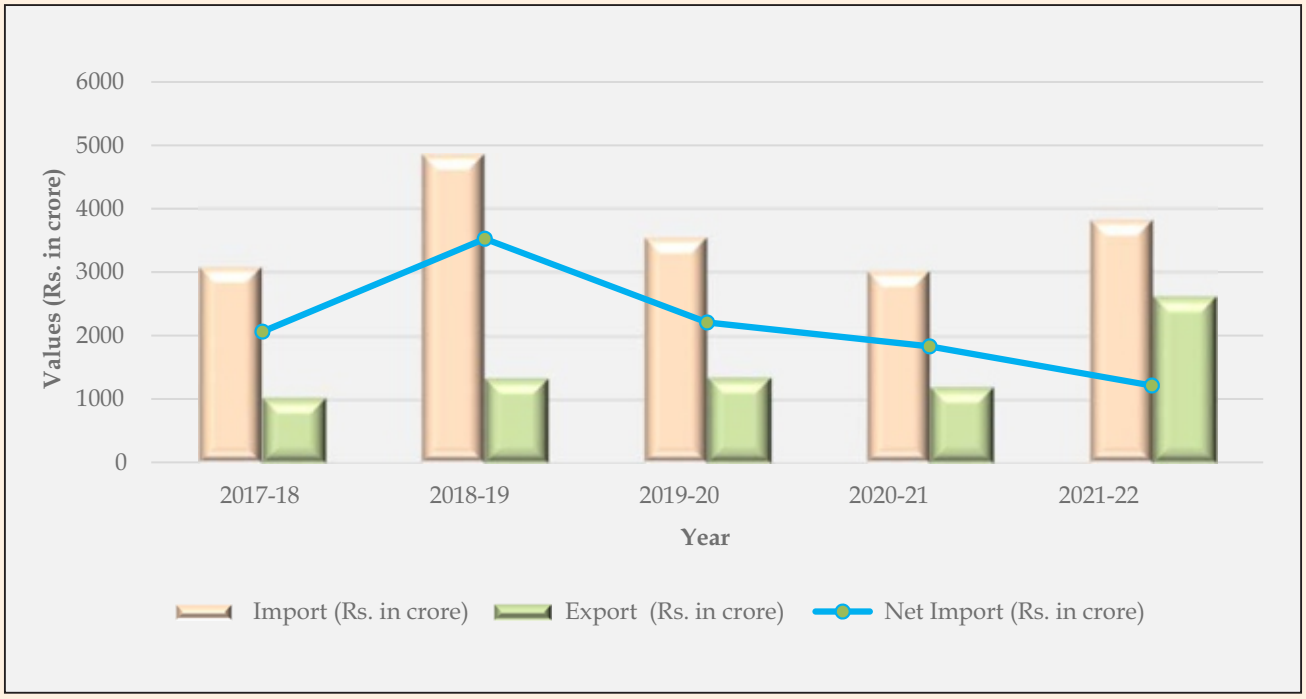
Inorganic Chemicals

Table 7.4 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	3084	1023	2061
2018-19	4858	1332	3525
2019-20	3546	1341	2205
2020-21	3021	1192	1829
2021-22	3824	2612	1212
CAGR (%)	5.5	26.4	-12.4

Source : **DCPC**

Graph 7.4 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The graph shows that while the trend of import value of Inorganic Chemicals was irregular over the years, the trend of export value of Inorganic Chemicals was stagnant during the FY 2017-18 to FY 2020-21 and increased significantly in the FY 2021-22. The trend of net import value increased initially and then decreased steadily over the FY 2018-19 to FY 2021-22.

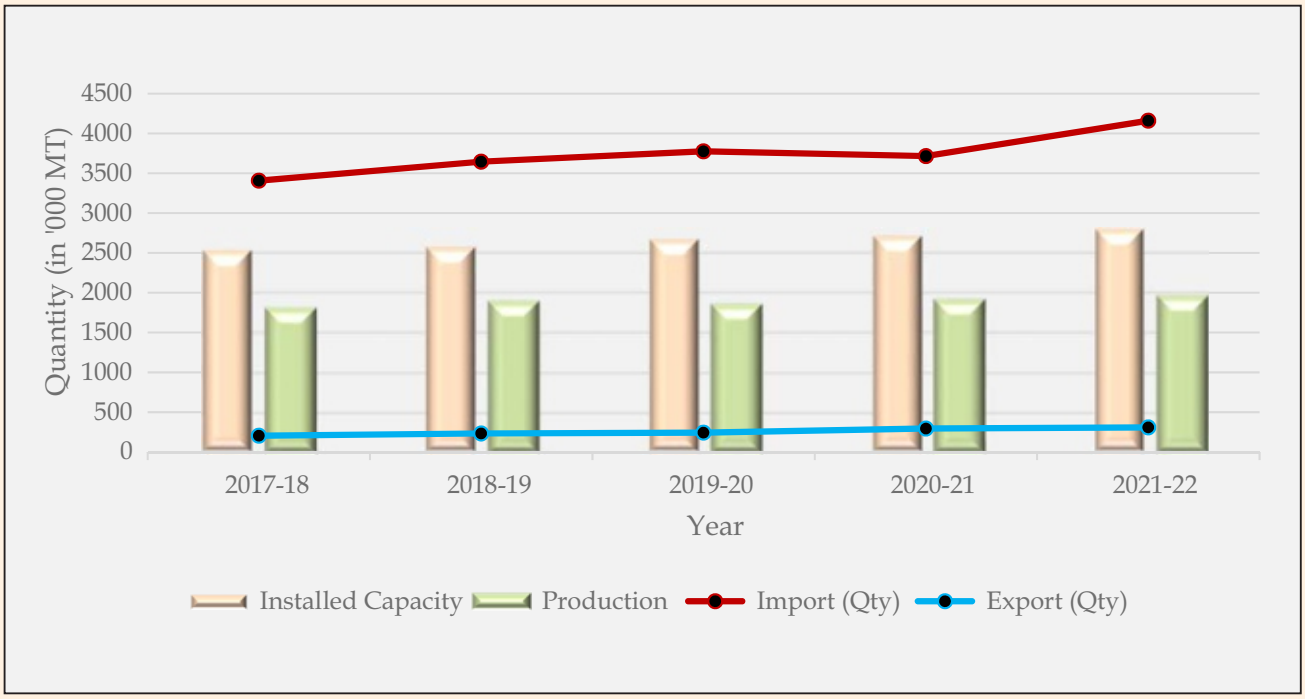
Organic Chemicals

Table 7.5 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	2535	1799	3407	205
2018-19	2575	1884	3645	233
2019-20	2671	1847	3775	245
2020-21	2716	1906	3716	296
2021-22	2800	1953	4160	310
CAGR (%)	2.5	2.1	5.1	10.9

Source : **DCPC**

Graph 7.5 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Organic Chemicals chart reveals a slow but steady increase in installed capacity from the FY 2017-18 to FY 2021-22, indicating a gradual growth in demand for these chemicals. Over the same period, the chart shows a slight increase in Organic Chemicals production with a Compound Annual Growth Rate (CAGR) of 2.1%, suggesting a stable market for the industry. However, the Organic Chemicals chart also displays a widening gap between import and export, indicating an increasing reliance on foreign markets for supply.

Organic Chemicals

Table 7.6 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	12077	3205	8873
2018-19	15203	4257	10945
2019-20	10781	4227	6553
2020-21	11247	4380	6867
2021-22	23082	5283	17799
CAGR (%)	17.6	13.3	19.0

Source : **DCPC**

Graph 7.6 : Value of Import, Value of Export and Net Import

Source : **DCPC**

The graph illustrates an increasing trend in the import value of Organic Chemicals over the FY 2017-18 to FY 2021-22, while the export value of Organic Chemicals also increased steadily but was significantly lower than the import value during the same period. The net import value increased significantly in the FY 2021-22.

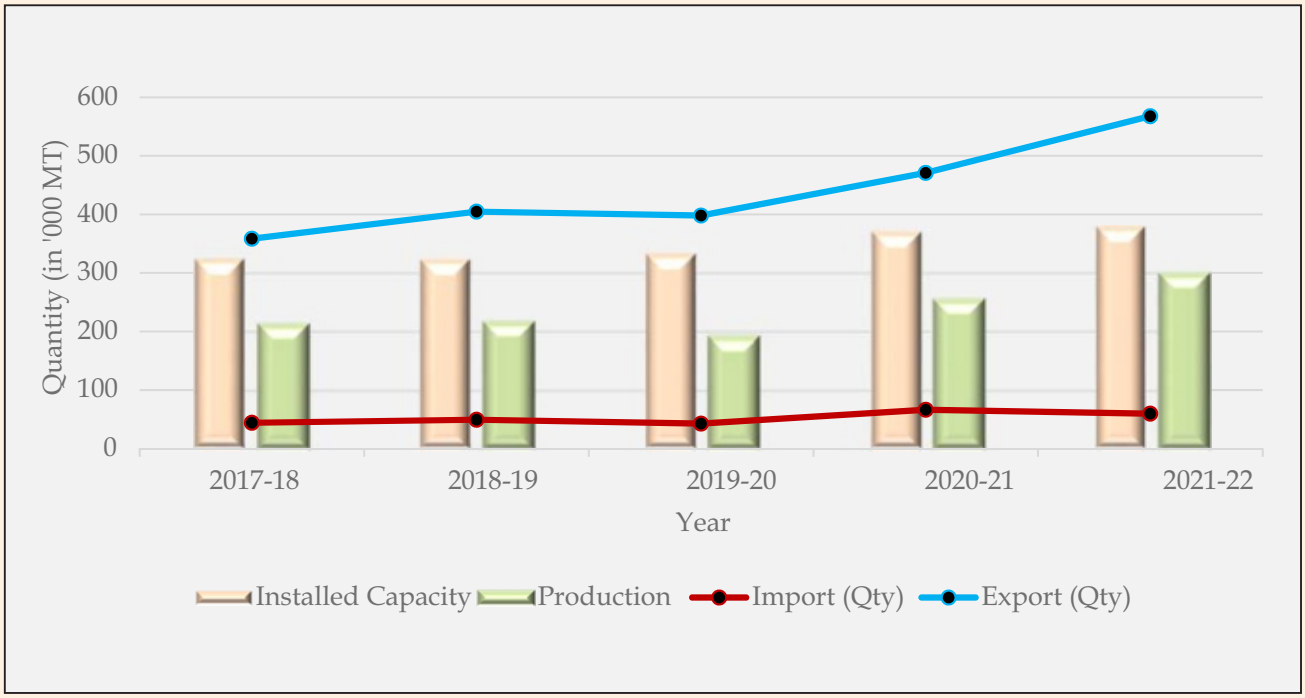
Pesticides

Table 7.7 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	325	213	44	358
2018-19	324	217	49	405
2019-20	334	192	43	398
2020-21	371	255	66	471
2021-22	380	299	60	568
CAGR (%)	4.0	8.9	7.8	12.2

Source : **DCPC**

Graph 7.7 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Pesticides chart exhibits a consistent increase in installed capacity from the FY 2017-18 to FY 2021-22, reflecting a growing demand for these chemicals in various industries. Over the same period, the chart shows a notable increase in Pesticides production with a Compound Annual Growth Rate (CAGR) of 8.9%, indicating a positive trend for the market. Additionally, the Pesticides chart highlights a significantly higher rate of export compared to import, indicating a strong domestic production capability and a competitive presence in the global market.

Pesticides

Table 7.8 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Export
2017-18	5814	14810	8996
2018-19	6326	20041	13715
2019-20	6111	21633	15522
2020-21	8991	23806	14815
2021-22	9726	32664	22938
CAGR (%)	13.7	21.9	26.4

Source : **DCPC**

Graph 7.8 : Value of Import, Value of Export and Net Import

Source : **DCPC**

The Pesticides chart displays a sharp upward trend in the export value of Pesticides from the FY 2017-18 to FY 2021-22, indicating a significant increase in global demand for these chemicals. At the same time, the import value of Pesticides steadily increased from the FY 2017-18 to FY 2021-22, suggesting a potential reliance on foreign markets to meet domestic demand. The chart also shows a sharp upward trend in the net export value of Pesticides from the FY 2017-18 to FY 2021-22, indicating a potential growth in the domestic production capacity of Pesticides, which enables increased exports.

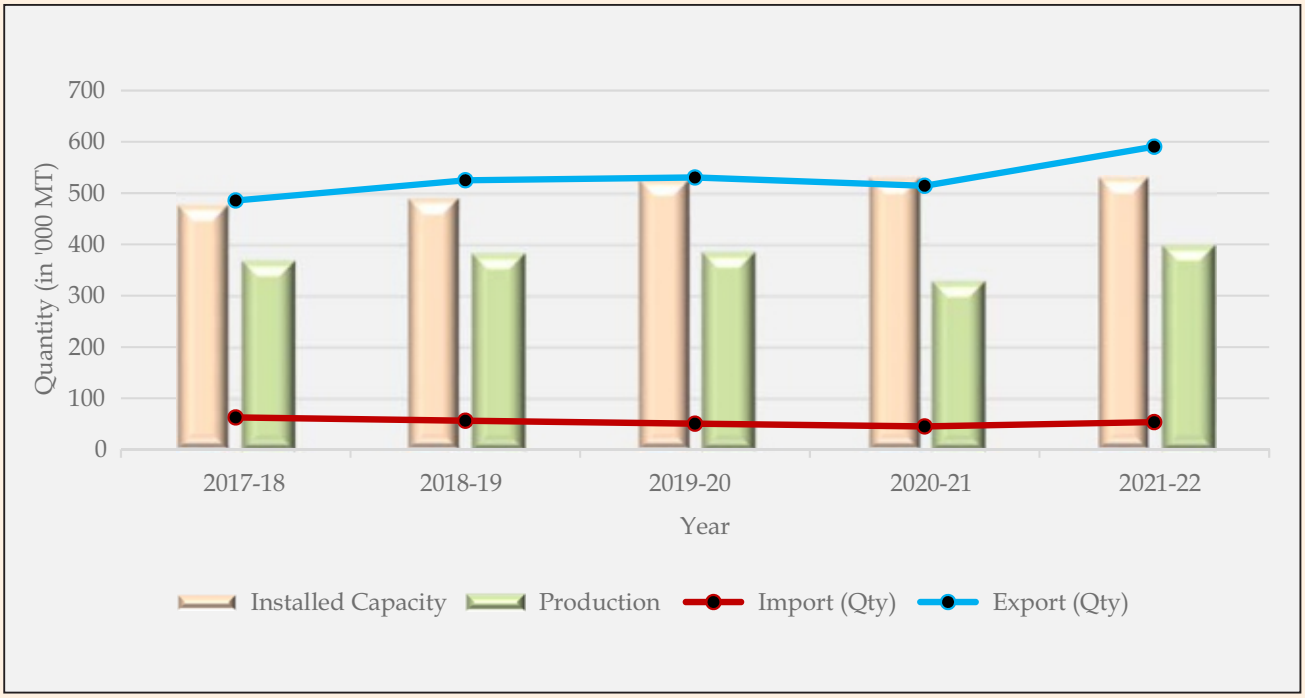
Dyes and Pigments

Table 7.9 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	478	367	63	486
2018-19	492	382	56	525
2019-20	528	384	51	530
2020-21	532	327	45	514
2021-22	533	398	54	591
CAGR (%)	2.7	2.0	-3.9	5.0

Source : **DCPC**

Graph 7.9 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Dyes and Pigments chart displays a consistent increase in installed capacity from the FY 2017-18 to FY 2021-22, reflecting a growing demand for these chemicals in various industries. Over the same period, the chart shows a gradual increase in Dyes and Pigments production with a Compound Annual Growth Rate (CAGR) of 2.0%, suggesting a stable market for the industry. Moreover, the Dyes and Pigments chart demonstrates a significant difference between export and import rates, indicating a strong domestic production capability and a competitive presence in the global market.

Dyes and Pigments

Table 7.10 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Export
2017 -18	2314	14393	12079
2018 -19	2784	18007	15223
2019 -20	2814	19284	16470
2020 -21	2527	17704	15177
2021 -22	3267	23365	20098
CAGR (%)	9.0	12.9	13.6

Source : **DCPC**

Graph 7.10 : Value of Import, Value of Export and Net Import

Source : **DCPC**

The Dyes and Pigments chart displays a sharp increase in the value of export from the FY 2017-18 to FY 2021-22. Over the same period, the chart also shows a steady increase in the value of the import of Dyes and Pigments production, suggesting a stable market for the industry.

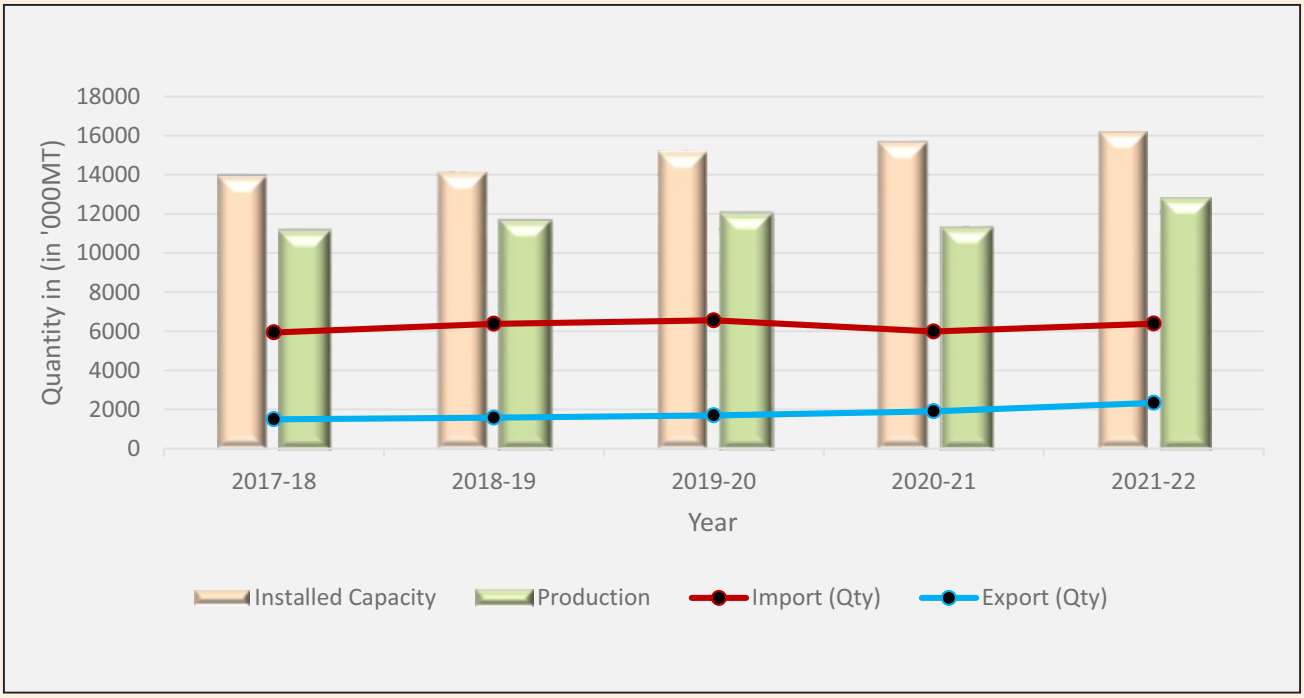
Total Major Chemicals

Table 7.11 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	13927	11069	5937	1496
2018-19	14112	11589	6379	1579
2019-20	15160	11943	6557	1698
2020-21	15652	11243	5983	1905
2021-22	16178	12743	6385	2339
CAGR (%)	3.8	3.6	1.8	11.8

Source : **DCPC**

Graph 7.11 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Total Major Chemicals chart exhibits a gradual increase in installed capacity from the FY 2017-18 to FY 2021-22, reflecting a slow but steady growth in demand for chemicals across various industries. Over the same period, the chart shows a consistent increase in Major Chemicals production with a Compound Annual Growth Rate (CAGR) of 3.6%, except for a minor dip in the FY 2020-21. This suggests a stable market for the industry, despite the disruptions caused by the pandemic. Although the Total Major Chemicals chart displays a higher rate of import compared to export, there is a slow but steady reduction in the gap between them over the years, indicating an improving domestic production capability and potentially reducing the reliance on foreign markets.

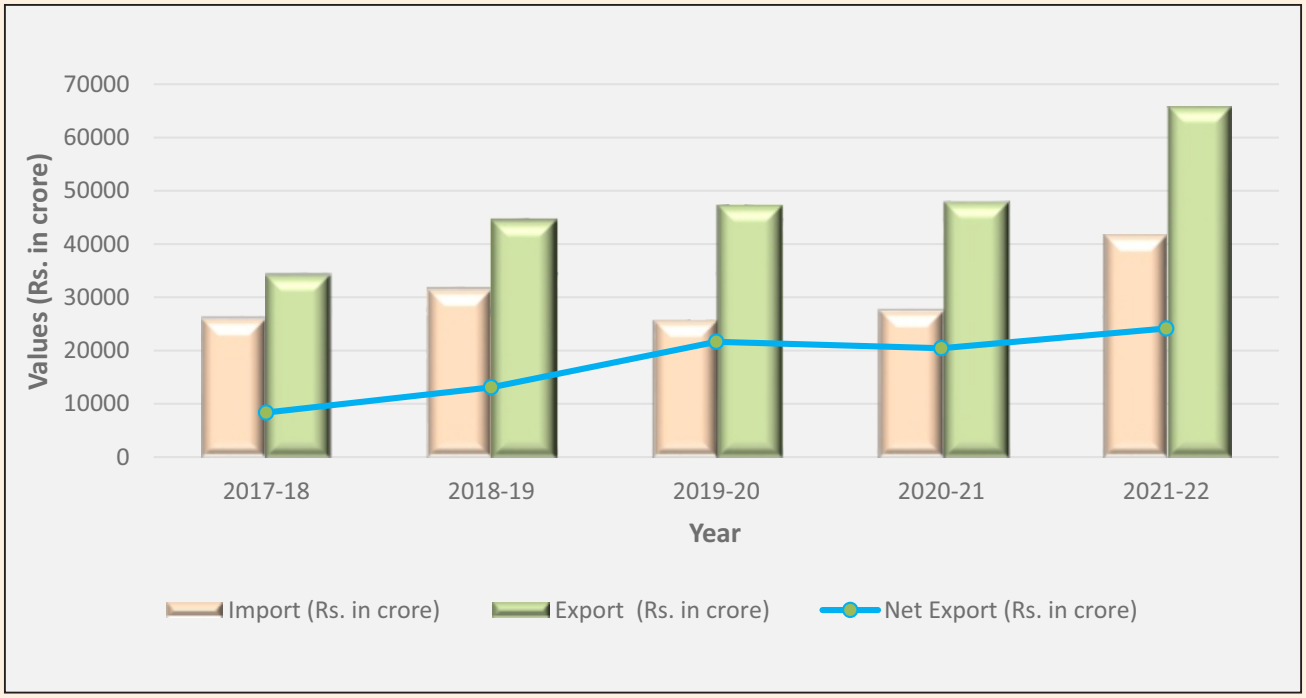
Total Major Chemicals

Table 7.12:-Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Export
2017-18	25942	34300	8357
2018-19	31426	44516	13091
2019-20	25659	47313	21653
2020-21	27490	47935	20445
2021-22	41646	65796	24150
CAGR (%)	12.6	17.7	30.4

Source : **DCPC**

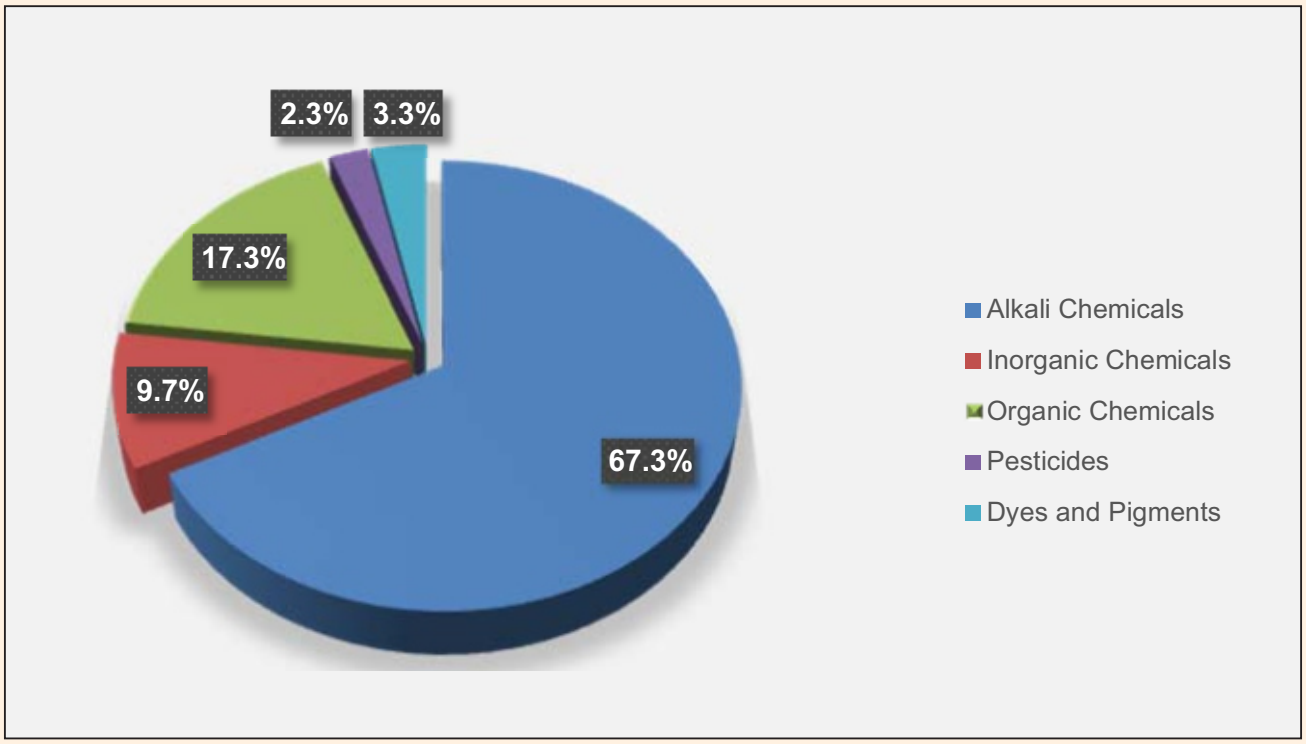
Graph 7.12:- Value of Import, Value of Export and Net Import



Source : **DCPC**

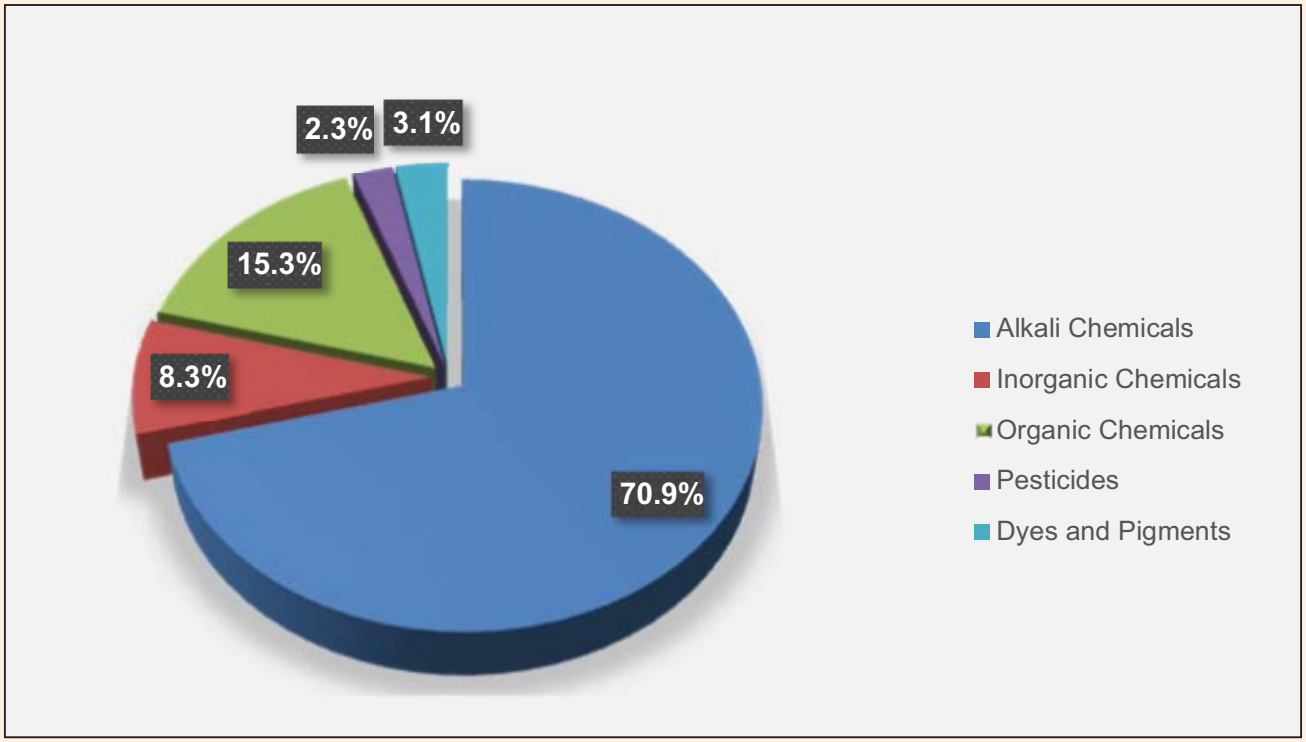
The chart related to Import and Export for Total Major Chemicals displays a sharp increase in the value of export from the FY 2017-18 to FY 2021-22. Over the same period, the chart also shows quite an increase in the value of the import of Major Chemicals, suggesting a stable market for the industry.

Pie Chart 7.1: Share of different groups of Major Chemicals in Installed Capacity during FY 2021-22



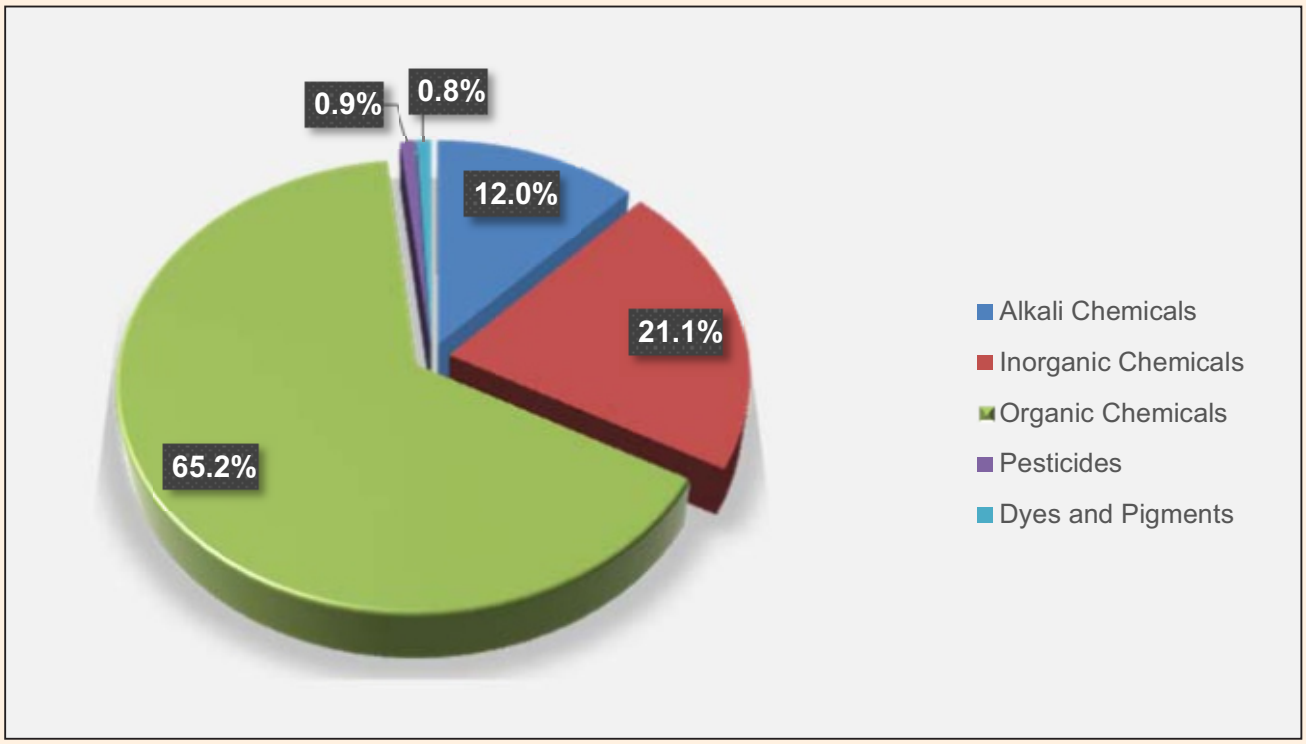
Source : DCPC

Pie Chart 7.2: Share of different groups of Major Chemicals in production during FY 2021-22



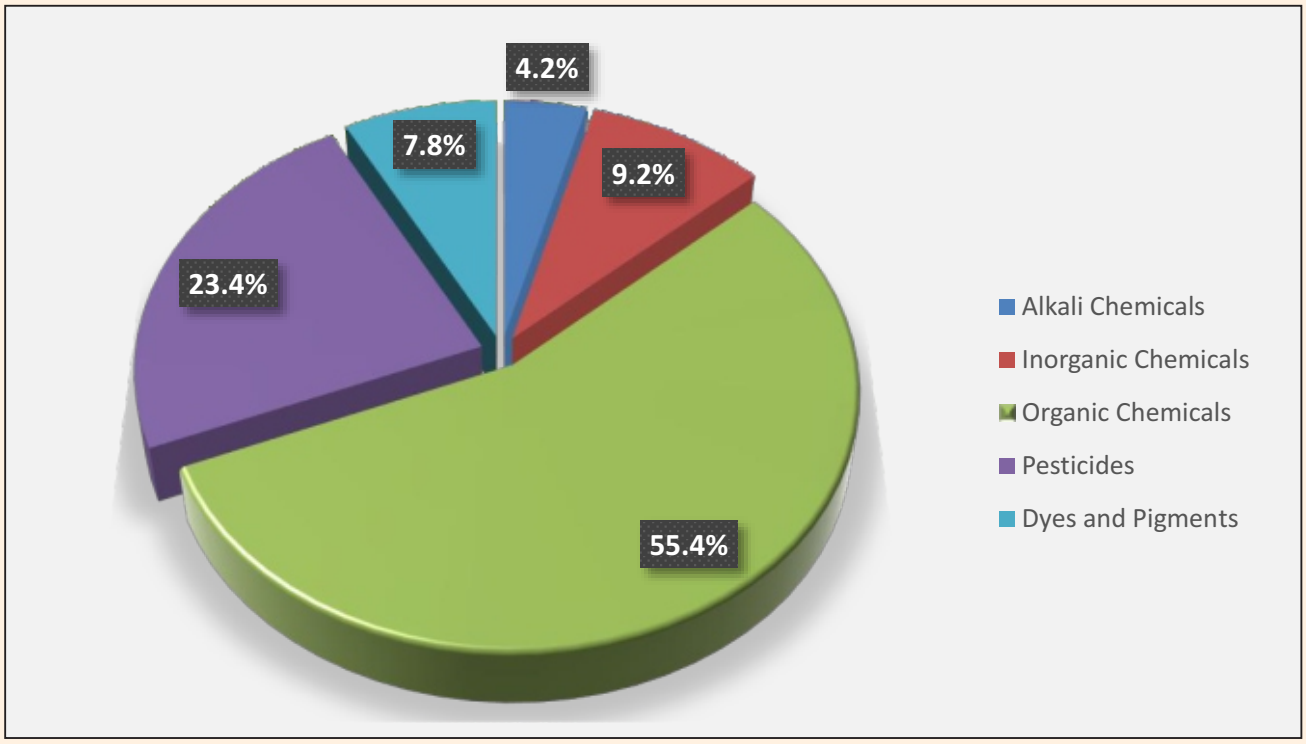
Source : DCPC

Pie Chart 7.3 : Share of different Groups of Major Chemicals in Import (Qty.) during FY 2021-22



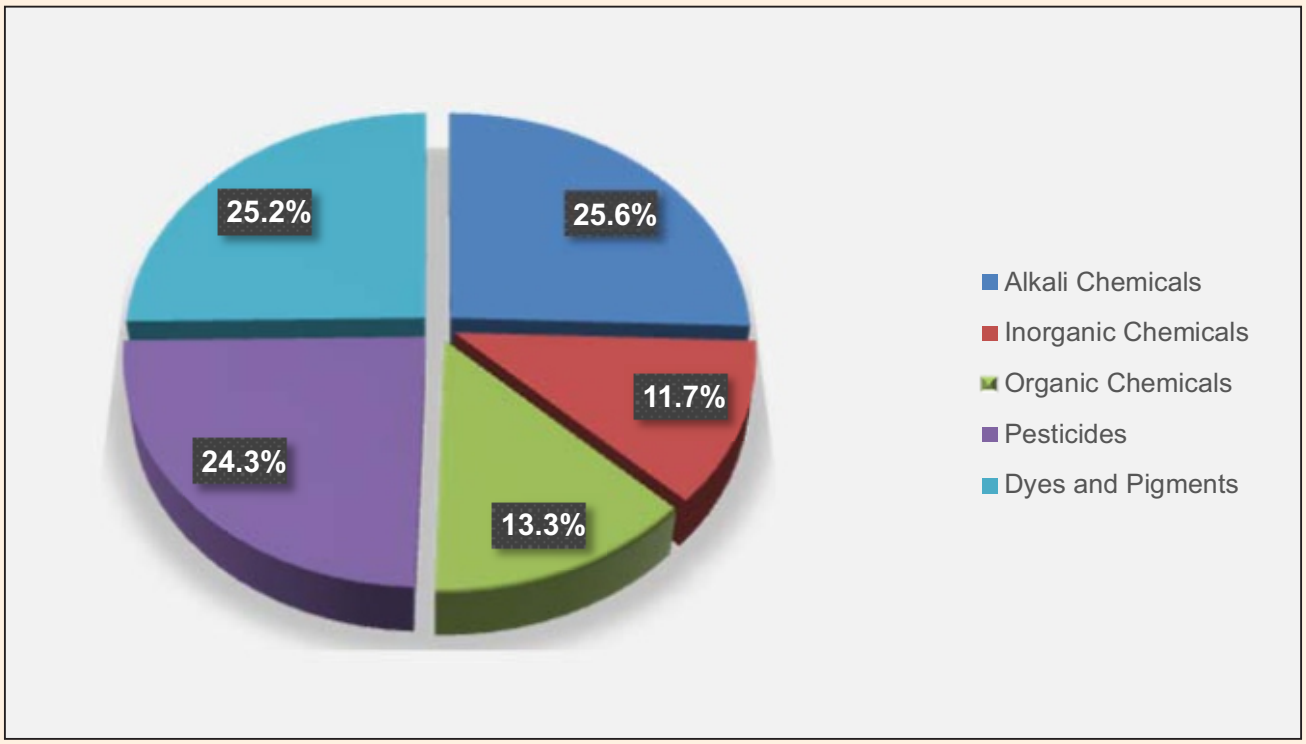
Source : DCPC

Pie Chart 7.4 : Share of different Groups of Major Chemicals in Import (Value) during FY 2021-22



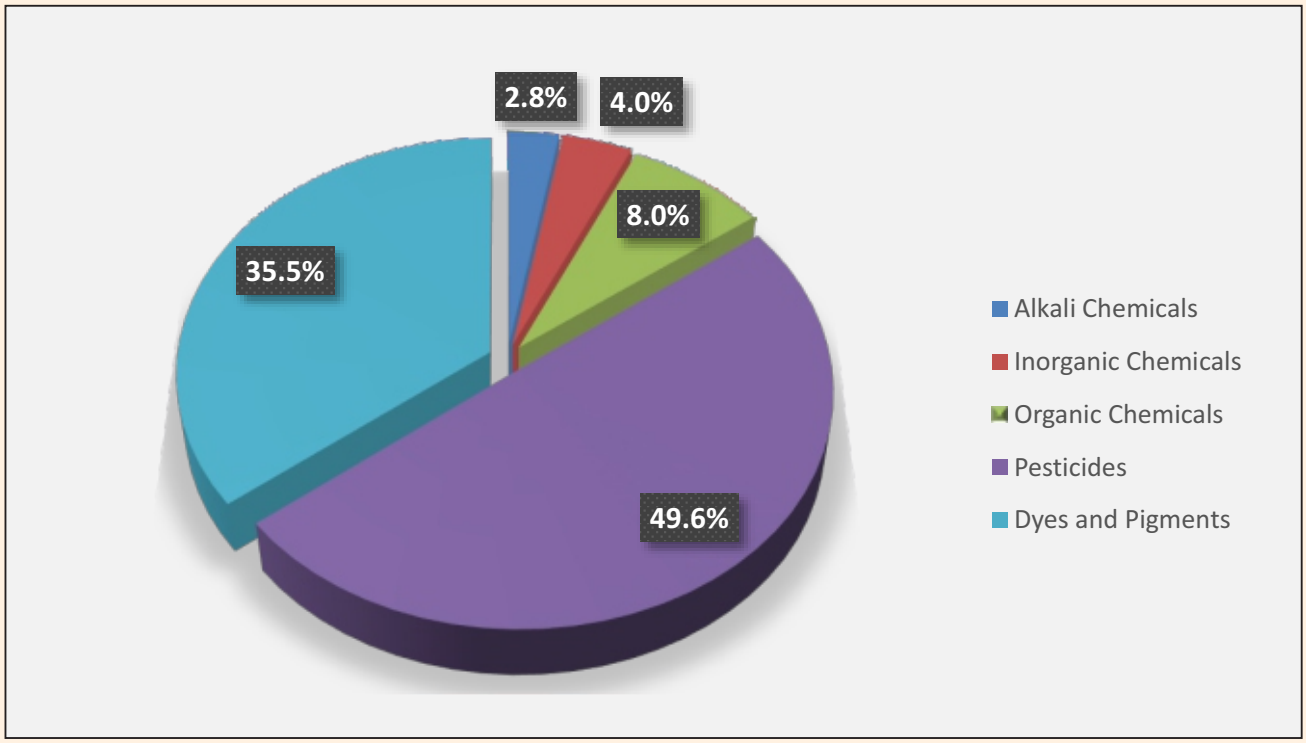
Source : DCPC

Pie Chart 7.5 : Share of different Groups of Major Chemicals in Export (Qty) during FY 2021-22



Source : DCPC

Pie Chart 7.6 : Share of different Groups of Major Chemicals in Export (Value) in FY 2021-22



Source : DCPC

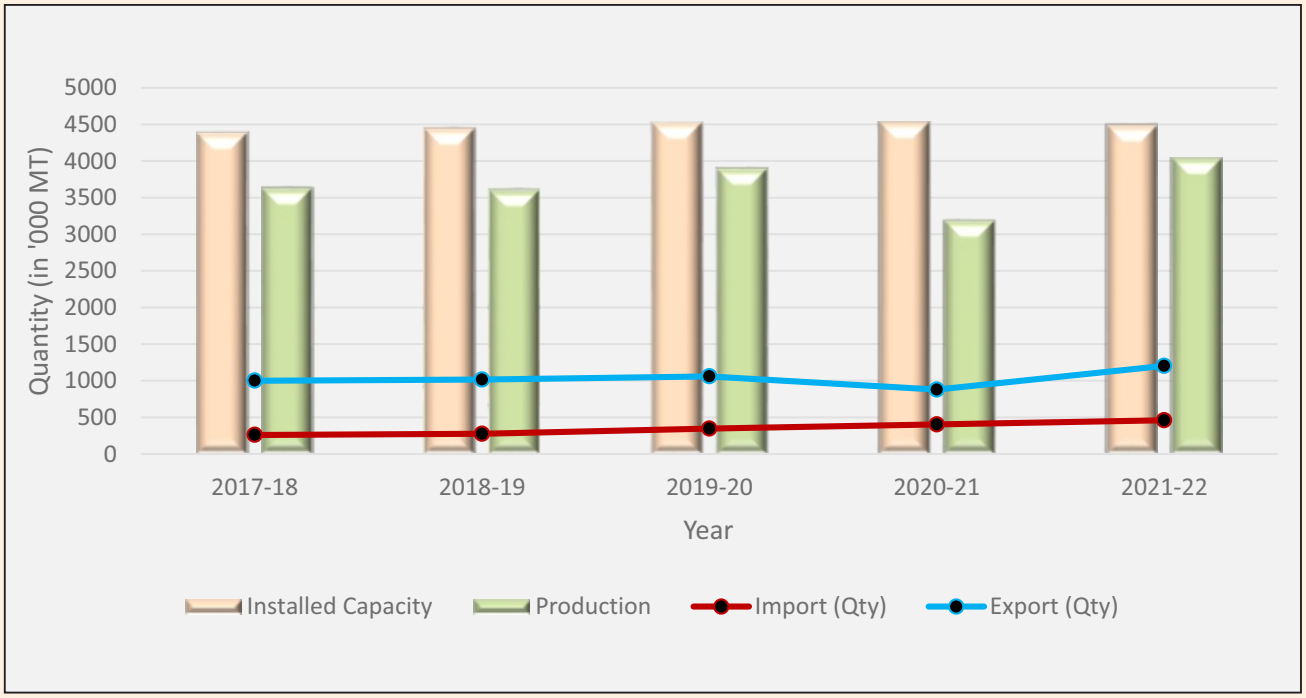
Synthetic Fibre

Table 7.13 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	4379	3625	260	1001
2018-19	4440	3601	276	1016
2019-20	4521	3893	347	1059
2020-21	4529	3185	403	879
2021-22	4483	4040	460	1202
CAGR (%)	0.6	2.7	15.4	4.7

Source : **DCPC**

Graph 7.13 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The chart for Synthetic Fibres exhibits a slight increase in installed capacity from 2017-18 to 2021-22, reflecting a slow but steady growth in demand for fibre related products across various industries. Over the same period, the chart shows a consistent increase in Synthetic Fibre production, except for a minor dip in 2020-21. This suggests a stable market for the industry, despite the disruptions caused by the pandemic. As with the chart on Major Chemicals, the Synthetic Fibres chart also displays a higher rate of import compared to export, there is a slow but steady reduction in the gap between them over the years, indicating increasing reliance on foreign markets.

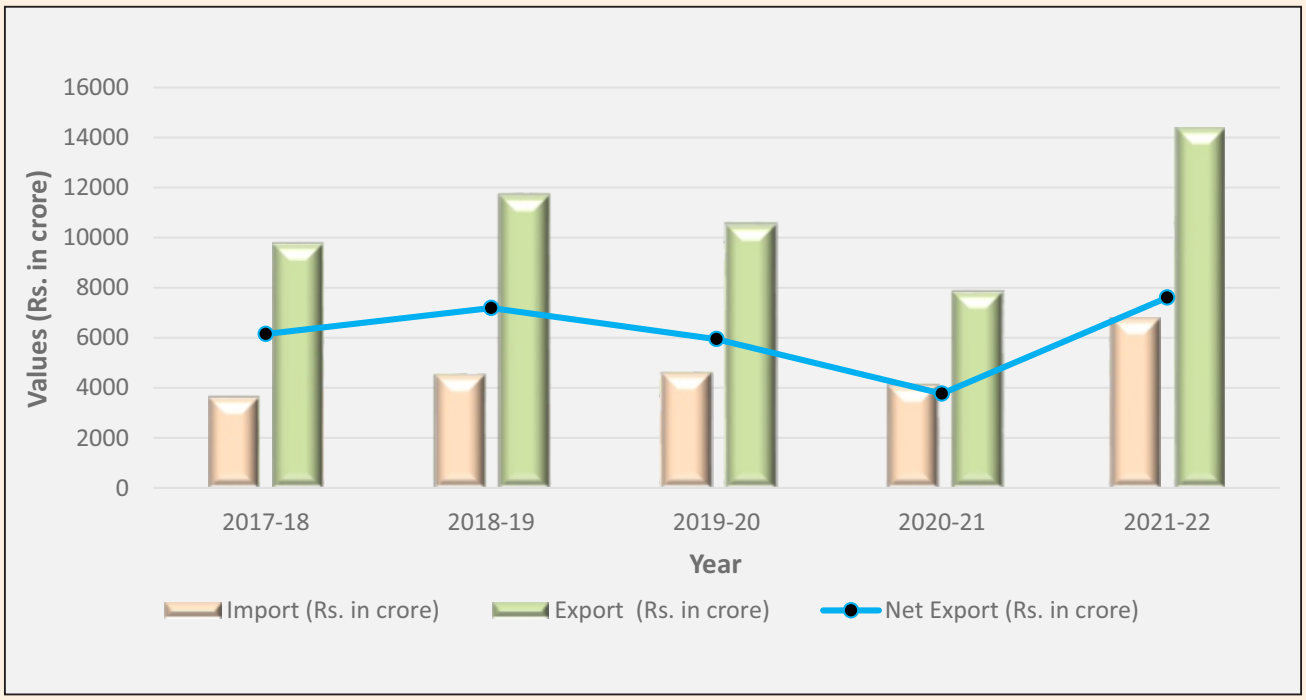
Synthetic Fibre

Table 7.14 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Export
2017-18	3631	9780	6149
2018-19	4534	11720	7187
2019-20	4609	10550	5941
2020-21	4107	7870	3763
2021-22	6785	14389	7604
CAGR (%)	16.9	10.1	5.5

Source : **DCPC**

Graph 7.14 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The chart related to Import and Export for Synthetic Fibres displays a mixed trend with an overall increase in the value of export from the FY 2017-18 to FY 2021-22, with dip in exports during the FY 2019-20 and FY 2020-21. Over the same period, the chart also shows a steady increase in the value of the import of Major Chemicals, barring the dip in its value during the FY 2020-21. Also, the Net Export with a CAGR of 5.5% suggests a relatively stable market for the industry.

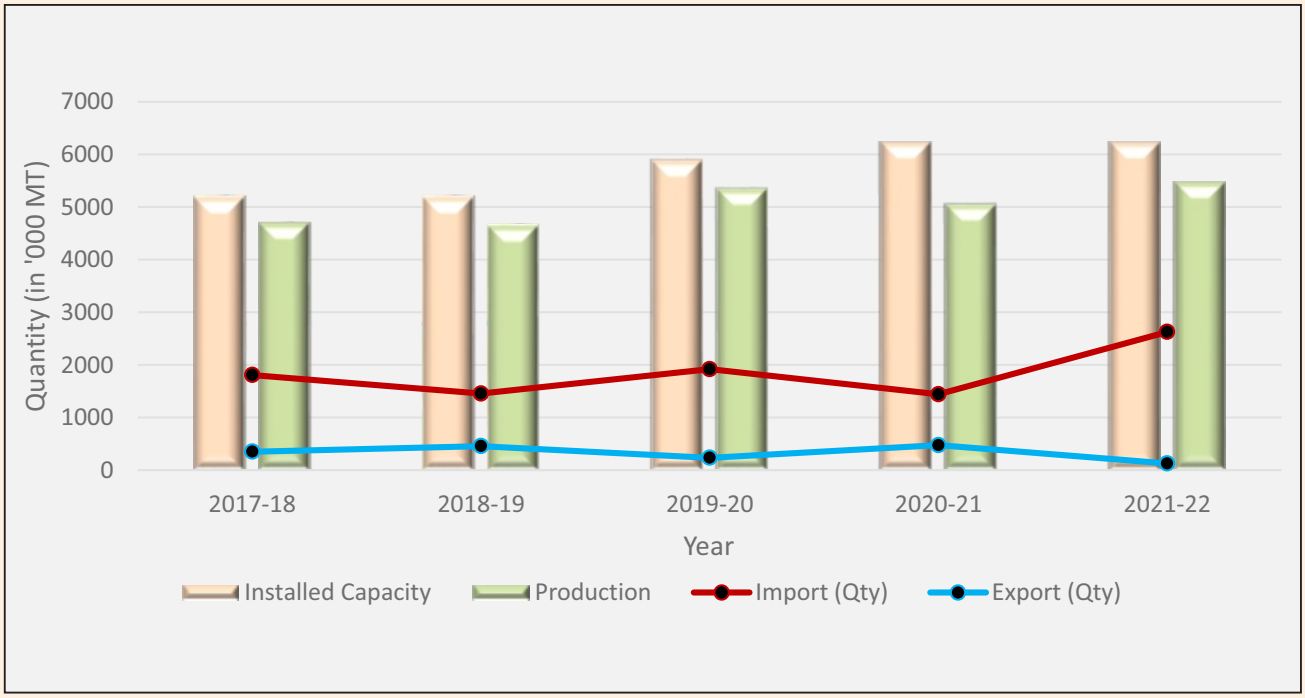
Fibre Intermediate

Table 7.15 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	5187	4711	1808	351
2018-19	5187	4657	1455	457
2019-20	5885	5359	1920	234
2020-21	6228	5059	1441	475
2021-22	6228	5482	2627	128
CAGR (%)	4.7	3.9	9.8	-22.4

Source : **DCPC**

Graph 7.15 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Fibre Intermediate chart displays a consistent rise in installed capacity from the FY 2017-18 to FY 2020-21 and remain constant for the FY 2021-22. Over the same period the chart shows gradual increase in production with a CAGR of 3.9% indicating positive trend in the market. Furthermore the gap between Import and Export widening showing strong demand in domestic market as well as increasing reliance on foreign market.

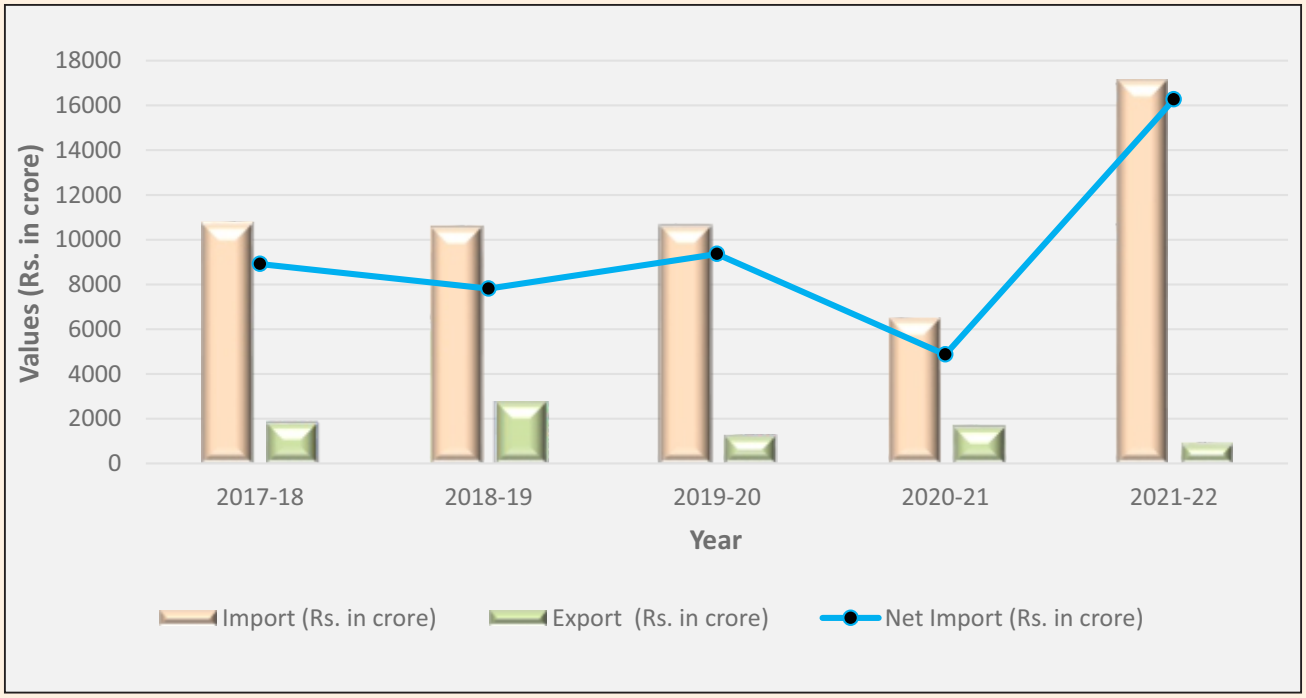
Fibre Intermediate

Table 7.16:-Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	10723	1811	8913
2018-19	10569	2759	7810
2019-20	10595	1236	9359
2020-21	6495	1629	4866
2021-22	17133	865	16267
CAGR (%)	12.4	-16.9	16.2

Source : **DCPC**

Graph 7.16:- Value of Import, Value of Export and Net Import



Source : **DCPC**

The chart on Fibre Intermediates displays a nearly steady value of export from the FY 2017-18 to FY 2019-20 with a sharp decrease in the FY 2021-22, moreover it shows an increase in the value of import from the FY 2017-18 to FY 2021-22.

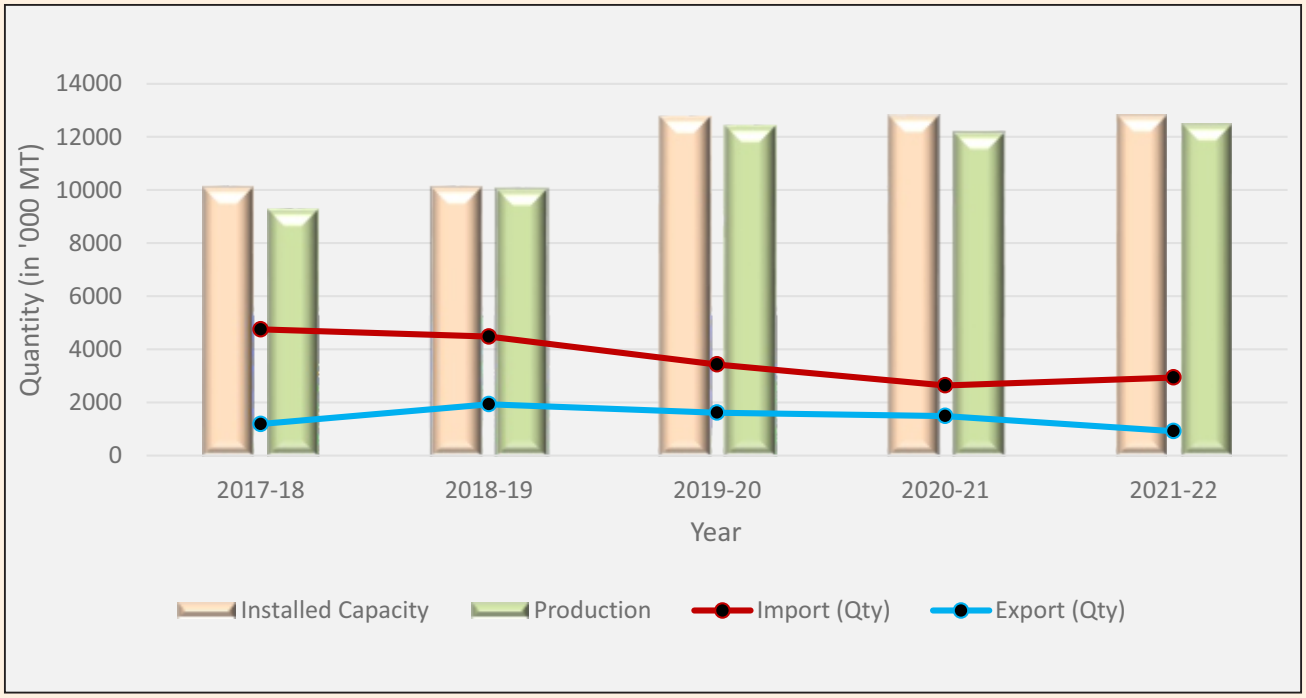
Polymers

Table 7.17 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	10112	9276	4751	1188
2018-19	10115	10040	4479	1934
2019-20	12754	12404	3430	1615
2020-21	12799	12144	2641	1489
2021-22	12820	12471	2941	921
CAGR (%)	6.1	7.7	-11.3	-6.2

Source : **DCPC**

Graph 7.17 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The chart for Polymers exhibits a steady increase in the installed capacity from the FY 2017-18 to FY 2021-22. Over the same period, the chart shows a consistent increase in Synthetic Fibre production, except for a minor dip in the FY 2020-21. The Polymers chart also displays a decreasing rate of import and export with a rate of decrease greater in case of imports during the FY 2017-18 to FY 2021-22.

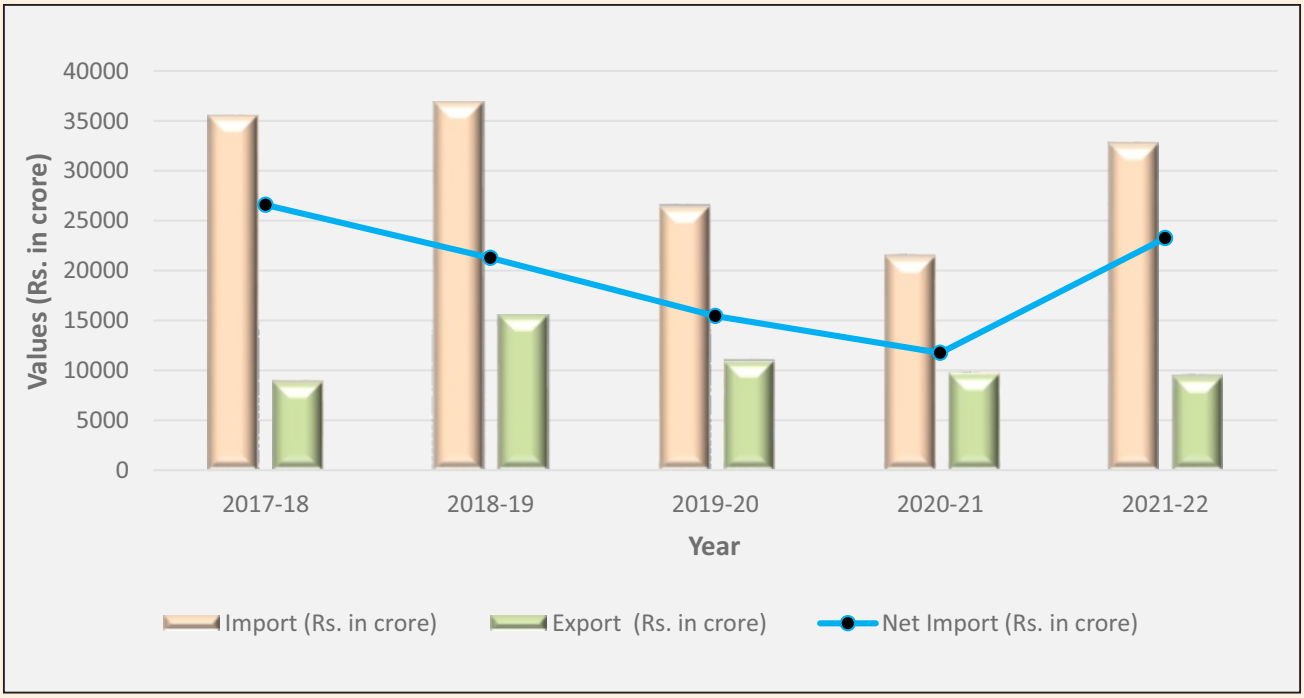
Polymers

Table 7.18 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	35493	8918	26575
2018-19	36848	15584	21264
2019-20	26394	10953	15440
2020-21	21423	9681	11742
2021-22	32672	9425	23247
CAGR (%)	-2.0	1.4	-3.3

Source : **DCPC**

Graph 7.18 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The chart highlights a decrease in import values for Polymers over the years, with a significant increase in the FY 2018-2019, followed by a decrease in the subsequent years. Export values were relatively stable but with some fluctuations. Net import values decreased initially but then increased in the later years, indicating a continued dependence on imports for Polymers in India. The trend for import values showed a decline in demand, while for export values showed a slight increase, and for the net import values indicated a decline, but the dependence on imports remained high.

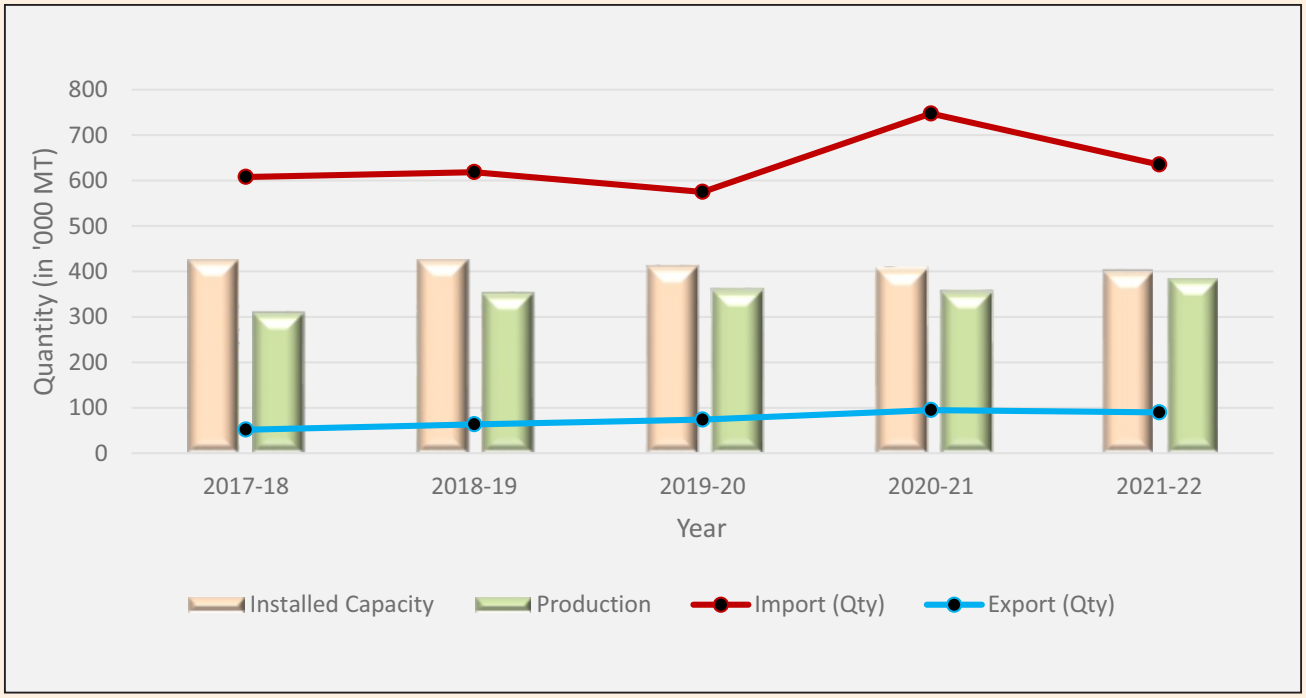
Synthetic Rubber

Table 7.19 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	425	308	608	52
2018-19	425	351	619	64
2019-20	411	358	575	74
2020-21	406	353	747	95
2021-22	400	383	635	90
CAGR (%)	-1.5	5.6	1.1	14.7

Source : **DCPC**

Graph 7.19 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The chart indicates that the installed capacity for Synthetic Rubber remained constant during the FY 2017-18 to FY 2021-22. However, despite the constant installed capacity, the production of Synthetic Rubber increased at a Compound Annual Growth Rate (CAGR) of 5.6% during the same period, which suggests an improvement in capacity utilization. On the other hand, the import value of Synthetic Rubber is significantly higher than its export value during the same period, indicating a higher demand for the product domestically than abroad

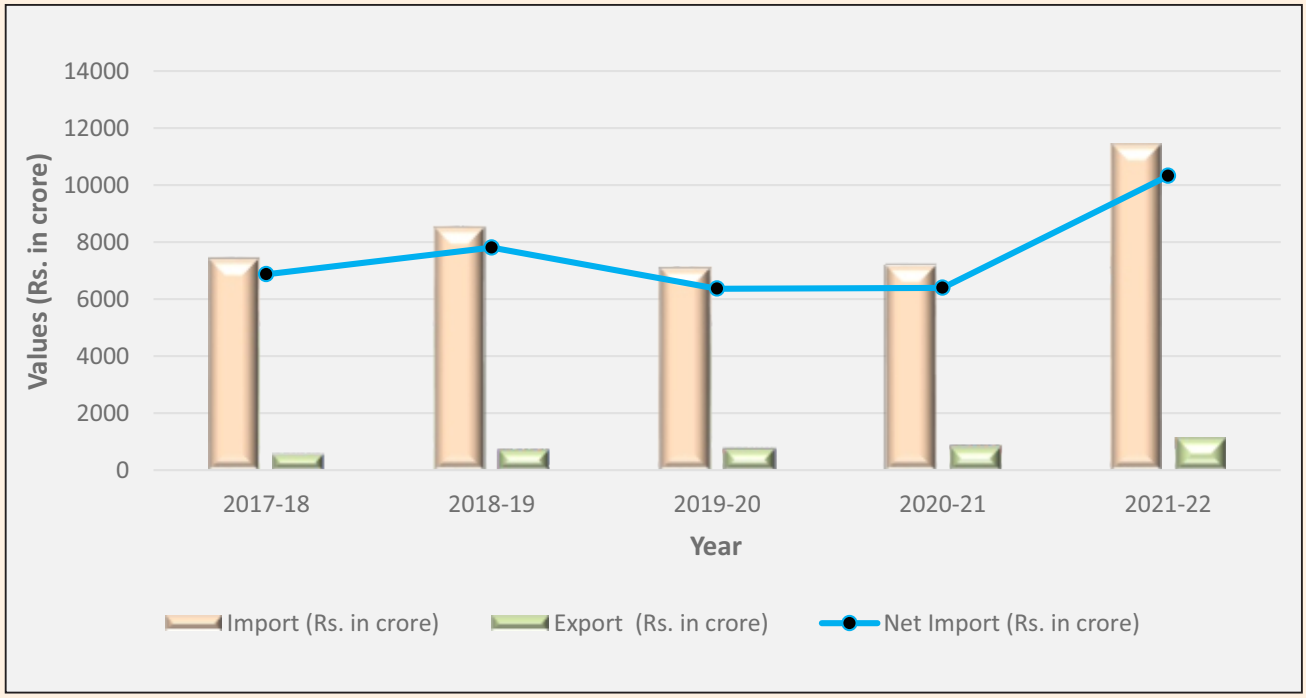
Synthetic Rubber

Table 7.20 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	7418	546	6872
2018-19	8514	707	7807
2019-20	7095	731	6365
2020-21	7189	794	6394
2021-22	11441	1118	10323
CAGR (%)	11.4	19.6	10.7

Source : **DCPC**

Graph 7.20 : Value of Import, Value of Export and Net Import



Source : **DCPC**

According to the Synthetic Rubber chart, import values exhibited a consistent upward trend from the FY 2017-2018 to FY 2021-2022, with the highest value recorded in the latest year. Similarly, export values showed a rising trend, reaching their peak in the FY 2021-2022. Although the net import values decreased marginally from the FY 2017-2018 to FY 2019-2020, they increased in the subsequent years, reaching their maximum value in the FY 2021-2022. This suggests that the country's reliance on imports for Synthetic Rubber remained significant over the years.

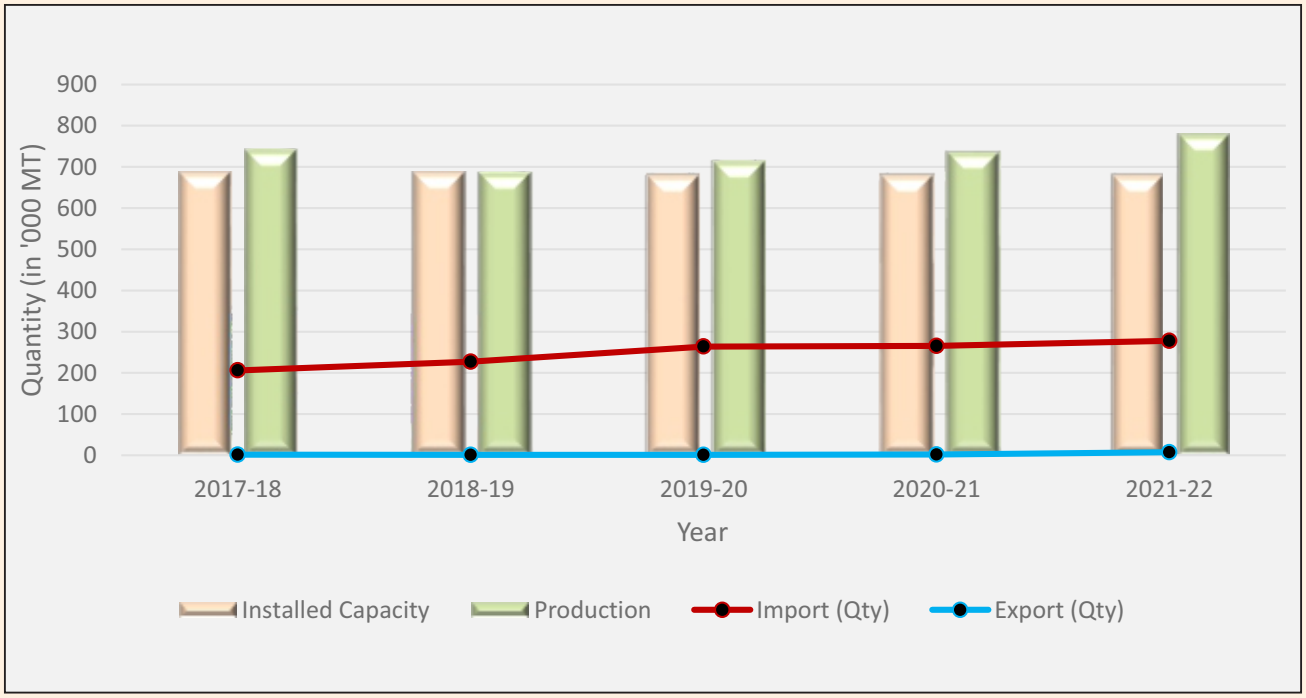
Synthetic Detergent Intermediates

Table 7.21 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	687	743	206	1
2018-19	687	687	227	1
2019-20	680	715	264	1
2020-21	680	736	265	2
2021-22	680	780	278	7
CAGR (%)	-0.3	1.2	7.8	51.7

Source : **DCPC**

Graph 7.21 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The chart reveals that the installed capacity for Synthetic Detergent Intermediates remained constant during the FY 2017-18 to FY 2021-22. However, the production of Synthetic Detergent Intermediates showed an increasing trend from the FY 2018-19 to FY 2021-22, indicating an improvement in production efficiency during this period. Moreover, the import value of Synthetic Detergent Intermediates was higher than its export value during the same period, suggesting a higher demand for the product domestically than abroad.

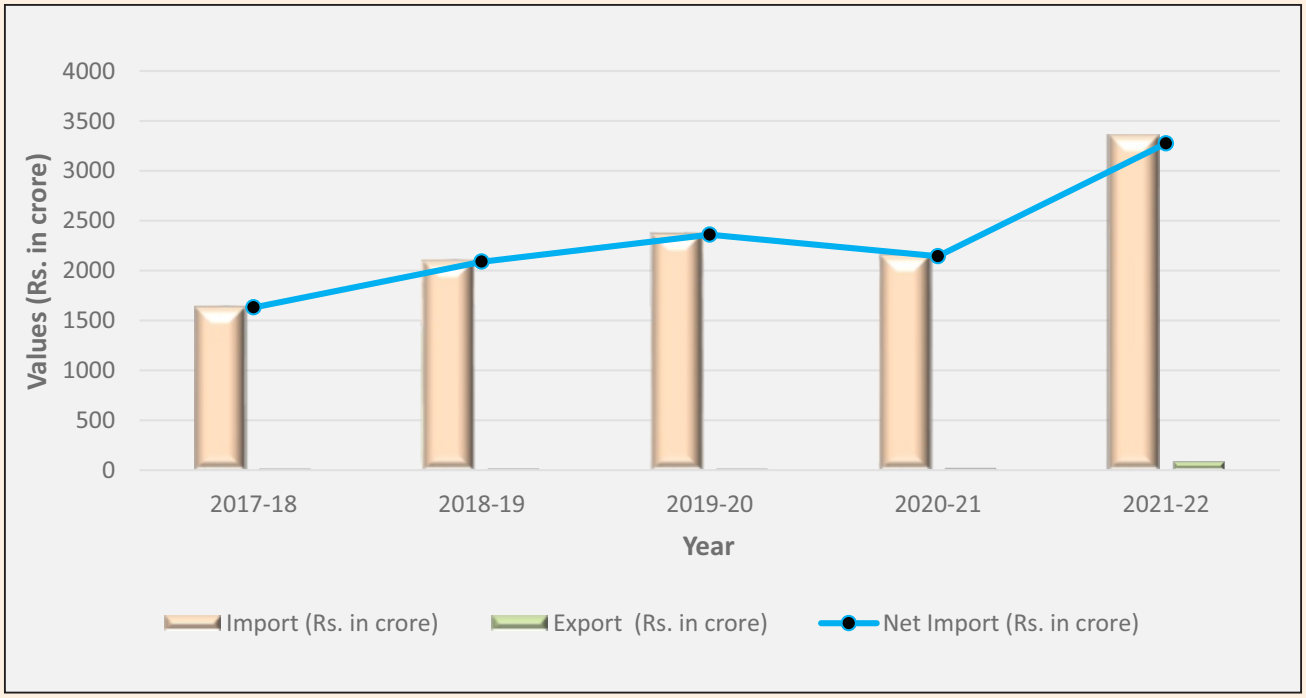
Synthetic Detergent Intermediates

Table 7.22 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	1645	15	1631
2018-19	2104	15	2089
2019-20	2374	15	2359
2020-21	2163	19	2143
2021-22	3362	87	3275
CAGR (%)	19.6	56.0	19.0

Source : **DCPC**

Graph 7.22 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The chart for Synthetic Detergent Intermediates displays a steady increase in import values over the five-year period, with the highest value in the FY 2021-2022. Export values remained consistently low throughout the period, with a significant increase in the FY 2021-2022. Net import values showed a similar trend to import values, increasing steadily over the period. The CAGR for import values indicated a significant increase in demand, while the CAGR for export values showed a large increase but from a low base. The CAGR for net import values also indicated a significant increase in net imports, suggesting a growing dependence on imports for this product in India.

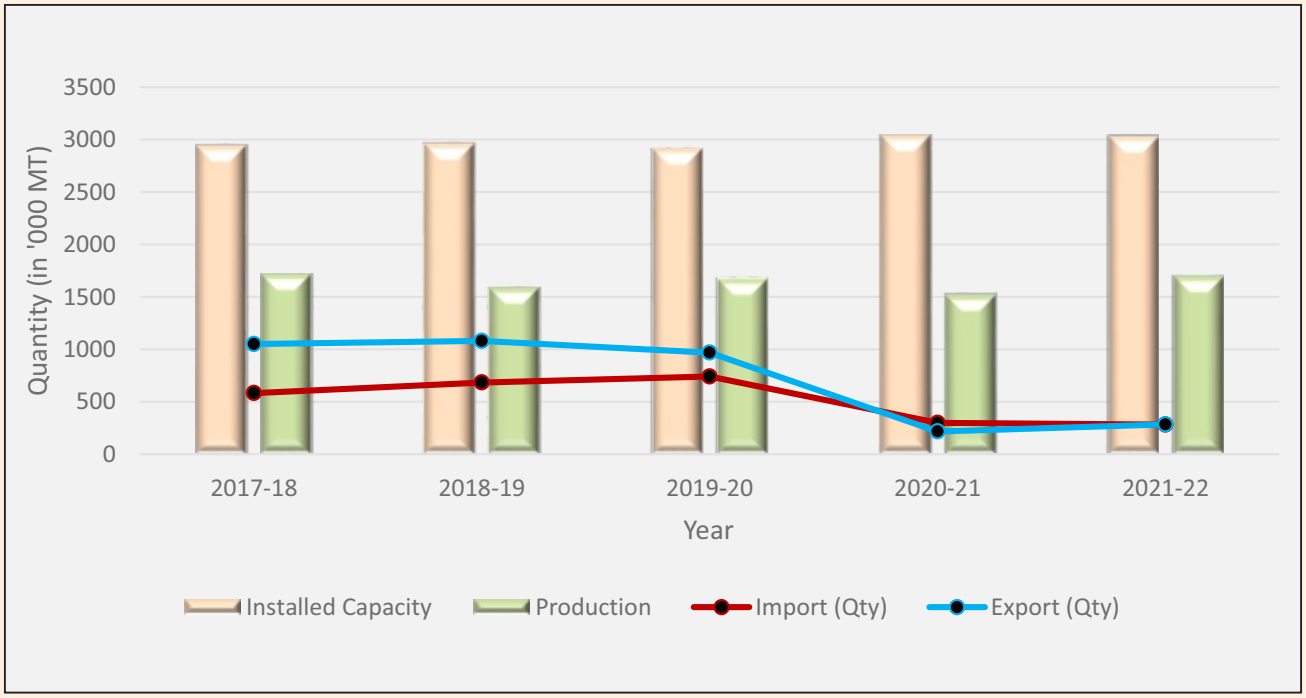
Performance Plastics

Table 7.23 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	2947	1719	583	1051
2018-19	2963	1589	684	1080
2019-20	2919	1672	741	969
2020-21	3046	1520	299	217
2021-22	3032	1698	283	284
CAGR (%)	0.7	-0.3	-16.6	-27.9

Source : **DCPC**

Graph 7.23 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The chart suggests that the installed capacity for Performance Plastics is very high compared to its production during the FY 2017-18 to FY 2021-22. This indicates that the installed capacity is not being fully utilized, which could be due to various reasons such as lack of demand or operational issues. On the other hand, the export value of Performance Plastics was higher than its import value during the FY 2017-18 to FY 2019-20. However, the values were approximately the same in the FY 2020-21 and FY 2021-22, suggesting a shift in the trade balance for Performance Plastics during those years.

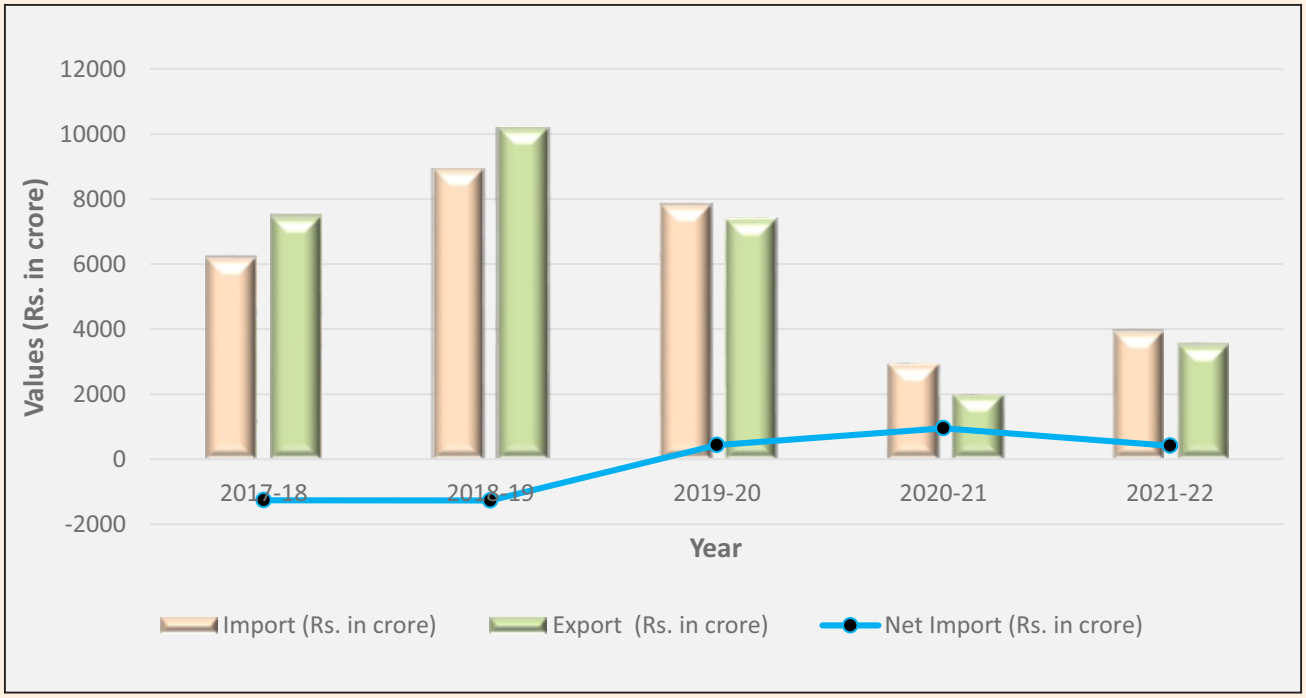
Performance Plastics

Table 7.24 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	6210	7473	-1262
2018-19	8917	10188	-1271
2019-20	7825	7390	435
2020-21	2938	1987	951
2021-22	3949	3537	412
CAGR (%)	-10.7	-17.1	NA

Source : **DCPC**

Graph 7.24 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The chart for Performance Plastics shows that import values steadily increased from the FY 2017-2018 to FY 2018-2019, then decreased in the FY 2019-2020 and FY 2020-2021, and slightly increased again in the FY 2021-2022. Export values fluctuated over the same period, peaking in the FY 2018-2019, then decreasing, and slightly increasing again in the FY 2021-2022.

Net import values were negative from the FY 2017-2018 to FY 2018-2019, indicating that more Performance Plastics were exported than imported, but became positive from the FY 2019-2020 to FY 2021-2022. The CAGR for import values indicated a decrease in demand, while for export values, it indicated a significant decline. However, no CAGR data is available for net import values.

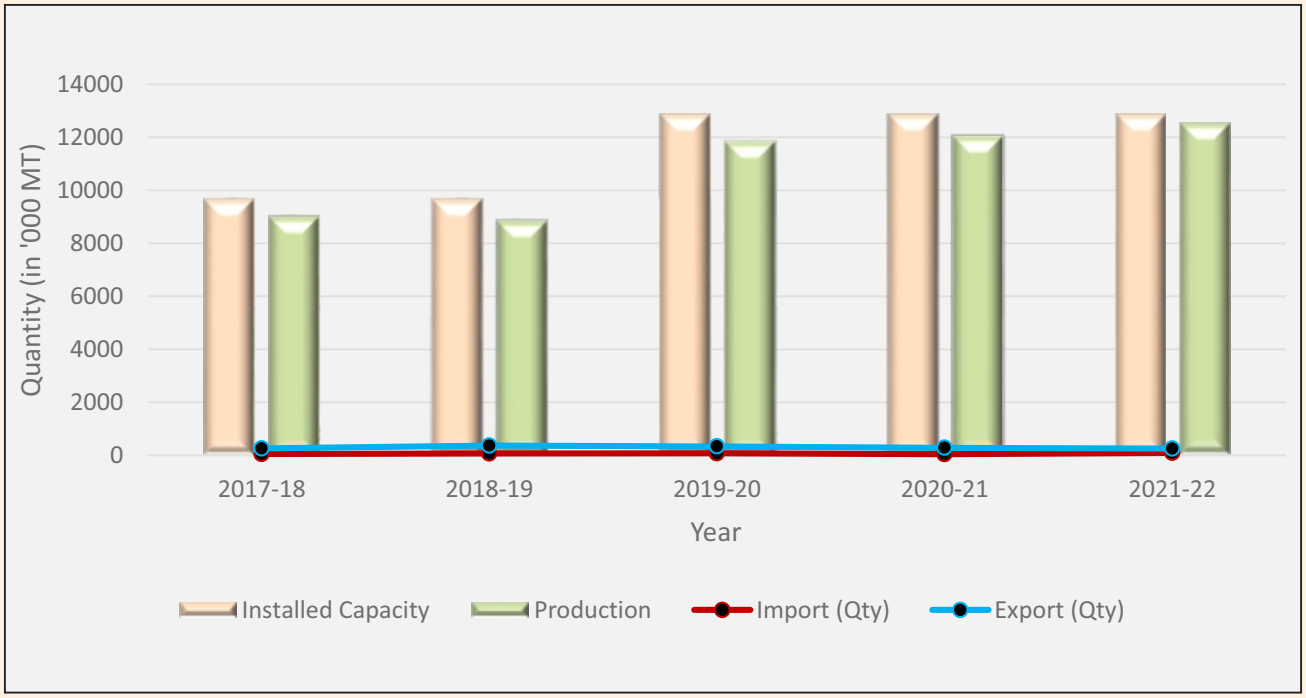
Olefins

Table 7.25 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	9683	9013	51	261
2018-19	9683	8857	70	369
2019-20	12890	11835	76	336
2020-21	12890	12039	44	285
2021-22	12890	12527	92	256
CAGR (%)	7.4	8.6	16.0	-0.5

Source : **DCPC**

Graph 7.25 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Olefins chart shows an increase in installed capacity from the FY 2017-2018 to FY 2019-2020, which remained steady in the following years. Production also increased over the period, with a sharp rise in the FY 2019-2020 and FY 2020-2021. Import values showed fluctuations throughout the period, while export values decreased from the FY 2018-2019 to FY 2021-2022.

Olefins

Table 7.26 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Export
2017-18	433	1798	1365
2018-19	578	2767	2189
2019-20	510	1881	1371
2020-21	340	1361	1021
2021-22	762	1739	977
CAGR (%)	15.2	-0.8	-8.0

Source : **DCPC**

Graph 7.26 : Value of Import, Value of Export and Net Import

Source : **DCPC**

The Olefins chart shows fluctuations in the import values, reaching a peak in the FY 2018-2019 before decreasing in subsequent years and then rising again in the FY 2021-2022. In contrast, export values for Olefins demonstrated a steady increase from the FY 2017-2018 to FY 2018-2019, followed by a decline in subsequent years, with a slight increase in the FY 2021-2022. The CAGR for import values showed an increasing demand, while for export values showed a slight decline over the same period.

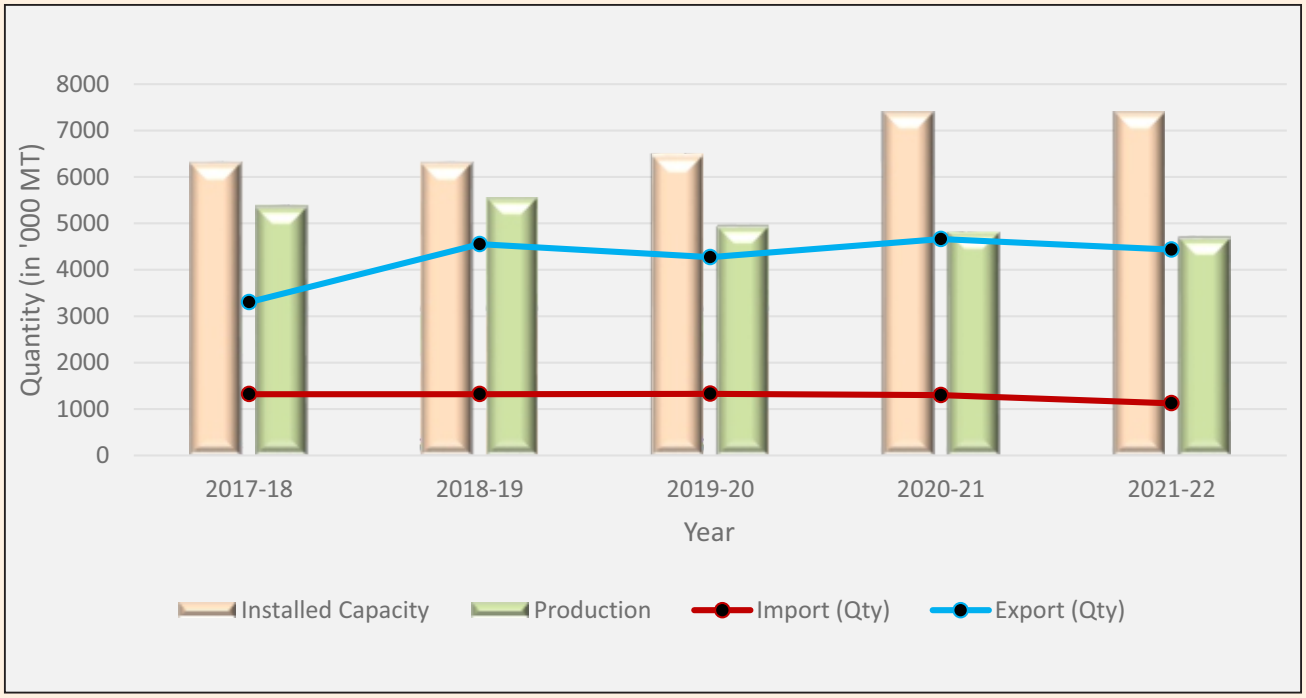
Aromatics

Table 7.27 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	6305	5339	1321	3303
2018-19	6305	5543	1320	4551
2019-20	6460	4925	1328	4271
2020-21	7404	4805	1300	4661
2021-22	7404	4677	1124	4435
CAGR (%)	4.1	-3.3	-3.9	7.6

Source : **DCPC**

Graph 7.27 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Aromatics industry had a slight increase in installed capacity in the FY 2019-2020, followed by a significant increase in the FY 2020-2021, and then maintaining the same level in the FY 2021-2022. Production values showed fluctuations in the same period, with a significant decrease in the FY 2019-2020, followed by a slight increase in the following years. Import values were stable in the same period, with a slight decrease in the last year. Export values showed fluctuations, with a significant increase in the FY 2018-2019, followed by a decrease in the following years and a slight increase again in the FY 2021-2022.

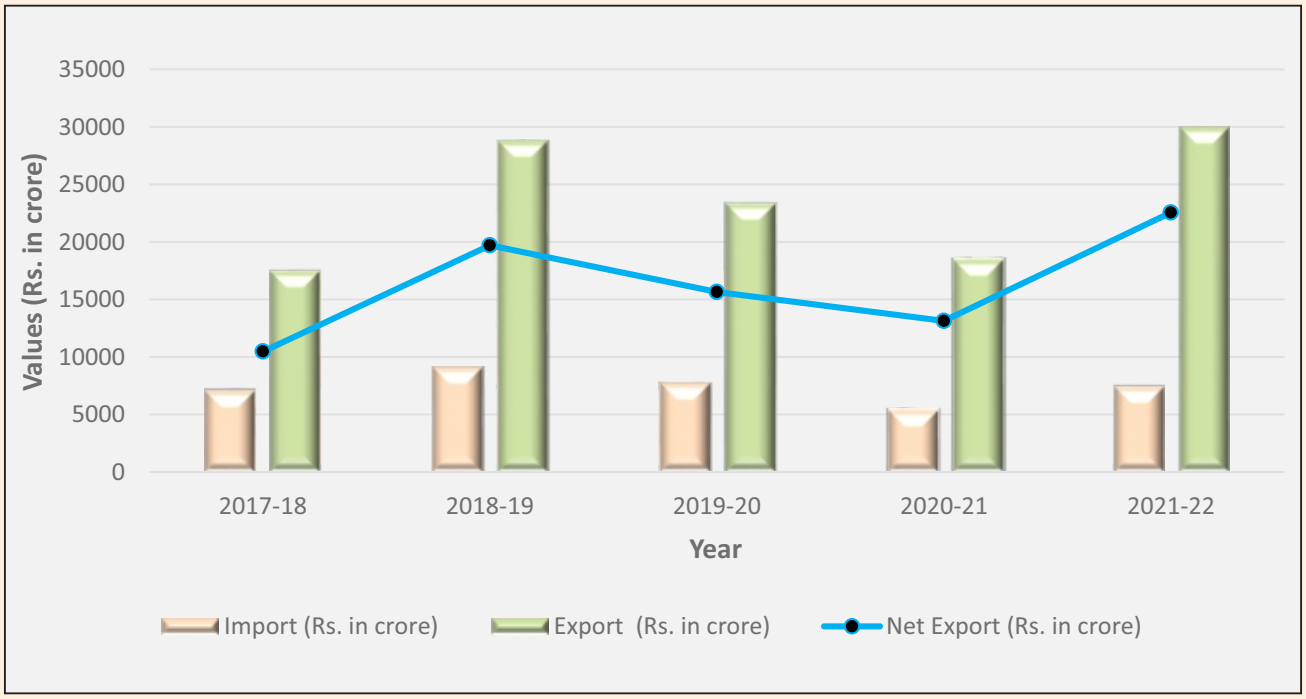
Aromatics

Table 7.28 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Export
2017-18	7085	17550	10465
2018-19	9102	28803	19701
2019-20	7728	23374	15646
2020-21	5421	18547	13126
2021-22	7425	29980	22555
CAGR (%)	1.2	14.3	21.2

Source : **DCPC**

Graph 7.28 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The Aromatics chart shows an overall increasing trend in both import and export values from the FY 2017-2018 to FY 2021-2022. Import values for Aromatics peaked in the FY 2018-2019 before gradually decreasing in the following years, while export values continued to increase over the same period, with a slight dip in the FY 2020-2021. The CAGR for import values indicated a slow and steady increase, while for export values showed a significant increase over the same period. The CAGR for net export values showed a significant increase, indicating a growing reliance on imports.

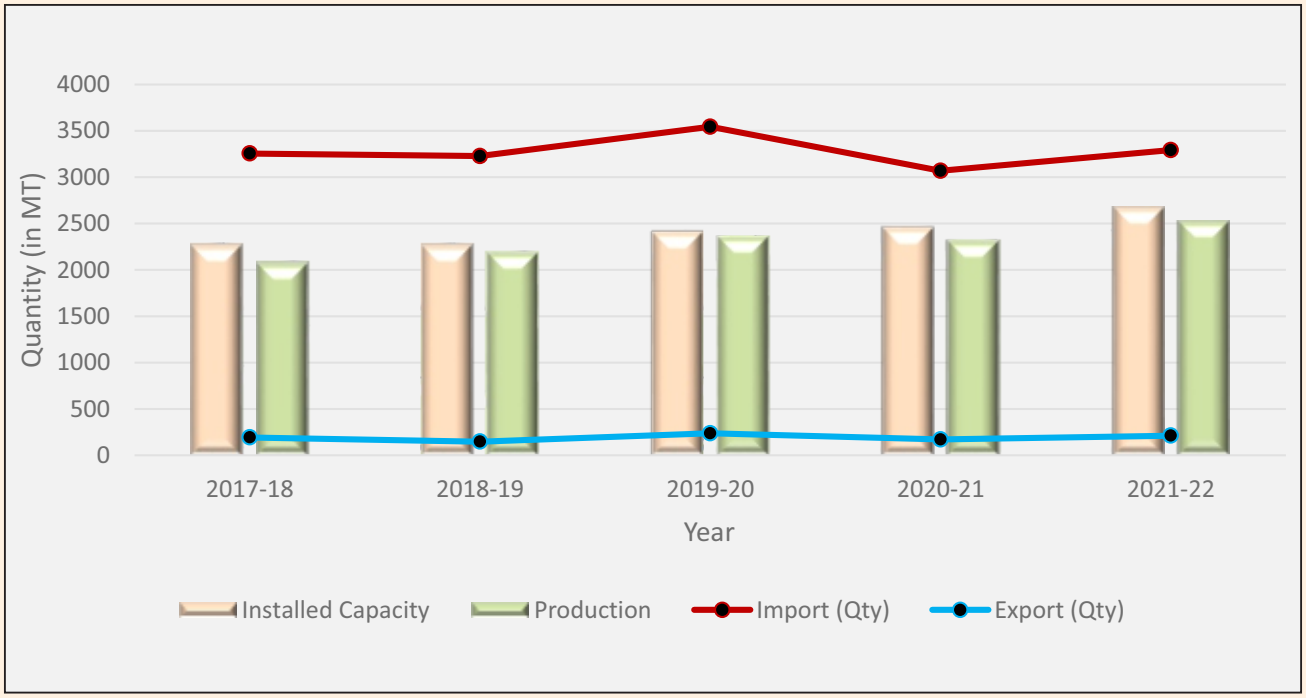
Other Petrochemicals

Table 7.29 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017 18	2271	2080	3255	193
2018-19	2271	2192	3227	147
2019-20	2413	2364	3543	238
2020 21	2458	2318	3069	171
2021-22	2677	2531	3291	212
CAGR (%)	4.2	5.0	0.3	2.4

Source : **DCPC**

Graph 7.29 : Installed Capacity, Production, Import & Export



Source : **DCPC**

Other Petrochemicals industry showed a slight increase in installed capacity from the FY 2017-2018 to the FY 2021-2022. Production also increased during this period. Import values were consistently higher than export values, indicating a heavy reliance on imports. The CAGR for import values showed a moderate increase in demand, while the CAGR for export values indicated a slight increase.

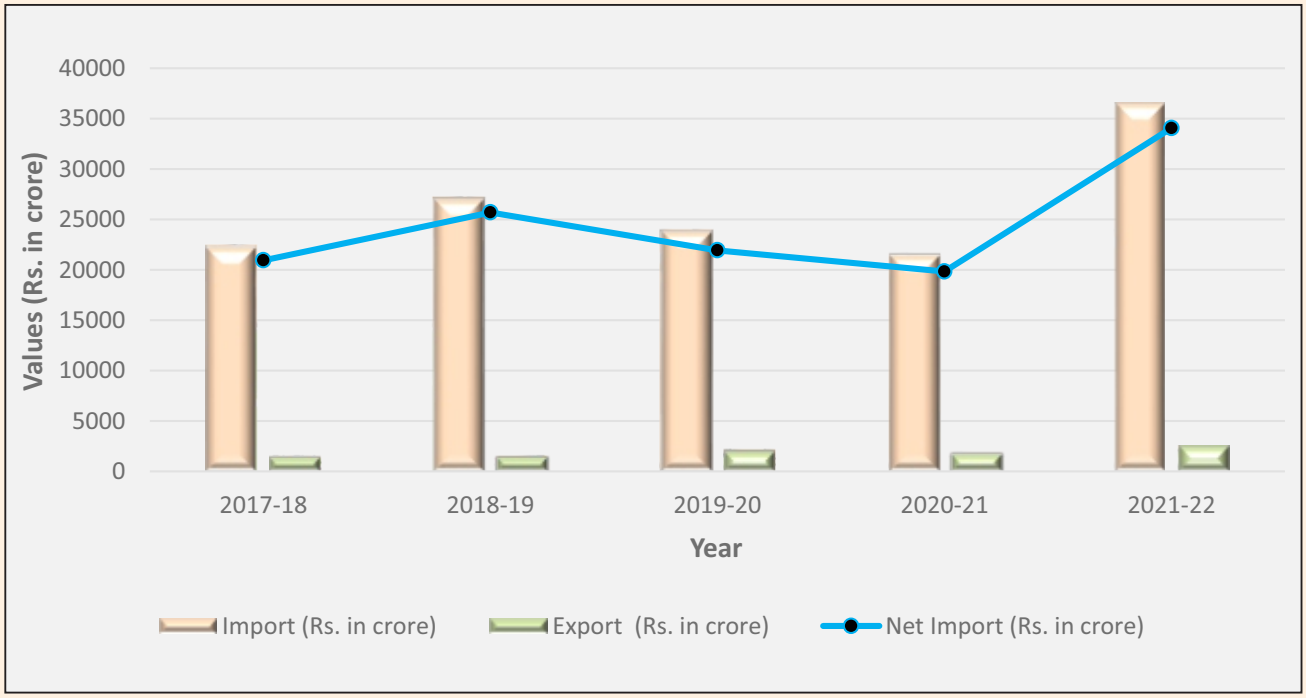
Other Petrochemicals

Table 7.30 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	22321	1386	20935
2018-19	27092	1398	25695
2019-20	23883	1949	21934
2020-21	21521	1691	19829
2021-22	36564	2498	34066
CAGR (%)	13.1	15.9	12.9

Source : **DCPC**

Graph 7.30 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The chart for Other Petrochemicals illustrates a continuous growth in import values from the FY 2017-2018 to FY 2018-2019, followed by a slight decline in the subsequent years and a significant increase in the FY 2021-2022. Export values remained low throughout the period, with a minor increase in the FY 2019-2020 and FY 2021-2022. Net import values were consistently high, implying a significant reliance on imports.

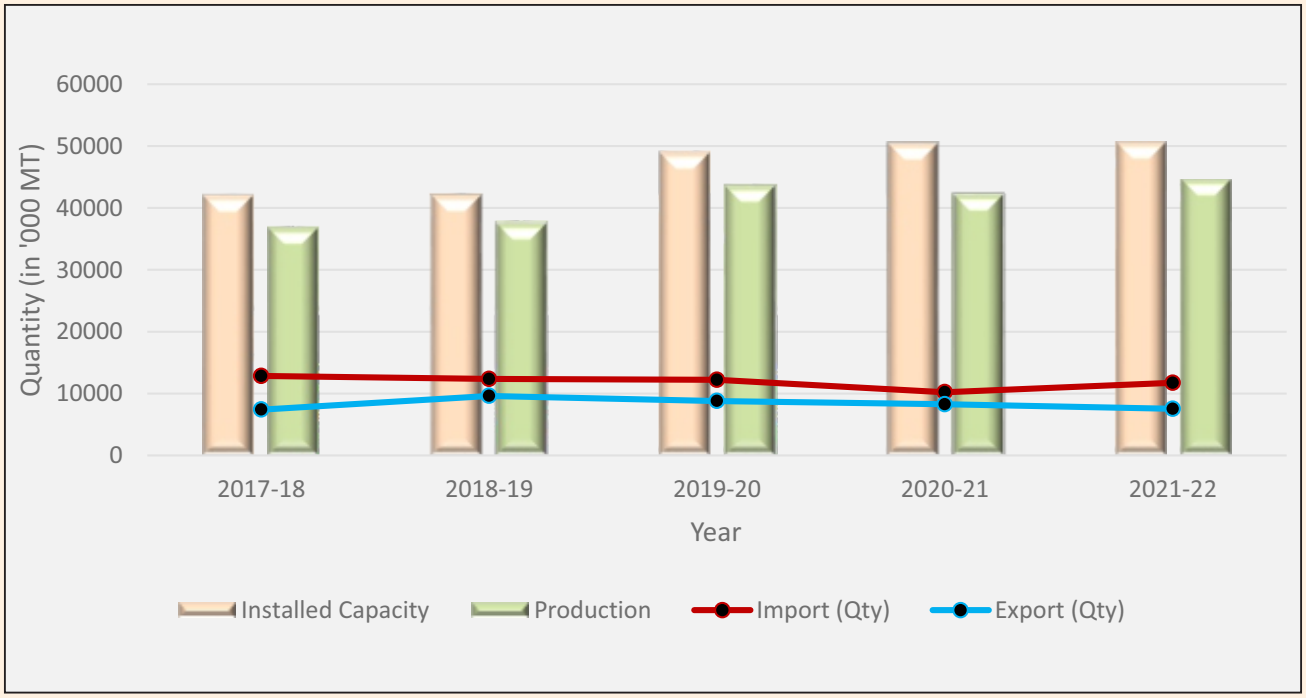
Total Major Petrochemicals

Table 7.31 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017 18	41998	36813	12843	7401
2018 19	42077	37519	12356	9619
2019 20	48933	43524	12222	8798
2020 21	50439	42159	10211	8274
2021 22	50612	44589	11732	7535
CAGR (%)	4.8	4.9	2.2	0.4

Source : **DCPC**

Graph 7.31 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The Total Major Petrochemicals sector witnessed growth in its installed capacity and production from the FY 2017-2018 to FY 2021-2022. However, imports and exports showed fluctuations during the same period. The industry's CAGR values for installed capacity and production were positive, suggesting an increase in the industry's size and output, while the CAGR values for imports was negative while for exports was moderately positive, indicating a decline in the industry's trade.

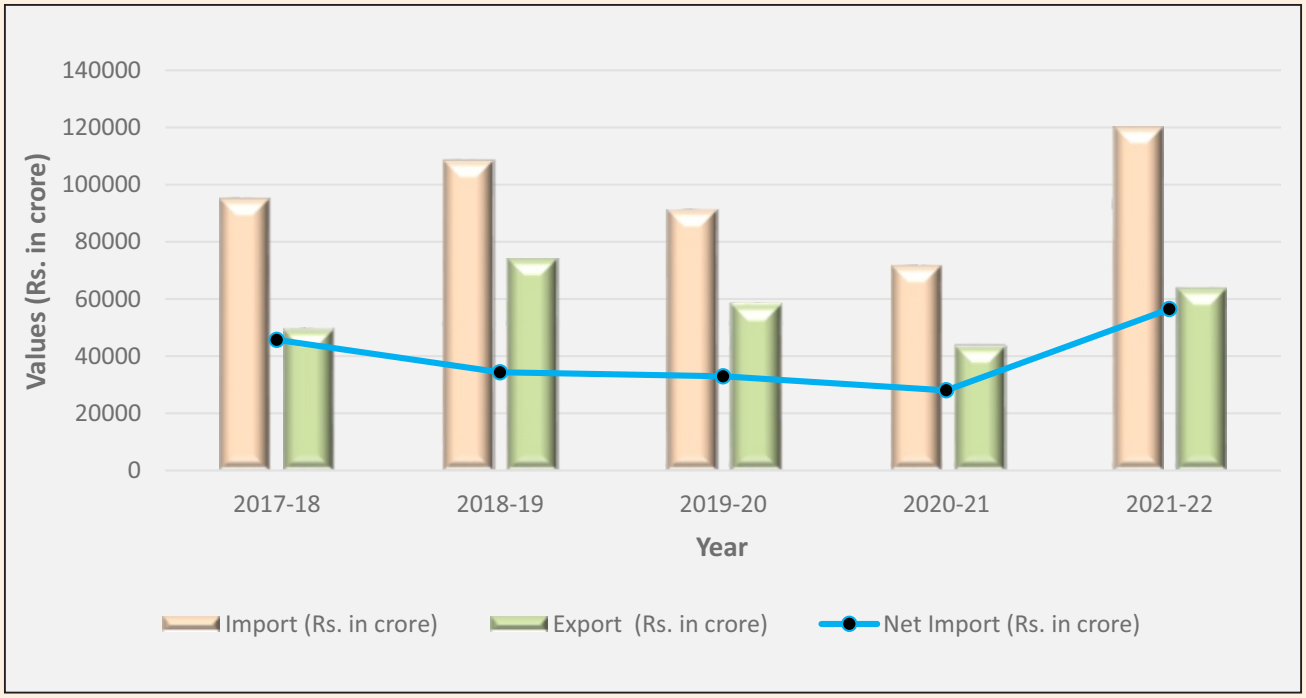
Total Major Petrochemicals

Table 7.32 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	94960	49276	45684
2018-19	108259	73941	34318
2019-20	91013	58079	32934
2020-21	71596	43581	28015
2021-22	120093	63639	56455
CAGR (%)	6.0	6.6	5.4

Source : **DCPC**

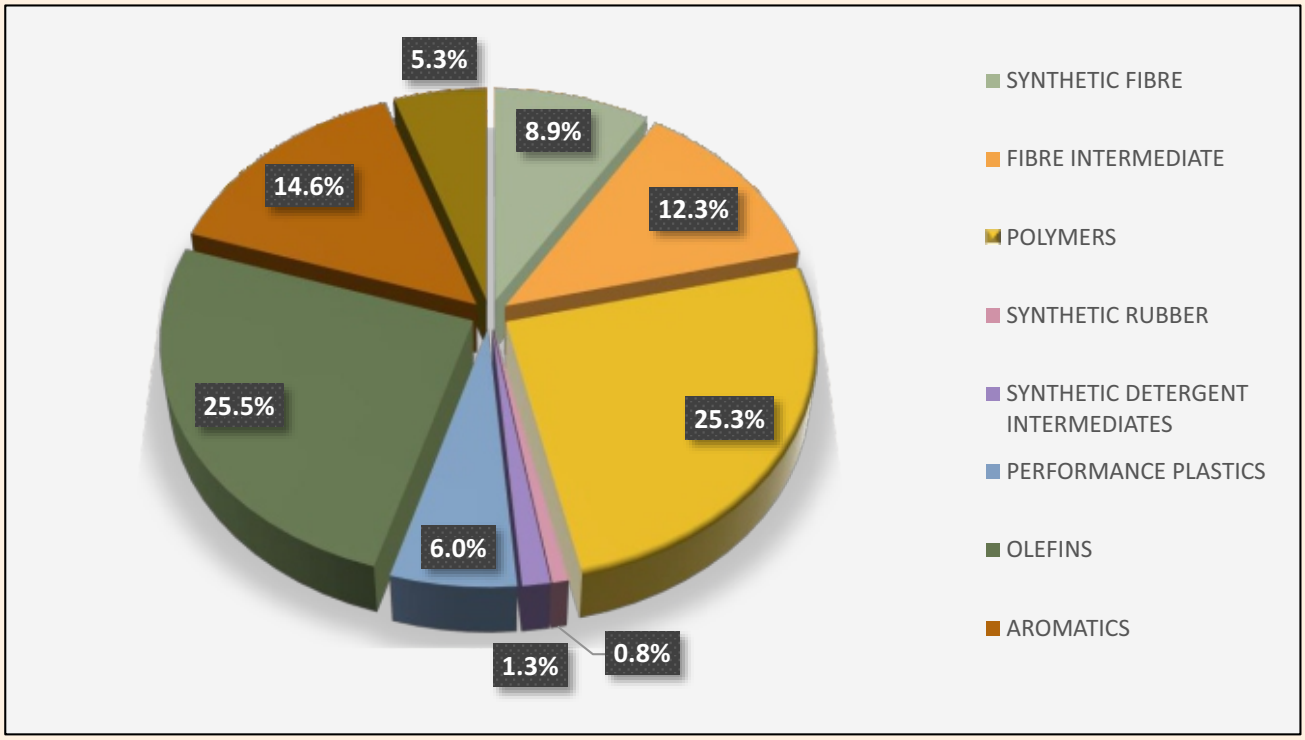
Graph 7.32 : Value of Import, Value of Export and Net Import



Source : **DCPC**

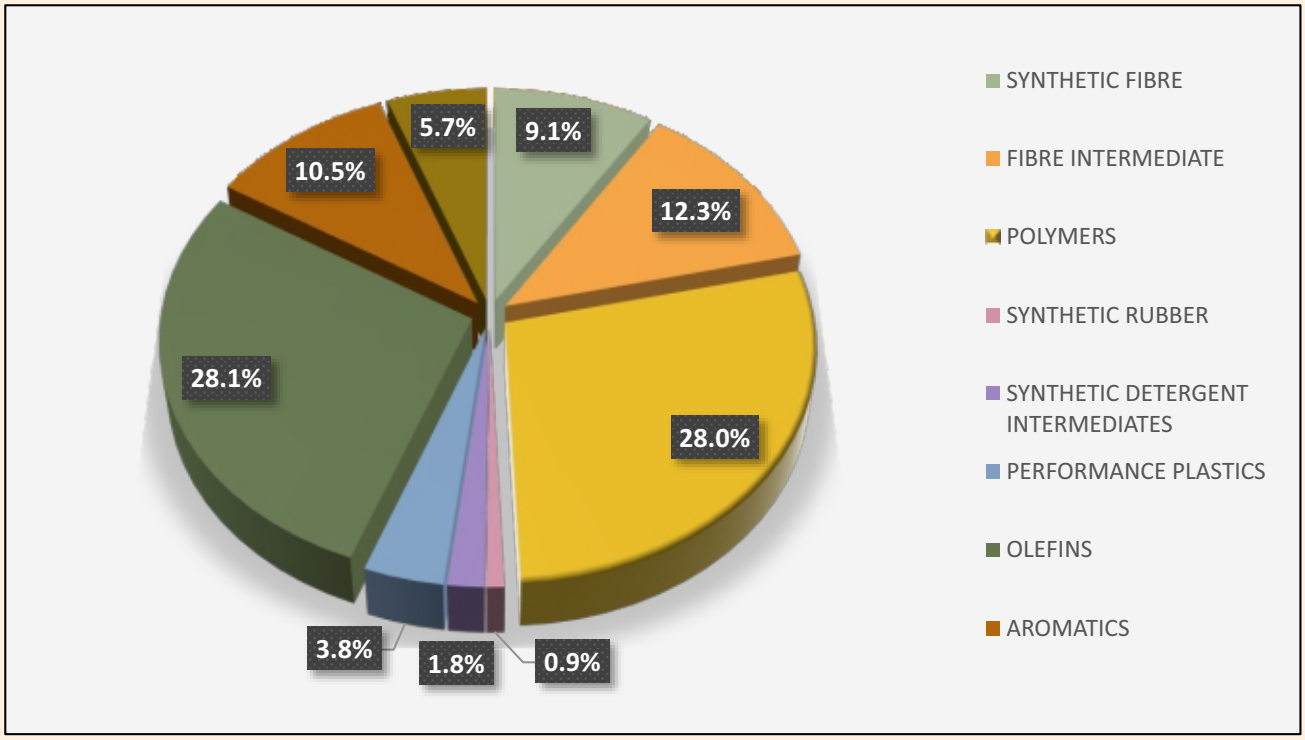
The Total Major Petrochemicals chart data reveals an initial rise in import values followed by a decline, with a sharp increase in the FY 2021-2022. Export values steadily increased before declining in the following years and slightly increasing again in the FY 2021-2022. The CAGR for imports showed a moderate increase in demand, and for exports, a slight increase.

Pie Chart 7.7 : Share of different groups of
Major Petrochemicals in installed capacity during 2021-22



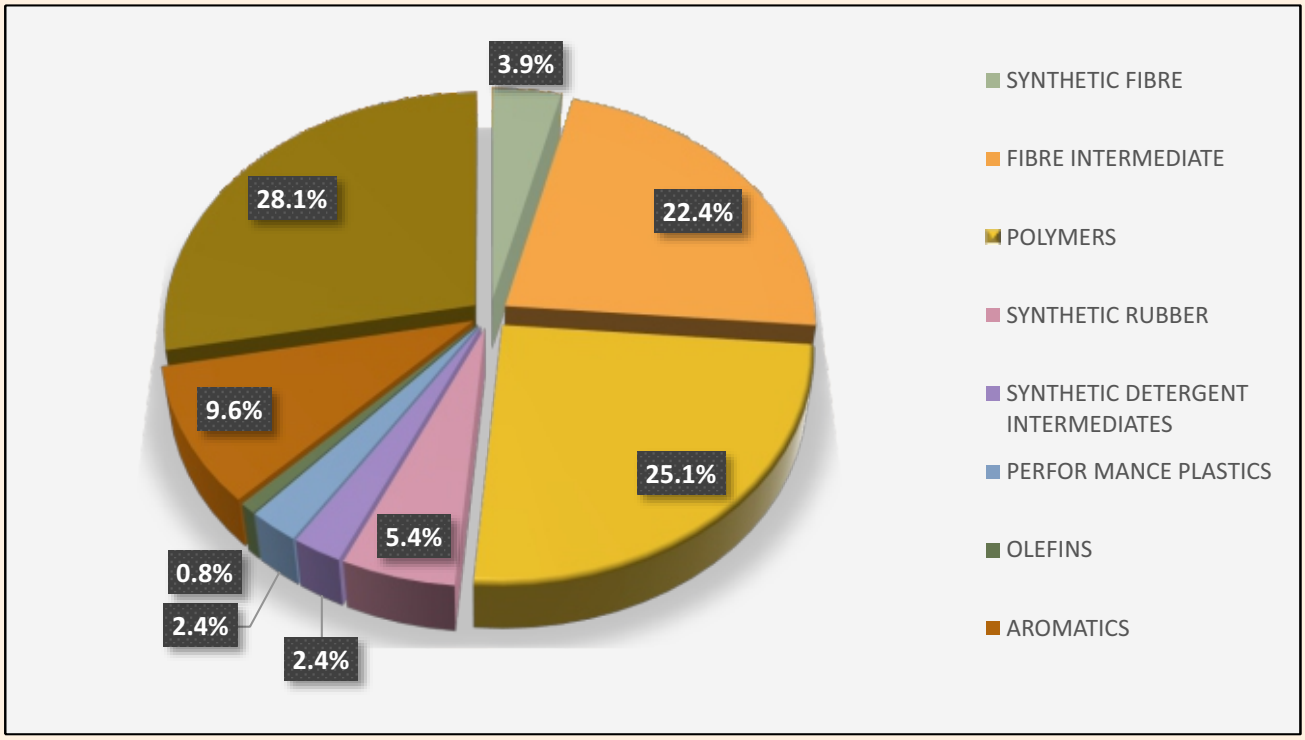
Source : **DCPC**

Pie Chart 7.8 : Share of different groups of
Major Petrochemicals in production during 2021-22



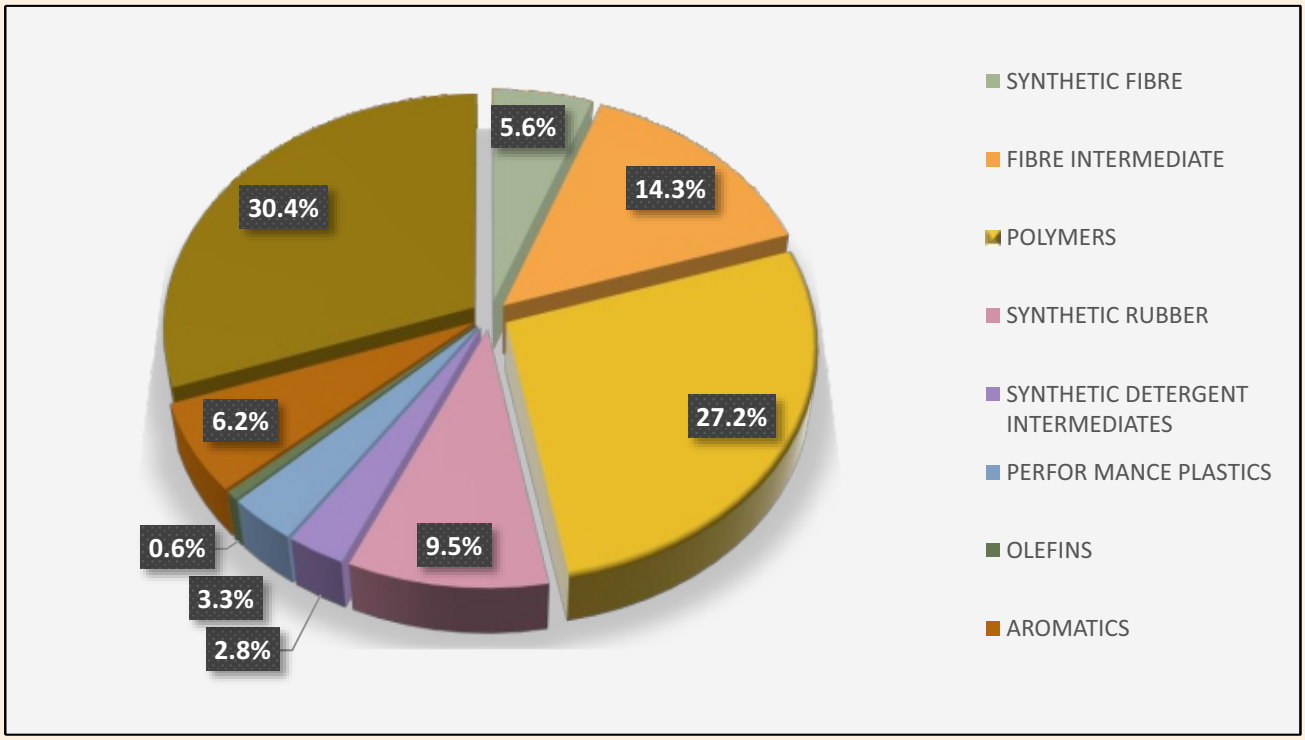
Source : **DCPC**

Pie Chart 7.9 : Share of different Groups of
Major chemicals in import (Qty.) during 2021-22



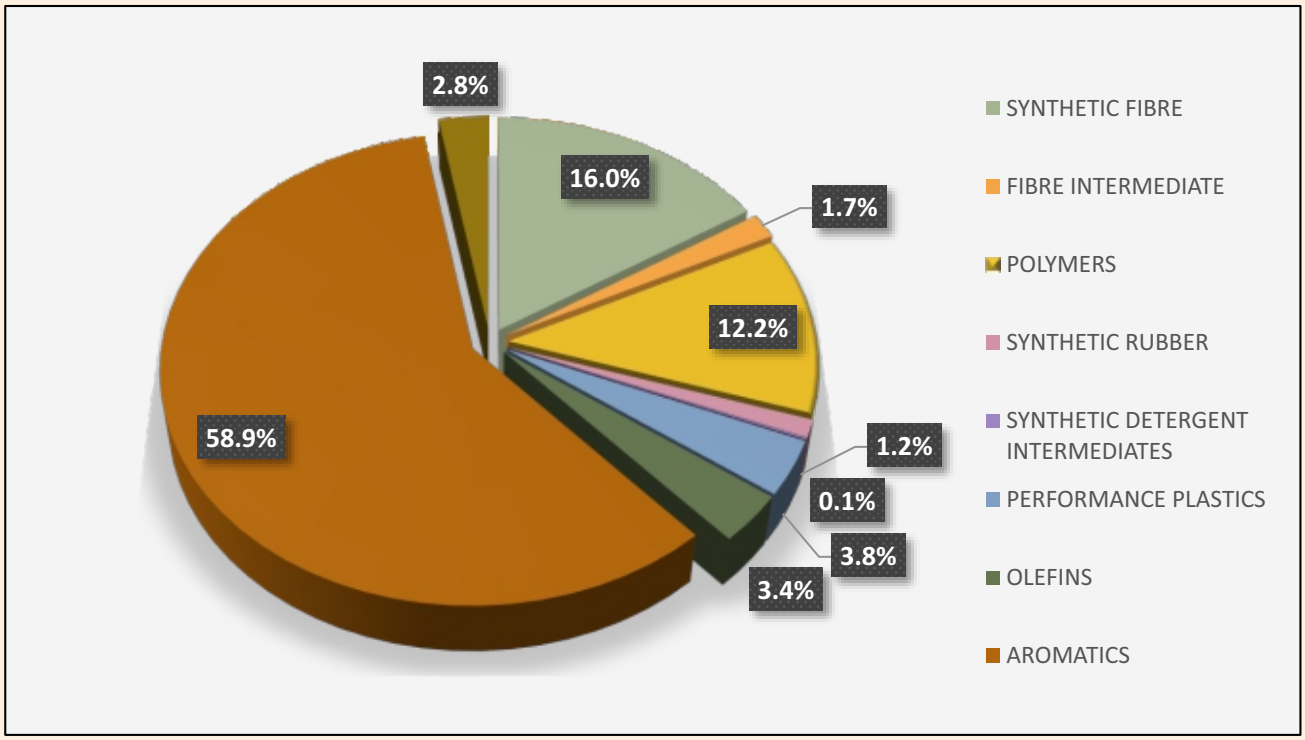
Source : **DCPC**

Pie Chart 7.10 : Share of different Groups of
Major Petrochemicals in Import (Value) during 2021-22



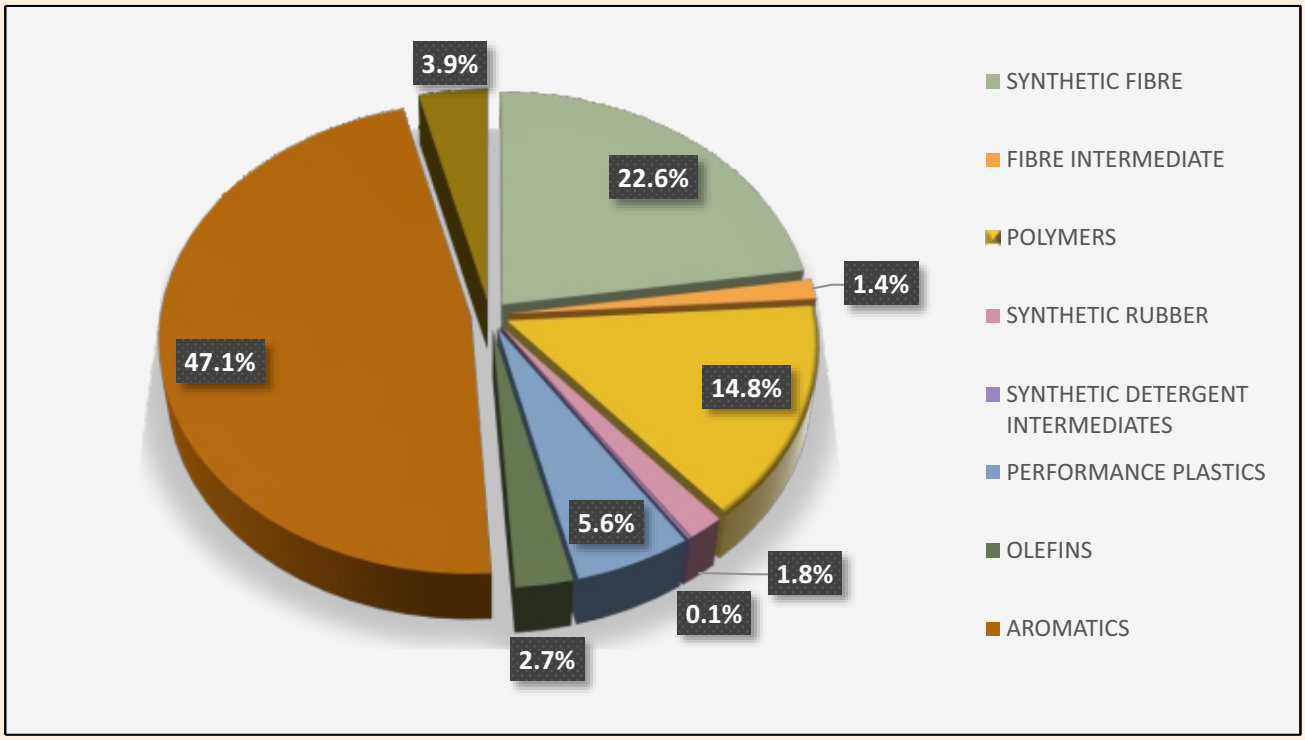
Source : **DCPC**

Pie Chart 7.11 : Share of different groups of Major Petrochemicals in export (Qty.) during 2021-22



Source : **DCPC**

Pie Chart 7.12 : Share of different groups of Major petrochemicals in export (Value) 2021-22



Source : **DCPC**

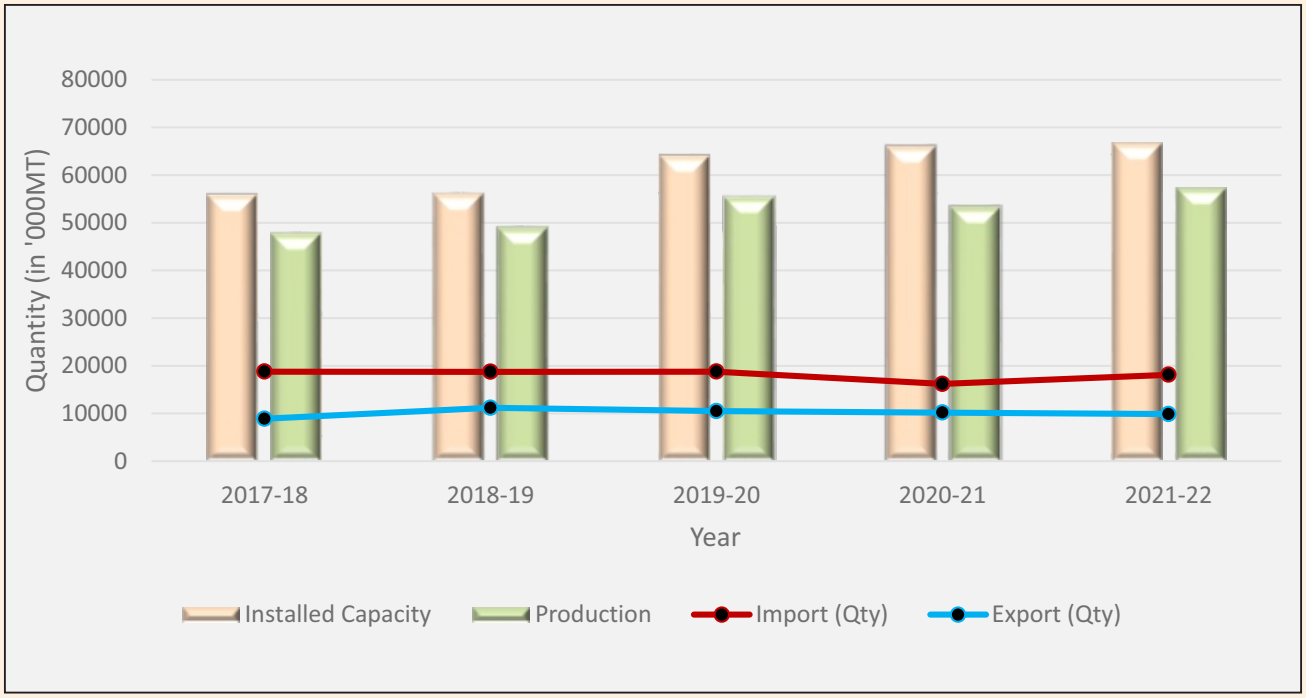
Total Major Chemicals and Petrochemicals

Table 7.33 : Installed Capacity, Production, Import & Export (in '000 MT)

Year	Installed Capacity	Production	Import	Export
2017-18	55925	47882	18780	8897
2018-19	56189	49108	18735	11198
2019-20	64093	55467	18780	10497
2020-21	66091	53402	16194	10179
2021-22	66790	57332	18117	9874
CAGR (%)	4.5	4.6	-0.9	2.6

Source : **DCPC**

Graph 7.33 : Installed Capacity, Production, Import & Export



Source : **DCPC**

The chart for Total Major Chemicals and Petrochemicals illustrates a consistent growth in installed capacity with a CAGR of 4.5%, as well as a similar trend for production with a CAGR of 4.6%. However, the import values show a fluctuating trend with a slight decrease in the latest year and a CAGR of -0.9%, while the export values also display a similar trend with a slight decrease in the latest year and a CAGR of 2.6%.

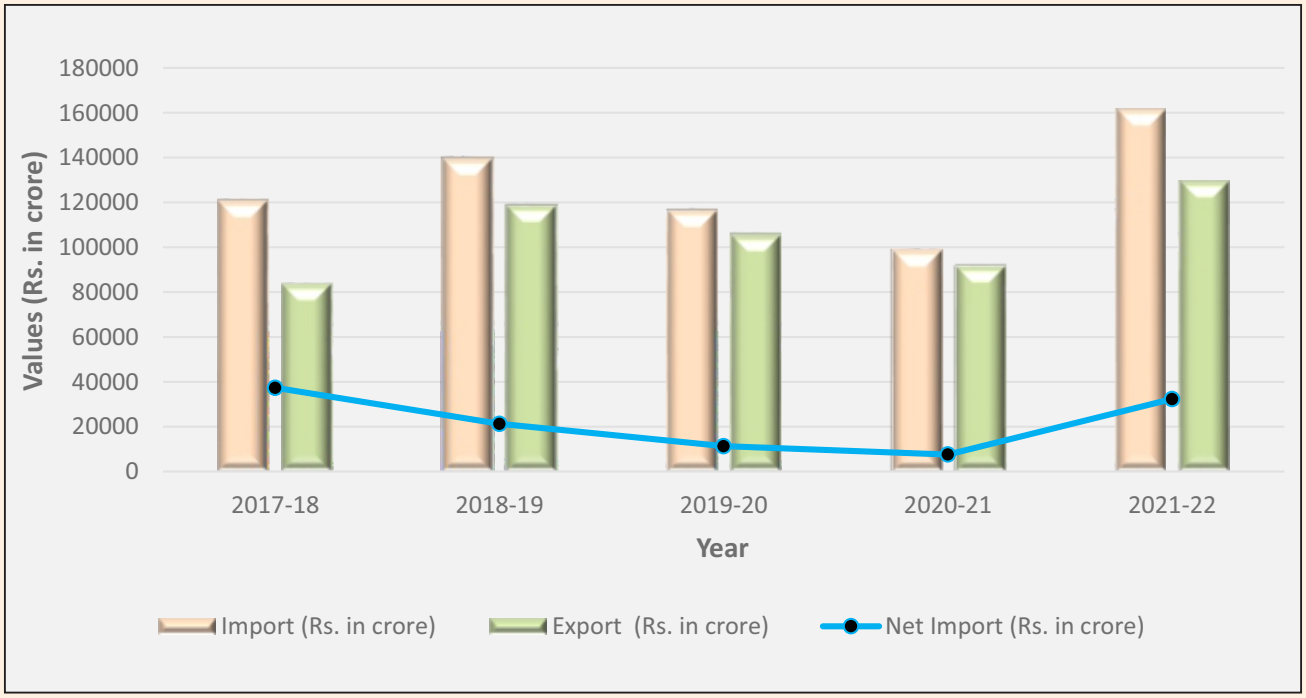
Total Major Chemicals and Petrochemicals

Table 7.34 : Value of Import, Value of Export and Net Import (Rs. in Crore)

Year	Import	Export	Net Import
2017-18	120902	83575	37327
2018-19	139685	118457	21228
2019-20	116673	105392	11281
2020-21	99086	91516	7570
2021-22	161740	129435	32305
CAGR (%)	7.5	11.6	-3.5

Source : **DCPC**

Graph 7.34 : Value of Import, Value of Export and Net Import



Source : **DCPC**

The Total Major Petrochemicals chart shows a steady increase in import values from the FY 2017-2018 to FY 2018-2019, followed by a decrease in the following years, and a sharp increase in the FY 2021-2022. Export values for Total Major Petrochemicals showed a steady increase from the FY 2017-2018 to the FY 2018-2019, before decreasing in the following years and slightly increasing again in the FY 2021-2022. Net import values showed a declining trend from the FY 2017-18 to FY 2020-21 then increase significantly in the FY 2021-22. The CAGR for import values indicated a moderate increase in demand, while for export values, it showed a slight increase over the same period. The CAGR for net import values showed a decline in the dependence on imports.

Section - I

Chemical Sector

Section - I

Chemical Sector

Table 1: Performance of Selected Major Chemicals (Group-wise) from the FY 2014-15 to FY 2021-22 at a Glance

(Figures in 000'MT)

Group	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	CAGR (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Alkali Chemicals									
Capacity	8214	8422	8822	9274	9422	10089	10473	10889	4.11
Production	6625	6802	7009	7631	8043	8457	7776	9041	4.54
Capacity Utilisation (%)	80.7	80.8	79.4	82.3	85.4	83.8	74.2	83.0	
Imports	1134	1118	1121	1194	1049	1157	968	767	-5.44
Exports	74	107	154	273	239	329	429	598	34.88
2. Inorganic Chemicals									
Capacity	1259	1316	1313	1315	1300	1538	1560	1575	3.26
Production	944	1002	1053	1058	1064	1063	978	1052	1.55
Capacity Utilisation (%)	75.0	76.1	80.2	80.5	81.8	69.2	62.7	66.8	
Imports	912	1010	1010	1229	1580	1532	1188	1345	5.71
Exports	164	157	378	173	177	196	195	273	7.59
3. Organic Chemicals									
Capacity	2537	2580	2529	2535	2575	2671	2716	2800	1.42
Production	1619	1589	1638	1799	1884	1847	1906	1953	2.71
Capacity Utilisation (%)	63.8	61.6	64.8	71.0	73.2	69.1	70.2	69.7	
Imports	2886	3143	3170	3407	3645	3775	3716	4160	5.36
Exports	241	232	190	205	233	245	296	310	3.70
4. Pesticides (Tech.)									
Capacity	302	307	322	325	324	334	371	380	3.36
Production	186	188	214	213	217	192	255	299	7.00
Capacity Utilisation (%)	61.8	61.0	66.5	65.4	66.9	57.6	68.7	78.8	
Imports	41	34	43	44	49	43	66	60	5.64
Exports	230	267	342	358	405	398	471	568	13.76
5. Dyes & Pigments									
Capacity	460	456	471	478	492	528	532	533	2.10
Production	285	304	320	367	382	384	327	398	4.88
Capacity Utilisation (%)	61.9	66.7	68.1	76.8	77.6	72.8	61.6	74.7	
Imports	52	55	56	63	56	51	45	54	0.47
Exports	353	376	419	486	525	530	514	591	7.62
Total Major Chemicals (1 to 5)									
Capacity	**12772**	**13082**	**13456**	**13927**	**14112**	**15160**	**15652**	**16178**	3.44
Production	**9660**	**9884**	**10234**	**11069**	**11589**	**11943**	**11243**	**12743**	4.04
Capacity Utilisation (%)	**75.6**	**75.6**	**76.1**	**79.5**	**82.1**	**78.8**	**71.8**	**78.8**	
Imports	**5025**	**5360**	**5400**	**5937**	**6379**	**6557**	**5983**	**6385**	3.48
Exports	**1061**	**1138**	**1484**	**1496**	**1579**	**1698**	**1905**	**2339**	11.95

Note: 1. *Production and Installed Capacity data based on MPRs received from manufacturer of chemicals under large and medium scale units only monitored by S&M Division of DCPC.*

2. *Data Source in respect of imports and exports is DGCIS, Kolkata, M/o Commerce and Industry.*

3. *Import and Export includes both technical and formulations.*

4. *Projected figures have been calculated by using Forecast formula in MS Excel*

Table 1A: Projection of Production, Installed Capacity, Export and Import of Selected Major Chemical (Group-wise) from the FY 2022-23 to FY 2027-28

(Figures in 000'MT)

Group	Actual Values						Forecast Values					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Alkali Chemicals												
Capacity	8822	9274	9422	10089	10473	10889	11288	11725	12201	12583	13018	13451
Production	7009	7631	8043	8457	7776	9041	9094	9303	9567	9891	10348	10460
Capacity Utilisation (%)	79.4	82.3	85.4	83.8	74.2	83.0	80.6	79.3	78.4	78.6	79.5	77.8
Imports	1121	1194	1049	1157	968	767	808	694	605	479	416	345
Exports	154	273	239	329	429	598	615	702	819	911	995	1072
2. Inorganic Chemicals												
Capacity	1313	1315	1300	1538	1560	1575	1662	1750	1828	1863	1943	2022
Production	1053	1058	1064	1063	978	1052	1020	1008	997	992	997	974
Capacity Utilisation (%)	80.2	80.5	81.8	69.2	62.7	66.8	61.4	57.6	54.5	53.3	51.3	48.2
Imports	1010	1229	1580	1532	1188	1345	1465	1403	1326	1350	1415	1376
Exports	378	173	177	196	195	273	188	237	246	251	257	254
3. Organic Chemicals												
Capacity	2529	2535	2575	2671	2716	2800	2838	2913	2979	3036	3102	3162
Production	1638	1799	1884	1847	1906	1953	2024	2041	2079	2138	2179	2220
Capacity Utilisation (%)	64.8	71.0	73.2	69.1	70.2	69.7	71.3	70.1	69.8	70.4	70.2	70.2
Imports	3170	3407	3645	3775	3716	4160	4246	4393	4549	4738	4943	5060
Exports	190	205	233	245	296	310	335	364	391	419	441	470
4. Pesticides (Tech.)												
Capacity	322	325	324	334	371	380	387	405	424	439	450	467
Production	214	213	217	192	255	299	285	311	339	369	381	399
Capacity Utilisation (%)	66.5	65.4	66.9	57.6	68.7	78.8	73.6	76.7	79.9	83.9	84.6	85.5
Imports $	43	44	49	43	66	60	65	71	76	82	83	90
Exports $	342	358	405	398	471	568	569	623	676	736	777	818
5. Dyes & Pigments												
Capacity	471	478	492	528	532	533	556	571	584	593	609	624
Production	320	367	382	384	327	398	390	386	389	398	413	406

Group	Actual Values						Forecast Values					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Capacity Utilisation (%)	68.1	76.8	77.6	72.8	61.6	74.7	70.2	67.5	66.6	67.2	67.9	65.0
Imports	56	63	56	51	45	54	47	43	43	42	40	37
Exports	419	486	525	530	514	591	606	620	642	673	704	718
Total Major Chemicals (1 to 5)												
Capacity	**13456**	**13927**	**14112**	**15160**	**15652**	**16178**	**16731**	**17364**	**18016**	**18514**	**19122**	**19726**
Production	**10234**	**11069**	**11589**	**11943**	**11243**	**12743**	**12813**	**13048**	**13370**	**13789**	**14319**	**14460**
Capacity Utilisation (%)	**76.1**	**79.5**	**82.1**	**78.8**	**71.8**	**78.8**	**76.6**	**75.1**	**74.2**	**74.5**	**74.9**	**73.3**
Imports	**5400**	**5937**	**6379**	**6557**	**5983**	**6385**	**6631**	**6604**	**6598**	**6691**	**6897**	**6907**
Exports	**1484**	**1496**	**1579**	**1698**	**1905**	**2339**	**2313**	**2546**	**2774**	**2990**	**3174**	**3333**

Note: 1. *Production and Installed Capacity data based on MPRs received from manufacturer under large and medium scale units, which are monitored by S&M Division of DCPC.*

2. Data Source in respect of imports and exports is DGCIS, Kolkata, M/o Commerce and Industry.

3. $ Imports and Exports includes both technical and formulations.

4. *Projected figures have been calculated by using Forecast formula in MS Excel.(Y=aX+b)*

Table 2: Production, Installed Capacity & Growth of Selected Major Chemicals (Group-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000'MT)

Groups	Installed Capacity			Production / Growth Rate	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	2019-20	2020-21	2021-22									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Alkali Chemicals	10089	10473	10889	Production	6625	6802	7009	7631	8043	8457	7776	9041
				Growth Rate (%)	2.2	2.7	3.0	8.9	5.4	5.1	-8.0	16.3
Inorganic Chemicals	1538	1560	1575	Production	944	1002	1053	1058	1064	1063	978	1052
				Growth Rate (%)	4.2	6.1	5.1	0.5	0.5	0.0	-8.1	7.6
Organic Chemicals	2671	2716	2800	Production	1619	1589	1638	1799	1884	1847	1906	1953
				Growth Rate (%)	-9.7	-1.9	3.1	9.8	4.8	-2.0	3.2	2.5
Pesticides	334	371	380	Production	186	188	214	213	217	192	255	299
				Growth Rate (%)	4.0	0.6	14.0	-0.5	1.9	-11.3	32.8	17.3
Dyes & Pigments	528	532	533	Production	285	304	320	367	382	384	327	398
				Growth Rate (%)	0.6	6.7	5.3	14.7	3.9	0.7	-14.8	21.5

Note: *Production and Installed Capacity data based on MPRs received from manufacturer of chemicals under large and medium scale units, which are monitored by S&M Division of DCPC.*

Table 3: Production, Capacity Utilization & growth of Major Chemicals (Product-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2021-22 (%)
	2019-20	2020-21	2021-22	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
1. Alkali Chemicals													
SODA ASH	3614.0	3614.0	3614.0	2462.0	2583.0	2613.4	2989.6	3048.2	3069.4	2638.1	3078.9	3.25	85.2
CAUSTIC SODA	3700.3	3898.2	4150.8	2442.9	2504.0	2594.5	2742.3	2925.4	3136.9	2964.1	3462.8	5.11	83.4
LIQUID CHLORINE	2774.7	2961.2	3124.4	1720.1	1714.8	1800.7	1899.4	2069.1	2250.4	2174.3	2499.3	5.48	80.0
Total	**10089.1**	**10473.4**	**10889.2**	**6625.0**	**6801.8**	**7008.6**	**7631.3**	**8042.7**	**8456.8**	**7776.5**	**9041.0**	**4.54**	**83.0**
2. Inorganic Chemicals													
ALUMINIUM FLOURIDE	25.6	25.6	25.6	6.7	9.5	8.1	7.5	5.7	5.1	3.7	8.9	4.08	34.8
CALCIUM CARBIDE	112.0	112.0	112.0	87.2	83.5	85.0	87.3	83.2	81.3	86.8	98.6	1.78	88.1
CARBON BLACK	696.0	696.0	696.0	444.4	469.6	535.3	530.4	546.4	500.1	384.8	456.5	0.39	65.6
POTASSIUM CHLORATE	28.6	28.6	28.6	0.4	0.4	0.0	0.3	0.7	16.2	17.1	17.7	69.11	61.8
SODIUM CHLORATE	0.0	22.3	22.3	0.0	0.0	0.0	0.0	0.0	0.0	17.9	21.1		94.7
TITANIUM DIOXIDE	82.5	82.5	82.5	47.9	58.5	58.5	57.8	57.1	49.5	51.2	57.0	2.51	69.0
RED PHOSPHORUS	1.7	1.7	1.7	0.9	0.8	0.8	0.9	1.0	1.0	1.1	1.1	3.76	68.2
HYDROXEN PEROXIDE	218.6	218.6	221.8	119.8	153.1	148.9	157.0	156.5	122.8	139.9	143.5	2.62	64.7
POTASSIUM IODATE	1.2	1.2	1.2	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.6		48.3
CALCIUM CARBONATE	371.5	371.5	383.5	236.9	226.1	216.3	217.2	213.3	286.8	274.8	246.8	0.58	64.3
Total	**1537.8**	**1560.1**	**1575.2**	**944.2**	**1001.5**	**1052.9**	**1058.5**	**1063.8**	**1063.5**	**977.8**	**1051.8**	**1.55**	**66.8**
3. Organic Chemicals													
ACETIC ACID	142.0	142.0	142.0	159.6	157.9	158.5	157.1	153.8	167.9	154.8	166.6	0.61	117.3
ACETIC ANHYDRIDE	119.2	119.2	119.2	93.8	93.0	94.8	97.1	95.5	74.1	75.1	78.4	-2.53	65.8
ACETONE	47.1	47.1	47.1	26.0	25.0	26.8	32.9	40.7	36.3	39.0	36.1	4.82	76.6
PHENOL	76.8	76.8	76.8	42.3	40.4	43.6	53.4	65.4	57.9	61.3	58.2	4.67	75.8
METHANOL	474.3	474.3	474.3	209.8	162.6	177.0	260.5	271.9	176.0	234.0	167.7	-3.15	35.4
FORMALDEHYDE	411.3	397.8	451.8	256.0	242.1	244.2	248.2	226.6	260.4	244.7	293.1	1.95	64.9
NITROBENZENE	129.5	126.5	126.5	69.7	68.4	69.7	71.4	68.8	61.1	76.1	82.8	2.49	65.5
MALEIC ANHYDRIDE	7.7	7.7	7.7	3.2	3.5	3.5	3.3	4.6	5.0	5.4	6.3	10.21	82.6
PENTAERYTHRITOL	15.8	15.8	17.4	13.5	14.0	14.0	14.1	15.0	15.2	11.7	16.3	2.80	93.9
ANILINE	54.1	54.1	54.1	34.5	39.4	41.5	41.9	37.9	25.4	33.5	39.7	2.02	73.3
CHLORO METHANES	279.3	331.0	346.0	220.7	220.2	221.5	222.4	285.5	296.9	327.0	340.8	6.40	98.5
ISOBUTYLBENZENE	16.8	16.8	16.8	4.3	7.2	6.9	9.0	9.7	9.4	12.7	8.5	10.25	50.7
ONCB	30.0	30.0	30.0	16.1	19.3	22.6	24.9	23.7	19.8	23.3	26.7	7.46	89.0
PNCB	48.4	48.4	48.4	27.0	31.3	34.2	37.8	36.1	31.9	38.9	43.7	7.15	90.3
MEK	10.0	10.0	10.0	4.0	5.8	6.5	6.4	7.0	9.8	8.0	8.9	11.93	88.5
ACETALDEHYDE	151.0	151.0	152.0	67.8	59.0	60.5	65.7	61.9	77.1	56.0	72.5	0.97	47.7

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2021-22 (%)
	2019-20	2020-21	2021-22	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
ETHANOLAMINES	17.8	27.0	27.0	13.8	13.2	13.1	13.2	16.7	15.4	16.7	21.0	6.20	77.7
ETHYL ACETATE	562.1	562.1	575.1	327.9	360.4	371.3	411.5	440.6	473.4	453.1	445.4	4.47	77.5
MENTHOL	33.7	33.7	33.7	17.4	14.7	14.5	13.7	6.2	7.4	7.5	10.3	-7.25	30.6
ORTHO NITRO TOLUENE	44.8	44.8	44.8	11.7	11.5	13.8	14.4	16.9	26.0	27.7	29.9	14.32	66.8
Total	**2671.4**	**2715.9**	**2800.5**	**1619.1**	**1588.8**	**1638.4**	**1798.9**	**1884.4**	**1846.6**	**1906.3**	**1953.0**	**2.71**	**69.7**
4. Pesticides and Insecticides													
D.D.T.	6.3	6.3	6.3	3.6	2.1	2.3	1.3	1.4	1.1	0.6	0.7	-21.64	10.4
MALATHION	3.8	3.8	3.8	2.2	2.0	2.3	3.3	4.4	3.8	3.8	3.3	5.62	86.5
DIMETHOATE	1.5	1.5	1.5	1.4	1.4	1.4	1.2	1.3	1.4	1.5	1.4	-0.42	95.9
D.D.V.P.	33.6	33.6	33.6	6.7	7.2	8.1	8.1	9.1	0.0	0.9	0.4	-32.57	1.3
QUINALPHOS	2.2	3.4	3.4	1.9	0.8	1.3	1.2	0.9	0.9	1.1	2.5	3.87	72.2
MONOCROTOPHOS	13.9	13.9	13.9	7.0	5.5	6.6	5.5	5.3	5.8	7.9	7.5	1.03	53.7
PHOSPHAMIDON	2.0	2.0	2.0	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	-100.00	0.0
PHORATE	12.4	12.4	6.6	6.6	5.9	5.9	7.0	5.8	0.0	0.0	0.0	-100.00	0.0
ETHION	2.8	2.8	2.8	1.6	1.7	2.1	2.4	1.3	2.1	2.2	2.8	8.25	99.8
FENVALERATE	5.0	5.0	5.0	0.5	0.6	0.5	0.7	0.7	0.7	0.5	0.7	4.09	33.0
CYPERMETHRIN	23.8	23.8	24.7	8.6	8.5	7.9	8.2	11.0	10.9	12.3	16.5	9.76	66.7
ACEPHATE	20.5	20.5	20.5	18.0	16.6	16.3	18.3	19.6	21.1	29.6	29.6	7.37	144.2
CHLORPYRIPHOS	13.6	13.8	13.4	9.7	6.9	5.9	8.0	7.1	6.5	8.5	7.6	-3.43	56.9
TRIAZOPHOS	3.4	3.4	3.4	1.0	1.7	2.4	1.5	0.9	0.0	0.0	0.0	-100.00	0.0
TEMEPHOS	0.3	0.3	0.3	0.0	0.1	0.1	0.1	0.1	0.1	0.1	0.0		0.0
DELTAMETHRIN	0.8	0.8	0.9	0.5	0.4	0.4	0.6	0.7	0.7	0.6	0.7	4.75	83.2
ALPHAMETHRIN	0.5	0.5	0.6	0.7	0.2	0.1	0.3	0.3	0.4	0.5	0.5	-5.39	84.3
PROFENOFOS TECHNICAL	10.5	10.5	17.3	7.6	6.9	10.5	9.9	12.5	12.4	16.1	16.2	11.51	93.9
PRETILACHLOR TECHNICAL	4.2	4.2	4.2	1.9	1.9	2.6	3.6	3.6	3.1	3.6	3.2	8.01	75.9
LAMBDA CYHALOTHRIN	2.9	3.2	3.2	0.5	0.4	0.7	1.1	0.6	2.3	1.7	2.7	28.23	85.6
PHENTHOATE	0.9	0.9	0.9	1.4	1.1	1.1	1.3	1.5	1.4	1.3	1.8	3.90	203.3
PERMETHRIN TECH	1.8	1.8	1.8	1.7	1.3	1.1	1.5	1.9	1.2	1.7	2.5	5.61	138.1
IMIDACALOPRID TECH	0.2	0.2	0.2	0.6	0.2	0.2	0.3	0.1	0.0	0.0	0.0	-35.50	17.3
CAPTAN & CAPTAFOL	3.4	3.4	3.4	2.4	2.1	1.8	1.8	1.9	1.5	1.5	1.9	-3.20	55.3
ZIRAM(THIO BARBAMATE)	0.7	0.7	0.7	0.6	0.5	0.6	0.7	0.8	0.6	0.9	0.7	2.20	96.6
CARBENDZIM(BAVISTIN)	0.8	0.8	0.8	0.4	0.2	0.1	0.0	0.0	0.0	0.0	0.0	-100.00	0.0
MANCOZAB	84.7	119.8	121.8	61.4	66.4	78.5	70.2	69.3	60.9	97.4	118.7	9.87	97.4
HEXACONAZOLE	1.7	1.7	2.8	0.6	0.6	0.5	0.6	0.5	0.8	0.8	1.3	11.61	45.4
METCONAZOLE	0.8	0.8	0.5	0.6	0.4	0.4	0.4	0.3	0.2	0.2	0.2	-15.29	38.0
2, 4-D	27.0	27.0	30.0	11.6	18.5	23.4	25.8	24.2	22.6	27.1	40.0	19.31	133.3

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2021-22 (%)
	2019-20	2020-21	2021-22	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
BUTACHLOR	0.5	0.5	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
ETHOFUMESATE TECHNICAL	1.7	1.7	1.7	0.6	0.5	1.0	1.3	1.0	0.8	0.4	0.7	2.42	44.4
THIAMETHOXAM TECHNICAL	4.6	5.1	5.1	1.7	1.9	2.5	3.3	5.6	6.2	5.2	6.6	21.71	128.7
PENDIMETHALIN	6.0	5.8	6.6	2.3	2.8	4.0	3.8	2.8	2.8	3.6	4.8	11.25	72.2
METRIBUZIN	2.0	2.5	2.9	0.5	0.9	1.1	0.9	1.9	2.6	3.2	2.0	21.24	69.8
TRICLOPYR ACID TECH	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.1	0.1	0.0	0.4	10.33	126.7
ISOPROTURON	6.0	6.0	6.0	2.4	2.0	0.1	0.0	0.0	0.0	0.0	0.0	-100.00	0.0
GLYPHOSATE	12.9	12.9	12.9	9.7	7.0	6.4	6.3	6.7	5.9	6.1	5.7	-7.25	44.3
DIURON	6.0	6.0	6.0	0.1	1.3	3.7	3.3	3.6	3.4	3.4	2.3	52.36	38.8
ATRAZIN	1.2	1.2	1.2	1.2	1.2	1.9	2.2	1.5	1.7	1.6	1.7	5.03	140.8
ZINC PHOSPHIDE	1.9	1.9	1.9	1.3	1.5	1.3	1.4	1.3	1.3	1.5	2.0	6.61	105.2
ALUMINIUM PHOSPHIDE	4.7	4.7	4.7	5.1	5.7	6.4	4.8	4.9	4.9	7.6	9.9	10.10	208.9
DICOFOL	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	-100.00	0.0
Total	**333.7**	**371.5**	**380.1**	**186.5**	**187.5**	**213.7**	**212.7**	**216.7**	**192.1**	**255.1**	**299.3**	**7.00**	**78.8**
5. Dyes and Pigments													
AZO DYES	21.1	21.1	21.1	10.6	9.8	10.0	11.0	9.0	8.5	6.6	9.1	-2.08	43.3
ACID DIRECT DYES(OTHER THAN AZO)	40.9	40.9	40.9	17.2	20.6	19.9	21.2	24.1	22.7	20.2	24.0	4.83	58.6
DISPERSE DYES	75.0	77.9	77.9	29.6	43.6	41.4	46.7	55.2	61.9	51.8	65.9	12.14	84.6
FAST COLOUR BASES	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-100.00	
INGRAIN DYES	0.0	0.0	0.0	0.4	0.3	0.0	0.0	0.0	0.0	0.0	0.0	-100.00	
OIL SOLUBLE (SOLVENT DYES)	3.6	3.6	3.6	1.8	2.2	2.2	2.1	2.3	2.4	0.4	0.7	-13.11	18.7
OPTICAL WHITENING AGENTS	67.7	67.7	67.7	22.9	24.7	23.8	23.2	29.3	20.7	18.2	22.5	-0.25	33.3
ORGANIC PIGMENT	88.4	88.4	88.4	76.9	61.3	63.7	73.3	73.9	75.1	67.3	74.3	-0.48	84.1
PIGMENT EMULSION	5.4	5.4	5.4	9.6	9.7	10.6	10.2	9.8	9.7	8.6	9.3	-0.50	172.0
REACTIVE DYES	195.7	196.3	197.5	89.5	106.2	121.0	151.9	151.4	156.7	132.1	161.9	8.85	82.0
SULPHUR DYES (SULPHUR BLACK)	8.2	8.2	8.2	9.4	9.6	10.1	7.3	7.5	7.4	5.1	8.6	-1.27	104.1
VAT DYES	2.9	2.9	2.9	1.8	1.4	1.5	1.7	1.8	2.1	2.0	2.3	3.96	81.1
SOLUBILISED VAT DYES	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	-100.00	0.0
FOOD COLOURS	0.0	0.0	0.0	0.7	0.7	0.8	0.8	0.8	0.7	0.5	0.7	0.99	
NAPTHOLS	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
INORGANIC PIGMENTS	18.1	18.1	18.1	14.8	14.2	15.4	17.9	16.3	16.1	14.6	18.6	3.26	102.8
Total	**528.0**	**531.5**	**532.7**	**285.2**	**304.3**	**320.3**	**367.2**	**381.5**	**384.2**	**327.5**	**398.0**	**4.88**	**74.7**
Total (All Groups)	**15159.9**	**15652.4**	**16177.8**	**9659.9**	**9883.9**	**10233.9**	**11068.6**	**11589.1**	**11943.2**	**11243.1**	**12743.1**	**4.04**	**78.8**

Note: *Production and Installed Capacity data based on MPRs received from manufacturer under large and medium scale units only monitored by S&M Division of DCPC.*

Table 4: Installed Capacities of Selected Chemicals (Group-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000'MT)

Group	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. Alkali Chemicals	8214	8422	8822	9274	9422	10089	10473	10889
2. Inorganic Chemicals	1259	1316	1313	1315	1300	1538	1560	1575
3. Organic Chemicals	2537	2580	2529	2535	2575	2671	2716	2800
4. Pesticides (Tech.)	302	307	322	325	324	334	371	380
5. Dyes & Pigments	460	456	471	478	492	528	532	533
Total Major Chemicals	**12772**	**13082**	**13456**	**13927**	**14112**	**15160**	**15652**	**16178**

Note: *Installed Capacity data based on MPRs received from manufacturer of chemicals under large and medium scale units, which are monitored by S&M Division of DCPC.*

Table 5: Consumption of Selected Major Chemicals (Product-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000'MT)

Products	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Alkali Chemicals								
SODA ASH	3159.8	3197.7	3244.3	3652.1	3826.3	3779.4	3208.1	3391.4
CAUSTIC SODA	2808.7	2905.9	2935.5	3004.0	2961.5	3258.8	2936.8	3323.0
LIQUID CHLORINE	1717.0	1709.3	1795.6	1895.7	2064.7	2246.3	2170.5	2495.2
Total	**7685.5**	**7812.9**	**7975.5**	**8551.8**	**8852.5**	**9284.5**	**8315.4**	**9209.6**
Inorganic Chemicals								
ALUMINIUM FLUORIDE	34.0	35.0	54.4	57.1	67.6	44.1	62.9	82.3
CALCIUM CARBIDE	165.1	145.0	140.2	142.5	128.2	112.2	119.3	119.8
CARBON BLACK	469.7	479.0	331.8	594.3	702.1	553.6	436.5	408.9
POTASSIUM CHLORATE	6.0	2.8	-1.5	-1.6	-2.2	13.1	15.4	15.7
SODIUM CHLORATE	21.8	17.3	7.3	7.7	13.4	24.1	29.5	37.8
TITANIUM DIOXIDE	60.3	70.5	64.2	62.0	64.3	59.7	58.1	66.0
RED PHOSPHORUS	0.6	0.4	0.3	0.4	0.4	0.4	0.5	0.5
HYDROGEN PEROXIDE	175.8	196.8	205.7	225.4	240.5	174.8	159.2	171.3
POTASSIUM IODATE	0.0	0.0	0.0	0.0	0.0	0.6	0.5	0.6
CALCIUM CARBONATE	759.3	907.9	883.0	1026.5	1252.3	1416.9	1088.9	1221.2
Total	**1692.5**	**1854.7**	**1685.4**	**2114.3**	**2466.6**	**2399.3**	**1970.8**	**2124.1**
Organic Chemicals								
ACETIC ACID	865.5	942.3	993.4	1029.4	1073.3	1081.6	1048.4	1199.2
ACETIC ANHYDRIDE	76.4	77.3	76.6	81.8	89.3	74.1	69.9	78.6
ACETONE	149.6	152.6	159.5	174.7	146.6	97.7	92.9	133.2
PHENOL	240.4	282.4	321.7	337.3	292.5	179.6	179.2	220.7
METHANOL	1802.0	1830.5	1801.8	2034.3	2247.7	2449.4	2445.5	2547.0
FORMALDEHYDE	248.9	233.7	235.9	237.7	214.1	246.3	229.4	276.6
NITROBENZENE	70.8	74.2	83.8	86.7	86.9	76.5	85.9	90.5
CITRIC ACID	65.6	74.5	80.0	81.9	93.0	88.5	92.7	94.4
MALEIC ANHYDRIDE	41.6	50.9	54.1	55.7	74.4	71.8	64.9	80.7
PENTAERYTHRITOL	25.6	31.8	31.4	30.0	31.1	33.9	23.9	30.1
ANILINE	70.5	77.6	85.9	107.1	126.2	106.3	106.2	131.7
CHLORO METHANES	220.7	220.8	221.7	222.9	286.9	299.3	329.4	342.6
ISOBUTYLBENZENE	-9.6	-5.3	-6.5	-3.4	-2.0	-0.3	-3.4	0.0
ONCB	14.3	18.7	22.4	24.9	23.7	19.8	23.3	26.7
PNCB	30.0	38.0	39.3	37.8	36.1	31.9	38.9	43.7
MEK	30.9	46.5	37.3	51.7	53.7	35.1	50.5	51.2
ACETALDEHYDE	67.8	59.0	60.5	65.8	60.8	76.1	55.0	71.7
ETHANOLAMINES	24.0	22.2	23.1	24.5	30.2	30.4	33.0	36.5
ETHYL ACETATE	213.0	255.9	279.2	306.0	324.8	367.2	344.5	330.3
MENTHOL	4.8	6.8	4.0	2.3	-5.8	-6.6	-8.0	-5.4
ORTHO NITRO TOLUENE	11.7	10.5	13.3	12.0	12.7	18.8	24.0	23.1
Total	**4264.4**	**4500.6**	**4618.4**	**5001.0**	**5296.1**	**5377.4**	**5326.1**	**5802.8**

Note: 1. *Production and Installed Capacity data based on MPRs received from manufacturer of chemicals under large and medium scale units, which are monitored by S&M Division of DCPC.*

2. *Data Source in respect of Imports and Exports is DGCIS, Kolkata, M/o Commerce and Industry.*

3. *Consumption is derived as Production + Imports - Exports*

Table 5A: Consumption of Selected Pesticides (Tech. Grade) (State-wise) from the FY 2017-18 to FY 2021-22

(Figures in MT)

S. No.	States/UTs	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1	Andhra Pradesh	1738	1689	1559	1559	1759
2	Bihar	840	850	850	995	995
3	Chhattisgarh	1685	1770	1672	1639	1740
4	Goa	24	25	30	30	32
5	Gujarat	1692	1608	1784	1573	1869
6	Haryana	4025	4015	4200	4050	4066
7	Himachal Pradesh	467	322	881	56	454
8	Jharkhand	619	646	681	1161	1195
9	Karnataka	1502	1524	1568	1930	1930
10	Kerala	1067	995	656	585	554
11	Madhya Pradesh	502	540	540	691	654
12	Maharashtra	15568	11746	12783	13243	13175
13	Odisha	1633	1609	1115	1158	1240
14	Punjab	5835	5543	4995	5193	NR
15	Rajasthan	2307	2290	2088	2330	2104
16	Tamil Nadu	1929	1901	2225	1834	1851
17	Telangana	4866	4894	4915	4986	5090
18	Uttar Pradesh	10824	11049	12217	11557	11688
19	Uttarakhand	210	195	224	135	114
20	West Bengal	2982	3190	3630	3630	3630
Sub Total		**60315**	**56401**	**58613**	**58336**	**54140**
North-Eastern States						
21	Arunachal Pradesh	NR	5	5	2	3
22	Assam	241	256	410	420	428
23	Manipur	27	NR	25	46	NR
24	Meghalaya	Organic State	Organic State	Organic State	Organic State	Organic State
25	Mizoram	NR	26	27	NR	23
26	Nagaland	20	21	19	36	41
27	Sikkim	Organic State	Organic State	Organic State	Organic State	NR
28	Tripura	330	349	364	NR	NR
Sub Total		**618**	**657**	**850**	**503**	**494**
Union Territories						
29	Andaman & Nicobar	NR	NR	NR	1	NR
30	Chandigarh	NR	NR	NR	NR	NR
31	Dadra & Nagar Haveli and Daman & Diu	NR	NR	NR	NR	NR
32	Delhi	NR	110	NR	NR	NR
33	Jammu & Kashmir	2430	2459	2198	3352	4086
34	Ladakh	NR	NR	NR	NR	NR
35	Lakshadweep	NR	NR	NR	NR	NR
36	Puducherry	43	42	40	NR	NR
Sub Total		**2473**	**2611**	**2238**	**3353**	**4086**
Grand Total		**63406**	**59669**	**61701**	**62193**	**58720**

Note: *States/UTs Zonal Conferences on Inputs (Plant Protection).* ***NR-*** *Not reported*

Source: *Direcorate of Plant Protection,Quarantine & Storage, Department of Agriculture Cooperation, Ministry of Agriculture and Farmers Welfare*

Section - II

Petrochemical Sector

Section - II

Petrochemical Sector

Table 6: Performance of Major Petrochemicals (Group-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000'MT)

Group	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	CAGR (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Synthetic Fibre									
Capacity	4213	4452	4393	4379	4440	4521	4529	4483	1.04
Production	3532	3558	3599	3625	3601	3893	3185	4040	1.94
Capacity Utilisation (%)	83.8	79.9	81.9	82.8	81.1	86.1	70.3	90.1	
Imports	236	264	280	260	276	347	403	460	10.04
Exports	887	878	1026	1001	1016	1059	879	1202	4.44
2. Polymers									
Capacity	8905	9768	10110	10112	10115	12754	12799	12820	5.34
Production	7558	8839	9163	9276	10040	12404	12144	12471	7.42
Capacity Utilisation (%)	84.9	90.5	90.6	91.7	99.3	97.3	94.9	97.3	
Imports	3737	4214	4452	4751	4479	3430	2641	2941	-3.36
Exports	903	998	912	1188	1934	1615	1489	921	0.28
3. Synthetic Rubber									
Capacity	425	425	425	425	425	411	406	400	-0.88
Production	172	242	285	308	351	358	353	383	12.14
Capacity Utilisation (%)	40.3	56.8	67.0	72.3	82.5	87.1	87.1	95.7	
Imports	578	596	560	608	619	575	747	635	1.35
Exports	26	43	38	52	64	74	95	90	19.37
4. Synthetic Detergent Intermediates									
Capacity	687	687	687	687	687	680	680	680	-0.16
Production	596	566	664	743	687	715	736	780	3.93
Capacity Utilisation (%)	86.7	82.3	96.6	108.1	100.0	105.1	108.3	114.8	
Imports	134	218	228	206	227	264	265	278	10.97
Exports	28	10	7	1	1	1	2	7	-17.16
5. Performance Plastics									
Capacity	2983	3018	2945	2947	2963	2919	3046	3032	0.24
Production	1591	1700	1799	1719	1589	1672	1520	1698	0.93
Capacity Utilisation (%)	53.3	56.3	61.1	58.3	53.6	57.3	49.9	56.0	
Imports	395	389	417	583	684	741	299	283	-4.67
Exports	409	814	973	1051	1080	969	217	284	-5.10
Total Basic Major Petrochemicals (1 to 5)									
Capacity	**17213**	**18351**	**18561**	**18551**	**18630**	**21286**	**21460**	**21415**	**3.17**
Production	**13448**	**14905**	**15510**	**15670**	**16269**	**19041**	**17938**	**19371**	**5.35**
Capacity Utilisation (%)	**78.1**	**81.2**	**83.6**	**84.5**	**87.3**	**89.5**	**83.6**	**90.5**	
Imports	**5080**	**5681**	**5938**	**6408**	**6284**	**5356**	**4356**	**4597**	**-1.41**
Exports	**2254**	**2743**	**2956**	**3293**	**4095**	**3719**	**2681**	**2505**	**1.52**

Note : 1. *Production and Installed Capacity data based on MPRs received from manufacturer under large and medium scale units, which are monitored by S&M Division of DCPC.*

2. *Data Source in respect of imports and exports is DGCIS, Kolkata, M/o Commerce and Industry.*

Table 6A: Projection of Production, Installed Capacity, Export and Import of Major Petrochemical (Group-wise) from the FY 2022-23 to FY 2027-28

(Figures in 000'MT)

Group	Actual Values						Forecast values					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Synthetic Fibre												
Capacity	4393	4379	4440	4521	4529	4483	4556	4587	4598	4609	4638	4673
Production	3599	3625	3601	3893	3185	4040	3775	3822	3879	3923	4097	4001
Capacity Utilisation (%)	81.9	82.8	81.1	86.1	70.3	90.1	82.9	83.3	84.4	85.1	88.3	85.6
Imports	280	260	276	347	403	460	478	541	595	638	683	731
Exports	1026	1001	1016	1059	879	1202	1086	1121	1154	1192	1251	1227
2. Polymers												
Capacity	10110	10112	10115	12754	12799	12820	13877	14778	15527	15845	16700	17530
Production	9163	9276	10040	12404	12144	12471	13667	14565	15222	15667	16633	17452
Capacity Utilisation (%)	90.6	91.7	99.3	97.3	94.9	97.3	98.5	98.6	98.0	98.9	99.6	99.6
Imports	4452	4751	4479	3430	2641	2941	2289	1651	1179	867	449	-157
Exports	912	1188	1934	1615	1489	921	1406	1218	953	903	846	826
3. Synthetic Rubber												
Capacity	425	425	425	411	406	400	395	387	380	375	368	361
Production	285	308	351	358	353	383	403	416	426	445	464	477
Capacity Utilisation (%)	67.0	72.3	82.5	87.1	87.1	95.7	101.9	107.4	112.3	118.7	126.2	132.1
Imports	560	608	619	575	747	635	699	715	739	764	758	801
Exports	38	52	64	74	95	90	109	119	129	139	148	162
4. Synthetic Detergent Intermediates												
Capacity	687	687	687	680	680	680	677	674	672	671	669	666
Production	664	743	687	715	736	780	780	789	823	840	857	872
Capacity Utilisation (%)	96.6	108.1	100.0	105.1	108.3	114.8	115.3	117.0	122.4	125.2	128.2	130.8
Imports	228	206	227	264	265	278	291	313	325	336	353	368
Exports	7	1	1	1	2	7	4	6	7	8	9	9

Group	Actual Values						Forecast values					
	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
5. Performance Plastics												
Capacity	2945	2947	2963	2919	3046	3032	3045	3074	3105	3140	3145	3178
Production	1799	1719	1589	1672	1520	1698	1564	1567	1576	1552	1559	1514
Capacity Utilisation (%)	61.1	58.3	53.6	57.3	49.9	56.0	51.4	51.0	50.7	49.4	49.6	47.6
Imports	417	583	684	741	299	283	354	212	75	-25	-39	-145
Exports	973	1051	1080	969	217	284	157	-135	-416	-632	-751	-1031
Total Major Petrochemicals (1 to 5)												
Capacity	**18561**	**18551**	**18630**	**21286**	**21460**	**21415**	**22549**	**23500**	**24283**	**24639**	**25520**	**26409**
Production	**15510**	**15670**	**16269**	**19041**	**17938**	**19371**	**20188**	**21159**	**21927**	**22428**	**23610**	**24316**
Capacity Utilisation (%)	**83.6**	**84.5**	**87.3**	**89.5**	**83.6**	**90.5**	**89.5**	**90.0**	**90.3**	**91.0**	**92.5**	**92.1**
Imports	**5938**	**6408**	**6284**	**5356**	**4356**	**4597**	**4111**	**3431**	**2914**	**2580**	**2204**	**1599**
Exports	**2956**	**3293**	**4095**	**3719**	**2681**	**2505**	**2761**	**2329**	**1827**	**1611**	**1504**	**1194**

Note: 1. *Production and Installed Capacity data based on MPRs received from manufacturer under large and medium scale units, which are monitored by S&M Division of DCPC.*

2. Data Source in respect of imports and exports is DGCIS, Kolkata, M/o Commerce and Industry.

3. *Projected figures have been calculated by using Forecast formula in MS Excel.*

Table 7: Production, Installed Capacity & Growth of Major Petrochemicals (Group-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000' MT)

Group	Installed Capacity			Production / Growth Rate	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
	2019-20	2020-21	2021-22									
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
1. Synthetic Fibre	**4521**	**4529**	**4483**	Production	3532	3558	3599	3625	3601	3893	3185	4040
				Growth Rate (%)	12.2	0.7	1.2	0.7	-0.7	8.1	-18.2	26.9
2. Polymers	**12754**	**12799**	**12820**	Production	7558	8839	9163	9276	10040	12404	12144	12471
				Growth Rate (%)	-4.0	17.0	3.7	1.2	8.2	23.5	-2.1	2.7
3. Synthetic Rubber	**411**	**406**	**400**	Production	172	242	285	308	351	358	353	383
				Growth Rate (%)	64.1	40.8	17.9	8.0	14.0	2.1	-1.3	8.3
4. Synthetic Detergent Intermediates	**680**	**680**	**680**	Production	596	566	664	743	687	715	736	780
				Growth Rate (%)	-0.1	-5.1	17.4	11.9	-7.5	4.0	3.0	6.0
5. Performance Plastics	**2919**	**3046**	**3032**	Production	1591	1700	1799	1719	1589	1672	1520	1698
				Growth Rate (%)	-5.5	6.9	5.8	-4.5	-7.6	5.2	-9.1	11.7
Total Basic Major Petrochemicals	**21286**	**21460**	**21415**	**Production**	**13448**	**14905**	**15510**	**15670**	**16269**	**19041**	**17938**	**19371**
				Growth Rate %)	**0.3**	**10.8**	**4.1**	**1.0**	**3.8**	**17.0**	**-5.8**	**8.0**

Note : 1. *Production and Installed Capacity data based on MPRs received from manufacturer under large and medium scale units, which are monitored by S&M Division of DCPC.*

Table 8: Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2021-22
	2019-20	2020-21	2021-22	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
A : BASIC MAJOR PETROCHEMICALS													
I : Synthetic Fibres / Yarn													
ACRYLIC FIBRE (AF)	107.0	107.0	107.0	89.6	105.9	95.4	91.0	99.5	102.9	77.0	66.7	-4.1	62.3
POLYESTER STAPLE FIBREFILL	69.0	69.0	69.0	57.3	51.1	53.7	51.3	53.0	49.9	40.3	39.0	-5.3	56.6
NYLON FILAMENT YARN	58.5	58.5	66.6	32.4	37.3	40.9	40.0	46.6	48.3	33.3	46.2	5.2	69.4
NYLON INDUSTRIAL YARN/TYRE CORD	152.0	152.0	165.7	100.5	94.9	103.6	107.6	109.5	99.7	90.3	115.5	2.0	69.7
POLYESTER FILAMENT YARN	2719.8	2727.4	2661.1	2178.7	2179.0	2200.9	2283.4	2316.4	2520.3	1997.9	2560.8	2.3	96.2
POLYESTER STAPLE FIBRE	1350.5	1350.5	1350.5	1021.2	1039.6	1056.0	1005.3	931.4	1027.5	909.4	1160.5	1.8	85.9
POLYPROPYLENE FILAMENT YARN	3.6	3.6	3.6	5.1	3.5	3.4	3.1	2.4	2.5	2.2	2.8	-8.3	77.9
POLYPROPYLENE STAPLE FIBRE	30.9	30.9	29.7	25.4	27.0	24.6	22.2	20.7	18.8	15.3	21.2	-2.5	71.5
POLYSTER INDUSTRIAL YARN	21.5	21.5	21.5	16.6	15.4	16.3	15.0	14.8	14.7	12.4	14.4	-2.0	66.9
ELASTOMERIC/SPANDEX FILAMENT YARN	8.5	8.5	8.5	4.9	4.8	4.7	6.2	7.1	8.1	6.6	12.9	14.7	151.8
Group Total	**4521.3**	**4528.9**	**4483.2**	**3532.0**	**3558.4**	**3599.4**	**3625.2**	**3601.5**	**3892.8**	**3184.6**	**4040.0**	**1.9**	**90.1**
II : Polymers													
LINEAR LOW DENSITY POLYETHYLENE (LLDPE)	No separate Capacity			910.3	1204.6	1318.3	1290.0	1581.2	2994.0	2958.9	2914.1	18.1	
HIGH DENSITY POLYETHYLENE (HDPE)	No separate Capacity			1155.8	1317.2	1520.0	1578.4	1597.7	1897.6	1910.0	1915.8	7.5	
LLDPE/HDPE (Combined) ($)	**5158.1**	**5158.1**	**5158.1**	**2066.1**	**2521.7**	**2838.3**	**2868.4**	**3178.9**	**4891.6**	**4869.0**	**4829.9**	**12.9**	**93.6**
LOW DENSITY POLYETHYLENE (LDPE)	560.0	610.0	610.0	184.4	200.0	201.8	185.7	193.1	613.3	616.6	583.0	17.9	95.6
POLYSTYRENE (PS)	471.0	471.0	471.0	281.2	308.6	311.3	301.6	292.9	291.7	217.4	247.9	-1.8	52.6
POLYPROPYLENE(PP)	4933.8	4933.8	4933.8	3614.8	4284.4	4253.4	4350.2	4779.0	4982.8	4919.1	5240.7	5.4	106.2
EXPANDABLE POLYSTYRENE (EXPS)	133.3	133.3	147.1	80.7	86.2	96.8	103.9	108.3	110.7	87.4	97.2	2.7	66.1
POLY VINYL CHLORIDE PVC)	1498.0	1493.0	1500.0	1330.4	1437.9	1461.5	1466.1	1488.4	1513.6	1434.1	1471.9	1.5	98.1
Group Total	**12754.2**	**12799.2**	**12820.0**	**7557.6**	**8838.8**	**9163.1**	**9275.9**	**10040.5**	**12403.7**	**12143.6**	**12470.7**	**7.4**	**97.3**

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2021-22
	2019-20	2020-21	2021-22	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
III : Synthetic Rubber													
STYRENE BUTADIENE RUBBER (SBR)	271.0	277.0	271.0	57.2	124.8	167.3	194.0	228.6	227.8	212.9	237.5	22.5	87.6
POLY BUTADIENE RUBBER (PBR)	100.0	100.0	100.0	107.5	113.9	117.1	113.6	122.2	130.3	128.5	132.8	3.1	132.8
ETHYL VINYL ACETATE (EVA)	15.0	15.0	15.0	6.4	2.4	0.0	0.0	0.0	0.0	0.0	0.0	-100.0	0.0
NITRILE BUTADIENE RUBBER (NBR)	25.3	13.7	13.7	0.4	0.4	0.4	0.1	0.0	0.0	11.9	12.3	64.4	90.1
Group Total	**411.3**	**405.7**	**399.7**	**171.6**	**241.5**	**284.8**	**307.7**	**350.9**	**358.1**	**353.3**	**382.6**	**12.1**	**95.7**
IV : Synthetic Detergent Intermediates													
LINEAR ALKYL BENZENE (LAB)	544.8	544.8	544.8	410.5	377.2	447.6	451.5	454.8	413.5	457.1	462.3	1.7	84.9
ETHYLENE OXIDE (EO)	135.0	135.0	135.0	185.3	188.3	216.1	291.3	232.3	301.2	279.4	318.1	8.0	235.6
Group Total	**679.8**	**679.8**	**679.8**	**595.9**	**565.5**	**663.7**	**742.8**	**687.2**	**714.7**	**736.4**	**780.4**	**3.9**	**114.8**
V : Performance Plastic													
ABS RESINS	210.0	213.0	199.0	107.3	117.0	117.8	145.2	148.2	136.5	121.9	122.8	1.9	61.7
NYLON-6/ NYLON 6,6*	68.5	83.5	83.5	20.7	21.4	21.5	20.6	21.5	41.6	55.4	68.3	18.6	81.8
POLYMETHYL METHACRYLATE (PMMA)	3.9	3.9	3.9	1.0	1.5	0.3	0.0	0.0	0.0	0.0	0.0	-100.0	0.0
STYRENE ACRYLONITRILE (SAN)	148.0	167.0	167.0	88.8	98.7	99.2	114.7	131.8	133.8	118.6	121.7	4.6	72.9
PET CHIPS/POLYESTER CHIPS	2468.5	2558.6	2558.6	1362.0	1452.9	1548.7	1424.6	1271.1	1344.7	1209.0	1365.9	0.0	53.4
PTFE (TEFLON)	20.3	20.3	20.3	11.4	8.7	11.7	13.7	16.2	15.1	14.6	18.9	7.6	93.1
Group Total	**2919.2**	**3046.3**	**3032.3**	**1591.2**	**1700.3**	**1799.3**	**1718.8**	**1588.8**	**1671.6**	**1519.6**	**1697.7**	**0.9**	**56.0**
Total Basic Major Petrochemicals (I+II+III+IV+V)	**21285.8**	**21459.8**	**21415.0**	**13448.2**	**14904.5**	**15510.3**	**15670.3**	**16268.8**	**19040.9**	**17937.6**	**19371.4**	**5.4**	**90.5**
B : INTERMEDIATES													
I : Fibre Intermediates													
ACRYLONITRILE (ACN)	24.0	24.0	24.0	33.7	1.9	0.0	0.0	0.0	0.0	0.0	0.0	-100.0	0.0
CAPROLACTUM	120.0	120.0	120.0	87.1	86.3	87.0	86.0	92.6	84.1	80.4	108.2	3.2	90.1
MONO ETHYLENE GLYCOL (MEG)	1868.1	2210.6	2210.6	1001.1	1159.0	1110.5	1132.7	1159.8	2007.8	1982.0	1990.2	10.3	90.0
PURIFIED TEREPHTHALIC ACID (PTA)	3873.0	3873.0	3873.0	3755.3	3431.8	3390.6	3492.4	3404.9	3267.1	2996.8	3383.3	-1.5	87.4
Group Total	**5885.1**	**6227.6**	**6227.6**	**4877.2**	**4679.0**	**4588.0**	**4711.1**	**4657.2**	**5358.9**	**5059.1**	**5481.7**	**1.7**	**88.0**

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2021-22
	2019-20	2020-21	2021-22	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
II : Building Blocks													
(a) Olefins													
BUTADIENE	552.0	552.0	552.0	239.4	343.5	347.4	332.4	385.8	481.0	458.8	477.4	10.4	86.5
ETHYLENE	7147.3	7147.3	7147.3	3191.9	3727.4	4021.7	4222.7	3831.9	6466.8	6364.9	6414.5	10.5	89.7
PROPYLENE	5190.4	5190.4	5190.4	3869.4	4456.7	4425.2	4457.9	4639.5	4887.6	5215.8	5635.1	5.5	108.6
Group Total	**12889.7**	**12889.7**	**12889.7**	**7300.7**	**8527.5**	**8794.3**	**9013.0**	**8857.2**	**11835.4**	**12039.4**	**12527.0**	**8.0**	**97.2**
(b) Aromatics													
BENZENE	1721.3	1884.3	1884.3	1094.4	1332.6	1332.0	1318.0	1414.6	1346.2	1407.9	1427.6	3.9	75.8
MIXED XYLENE	898.3	898.3	898.3	215.0	269.4	296.0	271.4	249.1	269.6	146.7	160.9	-4.1	17.9
ORTHOXYLENE	420.0	511.0	511.0	462.5	499.5	444.9	447.8	406.3	386.4	522.1	511.2	1.4	100.0
TOLUENE	288.3	288.3	288.3	108.2	115.7	126.8	106.9	141.1	140.2	114.0	115.7	1.0	40.1
PARAXYLENE (PX)	3131.7	3821.7	3821.7	2757.8	3266.4	3161.3	3194.5	3331.8	2782.3	2614.2	2461.9	-1.6	64.4
Group Total	**6459.6**	**7403.6**	**7403.6**	**4637.8**	**5483.5**	**5361.0**	**5338.6**	**5542.9**	**4924.7**	**4804.9**	**4677.2**	**0.1**	**63.2**
Total Intermediates (I+II(a)+II(b))	**25234.4**	**26520.9**	**26520.9**	**16815.8**	**18690.1**	**18743.3**	**19062.6**	**19057.3**	**22119.0**	**21903.5**	**22685.9**	**4.4**	**85.5**
C : OTHER PETRO-BASED CHEMICALS													
DIETHYLENE GLYCOL	132.9	170.9	170.9	101.0	114.2	108.2	105.7	107.4	167.7	172.3	173.7	**8.1**	101.6
DIACETONE ALCOHOL	9.5	9.5	9.5	0.0	0.0	0.0	0.2	4.1	6.0	2.9	5.7		59.6
ETHYLENE DICHLORIDE	593.2	593.2	593.2	285.3	277.4	282.6	282.3	339.2	345.3	326.2	367.0	**3.7**	61.9
BUTANOL	26.0	26.0	176.0	4.2	11.1	12.5	17.4	21.7	16.4	20.3	38.3	**37.1**	21.8
2-ETHYL HEXANOL	55.2	55.2	110.2	13.9	44.4	45.6	56.6	58.9	48.7	49.7	91.3	**30.9**	82.8
VINYL CHLORIDE MONOMER	541.3	541.3	541.3	717.9	790.7	791.3	778.0	803.6	874.5	799.2	813.1	**1.8**	150.2
PBT*	0.0	0.0	0.0	0.5	0.5	0.6	0.6	1.3	6.2	6.1	7.5	**47.2**	
POLYCARBONATE*	0.0	0.0	0.0	0.2	0.2	0.2	0.1	0.1	0.1	0.0	0.0	**-100.0**	
PROPYLENE OXIDE	36.0	51.0	51.0	36.6	25.6	29.3	36.0	35.1	34.6	44.4	49.9	**4.5**	97.9
PROPYLENE GLYCOL	20.0	22.0	22.0	16.2	13.6	16.3	17.6	19.1	19.5	19.7	20.5	**3.4**	93.4
POLYVINYL ACETATE RESIN	17.3	12.0	12.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	7.3		61.2
UNSATURATED POLYSTER RESIN	34.0	34.0	34.0	0.0	0.0	0.0	0.0	0.0	16.4	12.9	16.5		48.7
METHYL METHACRYLATE	4.4	4.4	4.4	3.5	2.3	0.5	2.8	4.0	1.7	0.0	0.0	**-100.0**	0.0
ISO-BUTANOL	2.8	2.8	9.8	0.7	1.9	2.0	2.2	2.2	1.7	2.1	4.0	**28.9**	40.5
C4-RAFFINATE	291.6	291.6	291.6	364.6	428.6	437.2	339.2	380.3	413.3	433.4	444.6	**2.9**	152.5
PHTHALIC ANHYDRIDE	401.9	401.9	401.9	291.5	305.8	296.1	290.0	275.1	269.6	293.0	339.6	**2.2**	84.5

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2021-22
	2019-20	2020-21	2021-22	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
VINYL ACTATE MONOMER	30.0	30.0	30.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0		0.0
ISOPROPANOL	70.2	70.2	70.2	75.0	71.2	72.5	71.8	58.3	60.5	55.3	65.1	**-2.0**	92.8
POLYOL	146.8	142.0	148.5	51.8	71.8	78.7	79.4	82.1	81.8	77.8	87.2	**7.7**	58.7
Group Total	**2413.1**	**2458.0**	**2676.5**	**1962.8**	**2159.2**	**2173.5**	**2080.1**	**2192.5**	**2364.2**	**2318.3**	**2531.3**	**3.7**	**94.6**
Total Major Petrochemical (9 Groups)	**48933.3**	**50438.8**	**50612.4**	**32226.7**	**35753.8**	**36427.1**	**36813.1**	**37518.5**	**43524.1**	**42159.4**	**44588.5**	**4.7**	**88.1**

Note : 1. *Production and Installed Capacity data based on MPRs received from manufacturer under large and medium scale units, which are monitored by S&M Division of DCPC.*

$: Combined capacity to produce both LLDPE and HDPE. However, production is independent.

** Nylon 6, 6 has combined Installed Capacity that includes the capacity of PBT and Polycarbonate also.*

Table 9: Installed Capacities of Selected Major Petrochemicals (Group-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000'MT)

Groups / Products	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
A : BASIC PETROCHEMICALS								
I : SYNTHETIC FIBRES	4213	4452	4393	4379	4440	4521	4529	4483
II : POLYMERS	8905	9768	10110	10112	10115	12754	12799	12820
III : SYNTHETIC RUBBER (ELASTOMERS)	425	425	425	425	425	411	406	400
IV : SYNTH. DETERGENT INTERMEDIATE	687	687	687	687	687	680	680	680
V : PERFORMANCE PLASTICS	2983	3018	2945	2947	2963	2919	3046	3032
TOTAL MAJOR PETROCHEMICALS (I TO V)	**17213**	**18351**	**18561**	**18551**	**18630**	**21286**	**21460**	**21415**
B : INTERMEDIATES								
VI : FIBRE INTERMEDIATES	5067	5067	5067	5187	5187	5885	6228	6228
VII : OLEFINS	8484	9462	9683	9683	9683	12890	12890	12890
VIII : AROMATICS	6274	6304	6305	6305	6305	6460	7404	7404
TOTAL INTERMEDIATES (VI TO VIII)	**19826**	**20834**	**21055**	**21175**	**21175**	**25234**	**26521**	**26521**
C : OTHER PETRO-BASED CHEMICALS	**2244**	**2272**	**2273**	**2271**	**2271**	**2413**	**2458**	**2677**
Total (A+B+C)	**39283**	**41457**	**41888**	**41998**	**42077**	**48933**	**50439**	**50612**

Note: *Installed Capacity data based on MPRs received from manufacturer under large and medium scale units only monitored by S&M Division of DCPC.*

Table 10: Consumption of Selected Major Petrochemicals (Product-wise) from the FY 2014-15 to FY 2021-22

(Figures in 000'MT)

Groups / Products	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1. SYNTHETIC FIBRE								
ACRYLIC FIBRE	88.5	97.2	83.8	83.9	94.0	118.7	93.4	78.1
POLYESTER STAPLE FIBREFILL	57.3	51.1	53.7	51.3	53.0	49.9	40.3	39.0
NYLON FILAMENT YARN	58.4	64.6	70.1	58.7	64.1	65.0	44.2	62.1
NYLON INDUSTRIAL YARN/TYRE CORD	102.5	98.2	109.8	112.5	115.8	103.0	95.5	121.6
POLYESTER FILAMENT YARN	1602.7	1616.8	1537.2	1648.5	1703.7	1924.2	1696.0	2094.0
POLYESTER STAPLE FIBRE	919.5	957.6	941.9	866.8	767.8	860.5	702.3	855.1
POLYPROPYLENE FILAMENT YARN	3.6	1.3	2.0	3.6	3.2	2.5	2.2	2.3
POLYPROPYLENE STAPLE FIBRE	15.1	21.4	16.8	16.0	16.2	12.1	9.3	13.3
POLYSTER INDUSTRIAL YARN	16.6	15.4	16.3	15.0	14.8	14.7	12.4	14.4
Elastomeric/Spandex Filament Yarn	16.0	20.4	21.9	27.2	28.9	29.4	13.9	18.1
Total	**2880.4**	**2943.8**	**2853.7**	**2883.8**	**2861.4**	**3180.0**	**2709.3**	**3298.1**
2. POLYMERS								
LOW DENSITY POLYETHYLENE	488.8	550.8	566.4	542.0	370.0	825.6	833.5	756.3
HIGH DENSITY POLYTHYLENE	1947.0	2122.8	2372.4	2365.7	2042.5	2198.6	2321.9	2544.9
POLYESTYRENE	247.1	264.8	273.2	284.6	285.2	296.5	250.9	269.1
POLYPROPYLENE (INC. CO-POLYMER)	3499.6	4249.9	4460.3	4737.2	4915.8	5438.4	4911.8	5831.0
EXPANDABLE POLYESTYRENE	79.0	85.4	96.9	103.4	106.4	109.0	91.2	101.8
POLY VINYL CHLORIDE	2621.8	2936.1	3157.9	3305.7	3523.8	2439.9	1836.4	1929.7
LINEAR LOW DENSITY POLYTHYLENE	1449.5	1778.8	1734.1	1486.2	1349.4	2910.4	3050.9	3070.8
PVC COMPOUND	58.3	65.9	42.1	14.3	-7.7	0.0	0.0	-12.5
Total	**10391.1**	**12054.5**	**12703.2**	**12839.1**	**12585.5**	**14218.4**	**13296.5**	**14491.0**
3. SYNTHETIC RUBBER								
STYRENE BUTADIENE RUBBER	262.8	266.5	289.8	286.3	305.5	285.6	325.5	371.4
POLY BUTADIENE RUBBER	176.1	182.6	196.9	201.4	213.7	207.6	220.2	220.3
ETHYL PROPYLENE DIMERS	30.4	36.6	40.1	42.6	50.3	43.2	40.4	47.5
ETHYL VINYL ACETATE	144.7	166.4	143.1	182.4	178.2	192.7	188.5	180.6
NITRILE BUTADIENE RUBBER	26.7	51.9	36.4	39.9	38.0	40.5	166.6	43.7
BUTYL RUBBER	83.3	90.8	100.3	111.0	120.1	89.3	64.3	64.4
Total	**723.9**	**794.9**	**806.5**	**863.6**	**905.8**	**858.9**	**1005.6**	**927.8**
4. SYNTHETIC DETERGENT INTERMEDIATES								
LINEAR ALKYL BENZENE	517.3	585.9	669.3	656.5	681.6	677.3	721.5	733.6
ETHYLENE OXIDE	184.6	188.0	215.6	290.9	231.6	300.4	278.4	317.1
Total	**701.9**	**774.0**	**884.9**	**947.4**	**913.2**	**977.7**	**1000.0**	**1050.7**
5. PERFORMANCE PLASTICS								
ABS RESIN	177.0	206.6	220.2	243.0	267.1	240.8	220.4	233.8
NYLON-6	136.7	150.2	161.5	174.1	216.5	237.0	55.4	68.3
POLYMETHYL METHACRYLATE	7.1	12.6	18.9	26.5	25.2	24.7	28.5	21.8
STYRENE ACRYLONITRILE	95.1	107.7	107.1	122.9	140.6	143.8	131.7	141.4
NYLON 6,6	1.3	1.2	1.2	1.1	1.0	0.7	0.0	0.0
POLYESTER CHIPS/PET CHIPS	1153.6	792.0	729.4	676.4	534.8	789.6	1158.6	1223.9
POLYTETRAFLUOROETHYLENE (PTFE)	5.9	4.8	5.6	7.1	7.1	6.8	6.8	7.2
Total	**1576.6**	**1275.1**	**1244.0**	**1251.0**	**1192.4**	**1443.4**	**1601.4**	**1696.5**

Groups / Products	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
6. FIBRE INTERMEDIATE								
ACRYLONITRILE	131.1	159.8	139.7	158.3	180.4	172.9	126.7	173.8
CAPROLACTUM	119.3	130.9	138.9	144.3	159.0	151.9	131.8	168.2
DIMETHYL TEREPHTHALATE	2.1	2.2	1.8	2.3	1.5	1.8	1.8	2.0
MONO EHYLENE GLYCOL	1931.5	2198.3	2283.7	2061.7	1501.9	2644.1	2277.8	2836.7
PURIFIED TEREPHTHALIC ACID	4799.8	3955.6	3543.1	3801.6	3812.3	4073.6	3487.2	4800.1
Total	**6983.8**	**6446.9**	**6107.1**	**6168.1**	**5654.9**	**7044.2**	**6025.3**	**7980.8**
7. OLEFINS								
Groups / Products	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	**2021-22**
BUTADIENE	170.2	214.6	242.6	231.8	250.6	306.8	292.0	333.3
ETHYLENE	3235.8	3743.3	4102.6	4125.4	3699.2	6379.3	6301.9	6365.4
PROPYLENE	3871.5	4445.6	4415.1	4446.0	4608.3	4889.0	5204.4	5664.6
Total	**7277.5**	**8403.5**	**8760.4**	**8803.2**	**8558.2**	**11575.1**	**11798.3**	**12363.3**
8. AROMATICS								
BENZENE	517.7	417.7	542.6	31.8	-214.3	-51.1	-80.5	-491.2
MIXED XYLENE	206.2	269.5	296.1	273.4	248.7	269.3	146.7	160.9
ORTHO-XYLENE	271.2	299.6	316.8	277.8	203.6	225.5	237.7	293.2
TOLUENE	386.0	454.1	513.7	517.0	565.6	596.5	698.0	598.2
PARAXYLENE	2392.0	3213.8	3557.3	2256.7	1508.8	940.5	442.7	805.9
Total	**3773.0**	**4654.7**	**5226.5**	**3356.6**	**2312.4**	**1980.8**	**1444.6**	**1367.0**
9. OTHER PETRO-BASED CHEMICALS								
DIETHYLENE GLYCOL	101.0	114.2	108.2	105.7	107.4	167.7	172.3	173.7
DIACETONE ALCOHOL	0.0	0.0	0.0	0.2	4.1	6.0	2.9	5.7
ETHYLENE DICHLORIDE	750.6	861.5	786.5	950.8	901.7	1044.9	921.7	987.0
BUTANOL	60.4	73.4	68.1	70.2	70.2	75.0	62.5	66.8
OXO ALCOHOL	0.1	0.7	1.9	1.4	-0.2	1.5	2.1	2.1
2-ETHYL HEXANOL	142.4	152.8	110.4	112.1	109.8	130.4	104.5	101.6
VINYL CHLORIDE MONOMER	1035.8	1140.1	1135.7	1262.4	1261.1	1385.6	1279.1	1394.9
EPICHLOHYDRINE	33.6	43.4	48.1	56.0	65.0	61.1	55.1	66.4
ISO BUTYLENE	13.0	15.8	20.1	48.7	44.6	-7.3	-4.2	-18.5
METAXYLENE	0.9	3.0	2.6	2.1	2.9	1.9	2.7	4.7
METHYL ISOBUTYL KETONE	23.0	27.3	21.6	33.7	31.9	27.8	30.1	35.8
PBT	0.5	0.5	0.6	0.6	1.3	6.2	6.1	7.5
PIB	6.3	8.2	13.8	12.4	12.0	10.3	6.7	12.2
POLYCARBONATE	122.3	133.9	134.5	154.1	187.1	172.5	174.7	207.2
PROPYLENE OXIDE	59.5	51.1	52.4	59.4	61.9	54.7	61.8	70.4
PROPYLENE GLYCOL	64.2	67.2	66.8	73.9	83.9	80.9	76.0	81.0
POLYVINYL ACETATE RESIN	-11.5	-8.1	-5.7	-3.5	-5.8	-5.5	-1.4	2.3
UNSATURATED POLYSTER RESIN	16.2	18.2	23.7	35.5	28.3	49.6	44.9	42.6
METHYL METHACRYLATE	3.5	2.3	0.5	2.8	4.0	1.7	0.0	0.0
ISO-BUTANOL	0.7	1.9	2.0	2.2	2.2	1.7	2.1	4.0
ETHYL BENZENE	0.1	0.1	0.3	0.4	0.7	0.5	0.5	0.9
C4-RAFFINATE	364.6	428.6	437.2	339.2	380.3	413.3	433.4	444.6
CELLULOSE ACETATE BUTYRATE	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1
CELLULOSE ACETATE SHEET	1.2	1.3	1.0	1.3	1.5	1.3	1.3	1.6
CELLULOSE NITRATE SHEET	0.3	0.1	0.1	0.1	0.1	0.1	1.2	0.5
MELAMINE MOULDING POWDER	3.7	3.9	2.9	-0.1	-1.3	-6.7	-9.8	-19.0
POLYACETAL RESIN	32.1	34.9	37.5	43.5	48.5	47.3	48.4	47.2
PHTHALIC ANHYDRIDE	305.2	345.1	346.1	382.6	393.4	415.2	410.4	428.3
STYRENE	610.9	716.9	724.5	784.7	811.2	872.6	720.8	847.2

Groups / Products	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
VINYL ACTATE MONOMER	138.0	140.0	150.2	163.7	163.0	159.4	136.5	174.4
ISOPROPANOL	132.0	155.1	162.3	171.3	193.1	204.2	233.8	189.5
POLYOL	200.8	236.9	226.0	274.5	308.3	295.7	239.5	247.7
Total	**4211.3**	**4770.3**	**4680.0**	**5142.0**	**5272.2**	**5669.7**	**5215.7**	**5610.4**

Note : 1. *Production and Installed Capacity data based on MPRs received from manufacturer under large and medium scale units, which are monitored by S&M Division of DCPC.*

2. *Data Source in respect of imports and exports is DGCIS, Kolkata, M/o Commerce and Industry.*

3. *Consumption is derived as Production + Imports - Exports*

Section - III

Foreign Trade

Section - III

Foreign Trade

Table 11: Exports and Imports of Chemicals & Chemical Products (excluding Pharmaceutical Products and Fertilizers) from the FY 2014-15 to FY 2021-22

(Rs. in Crore)

HS Code	Commodity	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	CAGR (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Total National Exports of which		**1896445**	**1716384**	**1849434**	**1956515**	**2307726**	**2219854**	**2159043**	**3147021**	**7.5**
28	INORGANIC CHEMICALS	8749	7913	9138	11175	14056	12512	12301	19800	**12.4**
29	ORGANIC CHEMICALS	73069	75295	78386	95381	127855	124195	133637	164815	**12.3**
32	TANNING OR DYEING	17206	16165	17189	18951	23124	24409	22660	29513	**8.0**
38	MISCELLANEOUS CHEMICAL PRODUCTS.	19432	20083	21792	25080	32397	35663	37886	52416	**15.2**
39	PLASTIC AND ARTICLES THEREOF.	31022	34381	35502	40928	56079	48970	51004	67440	**11.7**
4002	SYNTHETIC RUBBER AND FACTICE	379	452	480	571	739	759	821	1141	**17.0**
54	MAN-MADE FILAMENTS.	14621	13460	13334	13984	16018	16962	11470	18070	**3.1**
55	MAN-MADE STAPLE FIBRES.	13334	13625	14373	13212	13308	11824	9559	15402	**2.1**
A:Total Chemicals and Petrochemical Products		**177813**	**181374**	**190193**	**219281**	**283575**	**275294**	**279337**	**368597**	**11.0**
% share in total export		**9.4**	**10.6**	**10.3**	**11.2**	**12.3**	**12.4**	**12.9**	**11.7**	
Total National Imports of which		**2737087**	**2490306**	**2577675**	**3001033**	**3594675**	**3360954**	**2915958**	**4572775**	**7.6**
28	INORGANIC CHEMICALS	31413	33170	31654	38927	53237	45045	50955	76356	**13.5**
29	ORGANIC CHEMICALS	108320	101986	103798	123761	156552	140205	145830	212615	**10.1**
32	TANNING OR DYEING	9821	10467	11186	12995	15460	14518	14036	19431	**10.2**
38	MISCELLANEOUS CHEMICAL PRODUCTS.	25494	27207	30642	35521	41748	39069	45324	58634	**12.6**
39	PLASTIC AND ARTICLES THEREOF.	71398	74566	77573	89768	106591	100607	98392	149067	**11.1**
4002	SYNTHETIC RUBBER AND FACTICE	6697	5205	5654	6687	7896	6079	6269	9154	**4.6**
54	MAN-MADE FILAMENTS.	5042	4879	4856	5538	6843	7351	6727	11144	**12.0**
55	MAN-MADE STAPLE FIBRES.	4539	4401	3826	4658	6508	6785	6180	7714	**7.9**
B: Total Chemicals and Petrochemical Products		**262722**	**261880**	**269189**	**317856**	**394834**	**359660**	**373714**	**544115**	**11.0**
% share in total import		**9.6**	**10.5**	**10.4**	**10.6**	**11.0**	**10.7**	**12.8**	**11.9**	

Chapter 28: Inorganic Chemicals; Organic or Inorganic Compounds of Precious Metals, of Rare-Earth Metals, of Radioactive Elements or of Isotopes; **Chapter 29:** Organic Chemicals; **Chapter 32:** Tanning or Dyeing Extracts; Tannins and their Derivatives; Dyes, Pigments and Other Colouring Matter; Paints and Varnishes; Putty and other Mastics; Inks; **Chapter 38:** Miscellaneous Chemical Products; **Chapter 39:** Plastics and articles thereof; **4002:** Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any product of heading No.4001 with any product of this heading, in primary forms or in plates, sheets; **Chapter 54:** Man-made Filaments and **Chapter 55:** Man-made staple fibres

Note 1: Import and Export includes both technical and formulations.

Note 2: Data Source in respect of Imports and Exports is DGCIS, Kolkata, M/o Commerce and Industry

Table 12: Exports and Imports of Chemicals & Chemical Products (including Pharmaceutical Products and Fertilizers) from the FY 2014-15 to FY 2021-22

(Rs. in Crore)

HS Code	Commodity	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	CAGR (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
Total National Exports of which		**1896445**	**1716384**	**1849434**	**1956515**	**2307726**	**2219854**	**2159043**	**3147021**	**7.5**
28,29,32,38,39,4002, 54 & 55	Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)	177813	181374	190193	219281	283575	275294	279337	368597	11.0
	Share in Total Exports (%)	9.4	10.6	10.3	11.2	12.3	12.4	12.9	11.7	
30	Pharmaceutical Products	70815	84481	86705	85447	103240	115473	143738	144581	10.7
	Share in Total Exports (%)	3.7	4.9	4.7	4.4	4.5	5.2	6.7	4.6	
31	Fertilizers	555	673	466	685	1038	837	779	630	1.8
	Share in Total Exports (%)	0.03	0.04	0.03	0.04	0.04	0.04	0.04	0.02	
A: Total Chemicals and Chemical Products (including Pharmaceutical Products and Fertilizers)		**249183**	**266528**	**277364**	**305413**	**387853**	**391604**	**423855**	**513807**	**10.9**
Share in Total Exports (%)		**13.14**	**15.53**	**15.00**	**15.61**	**16.81**	**17.64**	**19.63**	**16.33**	
Total National Imports of which		**2737087**	**2490306**	**2577675**	**3001033**	**3594675**	**3360954**	**2915958**	**4572775**	**7.6**
28,29,32,38,39,4002, 54 & 55	Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)	262722	261880	269189	317856	394834	359660	373714	544115	11.0
	Share in Total Imports (%)	9.6	10.5	10.4	10.6	11.0	10.7	12.8	11.9	
30	Pharmaceutical Products	9961	10742	11515	12241	14581	16530	18934	25603	14.4
	Share in Total Imports (%)	0.4	0.4	0.4	0.4	0.4	0.5	0.6	0.6	
31	Fertilisers	39106	45973	28754	30108	46457	47397	51034	95329	13.6
	Share in Total Imports (%)	1.43	1.85	1.12	1.00	1.29	1.41	1.75	2.08	
B: Total Chemicals and chemical Products (including Pharmaceutical Products and Fertilizers)		**311790**	**318595**	**309458**	**360205**	**455872**	**423587**	**443683**	**665047**	**11.4**
Share in Total Imports (%)		**11.39**	**12.79**	**12.01**	**12.00**	**12.68**	**12.60**	**15.22**	**14.54**	

Chapter 28: Inorganic Chemicals; Organic or Inorganic Compounds of Precious Metals, of Rare-Earth Metals, of Radioactive Elements or of Isotopes; **Chapter 29:** Organic Chemicals; **Chapter 30:** Pharmaceutical Products; **Chapter 31:** Fertilisers; **Chapter 32:** Tanning or Dyeing Extracts; Tannins and their Derivatives; Dyes, Pigments and Other Colouring Matter; Paints and Varnishes; Putty and other Mastics; Inks; **Chapter 38:** Miscellaneous Chemical Products; **Chapter 39:** Plastics and articles thereof; **4002:** Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any product of heading No.4001 with any product of this heading, in primary forms or in plates, sheets; **Chapter 54:** Man-made Filaments and **Chapter 55:** Man-made staple fibres

Note 1: Import and Export includes both technical and formulations.

Note 2: Data Source in respect of Imports and Exports is DGCIS, Kolkata, M/o Commerce and Industry

Table 12A: Net Imports of Chemicals and Chemical Products (including Pharmaceutical Products and Fertilizers) from the FY 2014-15 to FY 2021-22

(Rs. in Crore)

HS Code	Commodity	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Total National Net Imports of which		**840641**	**773921**	**728242**	**1044519**	**1286948**	**1141100**	**756914**	**1425753**
28	INORGANIC CHEMICALS	22664	25256	22516	27752	39181	32533	38654	56556
29	ORGANIC CHEMICALS	35251	26692	25412	28380	28696	16009	12194	47800
32	TANNING OR DYEING	-7385	-5698	-6004	-5956	-7664	-9891	-8624	-10082
38	MISCELLANEOUS CHEMICAL PRODUCTS.	6061	7124	8850	10441	9352	3407	7438	6218
39	PLASTIC AND ARTICLES THEREOF.	40376	40185	42071	48841	50512	51638	47388	81627
4002	SYNTHETIC RUBBER AND FACTICE	6318	4753	5174	6116	7157	5320	5448	8013
54	MAN-MADE FILAMENTS.	-9579	-8582	-8479	-8446	-9175	-9611	-4743	-6926
55	MAN-MADE STAPLE FIBRES.	-8795	-9224	-10546	-8554	-6800	-5039	-3379	-7688
Net Imports of Total Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)		**84909**	**80506**	**78995**	**98575**	**111259**	**84366**	**94377**	**175518**
Share in Total National Net Imports (%)		10.1	10.4	10.8	9.4	8.6	7.4	12.5	12.3
30	Pharmaceutical Products	-60854	-73739	-75190	-73206	-88659	-98943	-124804	-118978
31	Fertilisers	38551	45300	28289	29423	45419	46560	50255	94699
Net Imports of Total Chemicals and Chemical Products (including Pharmaceutical Products and Fertilizers)		**62607**	**52067**	**32094**	**54792**	**68019**	**31983**	**19828**	**151240**
Share in Total National Net Imports (%)		7.4	6.7	4.4	5.2	5.3	2.8	2.6	10.6

Chapter 28: Inorganic Chemicals; Organic or Inorganic Compounds of Precious Metals, of Rare-Earth Metals, of Radioactive Elements or of Isotopes; **Chapter 29:** Organic Chemicals; **Chapter 32:** Tanning or Dyeing Extracts; Tannins and their Derivatives; Dyes, Pigments and Other Colouring Matter; Paints and Varnishes; Putty and other Mastics; Inks; **Chapter 38:** Miscellaneous Chemical Products; **Chapter 39:** Plastics and articles thereof; **4002:** Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any product of heading No.4001 with any product of this heading, in primary forms or in plates, sheets; **Chapter 54:** Man-made Filaments and **Chapter 55:** Man-made staple fibres

Note 1: Import and Export includes both technical and formulations.

Note 2: Data Source in respect of Imports and Exports is DGCIS, Kolkata, M/o Commerce and Industry

Table 13: Exports of Major Chemicals (Group-wise) from the FY 2014-15 to FY 2021-22

(Qty. in MT; Value in Rs. Lakh)

GROUP	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
ALKALI CHEMICALS	73639	17660	106744	29210	154244	39591	273456	86880	239321	87844	329459	82760	428873	85310	597971	187161
INORGANIC CHEMICALS	163592	100558	156683	74466	377587	111322	173071	102270	176900	133248	196035	134079	194941	119206	272948	261181
ORGANIC CHEMICALS	240545	249461	231728	216771	190306	232940	204923	320492	233147	425738	244524	422713	295922	438010	310144	528314
PESTICIDES & INSECTICIDES[$]	230227	974682	266915	1126874	342331	1315026	358481	1481031	404783	2004132	398069	2163297	470787	2380601	567666	3266419
DYES & PIGMENTS	353220	1285827	376046	1219795	419272	1307546	485741	1439290	525170	1800681	530297	1928414	514395	1770381	590558	2336505
EXPORTS OF MAJOR CHEMICALS	**1061223**	**2628188**	**1138116**	**2667116**	**1483740**	**3006425**	**1495672**	**3429963**	**1579321**	**4451643**	**1698384**	**4731263**	**1904918**	**4793508**	**2339287**	**6579580**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Note: $ Import and Export includes both technical and formulations.

Table 14: Imports of Major Chemicals (Group-wise) from the FY 2014-15 to FY 2021-22

(Qty. in MT; Value in Rs. Lakh)

GROUP	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
ALKALI CHEMICALS	1134146	206474	1117878	218199	1121137	215051	1193978	265347	1049124	225523	1157130	240752	967827	170499	766564	174732
INORGANIC CHEMICALS	911969	267873	1009821	237368	1010071	235237	1228854	308363	1579667	485763	1531826	354602	1187990	302101	1345272	382374
ORGANIC CHEMICALS	2885815	995356	3143476	865684	3170287	904366	3407051	1207748	3644781	1520278	3775333	1078053	3715724	1124697	4159984	2308240
PESTICIDES & INSECTICIDES[$]	40674	374050	33868	390707	42591	490581	44145	581385	49233	632590	42580	611078	66190	899057	59722	972605
DYES & PIGMENTS	51935	214741	54691	219304	55868	214913	62971	231383	56452	278422	50583	281435	45339	252666	53657	326661
IMPORTS OF MAJOR CHEMICALS	**5024539**	**2058494**	**5359734**	**1931262**	**5399954**	**2060148**	**5936999**	**2594226**	**6379257**	**3142576**	**6557452**	**2565920**	**5983070**	**2749020**	**6385199**	**4164612**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Note: $ Import and Export includes both technical and formulations.

Table 15: Net Imports of Major Chemicals (Group-wise) from the FY 2014-15 to FY 2021-22

(Qty. in MT; Value in Rs. Lakh)

GROUP	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
ALKALI CHEMICALS	1060507	188814	1011134	188989	966893	175460	920522	178467	809803	137679	827671	157992	538954	85189	168593	-12429
INORGANIC CHEMICALS	748377	167315	853138	162902	632484	123915	1055783	206093	1402767	352515	1335791	220523	993049	182895	1072324	121193
ORGANIC CHEMICALS	2645270	745895	2911748	648913	2979981	671426	3202128	887256	3411634	1094540	3530809	655340	3419802	686687	3849840	1779926
PESTICIDES & INSECTICIDES $	-189553	-600632	-233047	-736167	-299740	-824445	-314336	-899646	-355550	-1371542	-355489	-1552219	-404597	-1481544	-507944	-2293814
DYES & PIGMENTS	-301285	-1071086	-321355	-1000491	-363404	-1092633	-422770	-1207907	-468718	-1522259	-479714	-1646979	-469056	-1517715	-536901	-2009844
NET IMPORTS OF MAJOR	**3963316**	**-569694**	**4221618**	**-735854**	**3916214**	**-946277**	**4441327**	**-835737**	**4799936**	**-1309067**	**4859068**	**-2165343**	**4078152**	**-2044488**	**4045912**	**-2414968**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Note: Import and Export includes both technical and formulations.

Table 16: Exports of Major Chemicals (Product-wise) from the FY 2014-15 to FY 2021-22

(QTY in MT; Value in Rs. Lakh)

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
ALKALI CHEMICALS																
SODA ASH	27720	5166	18613	3927	64377	10793	110087	19377	62457	15202	137749	27137	149721	23725	250639	53739
CAUSTIC SODA	42200	11973	82144	23807	84809	27773	159630	66829	172165	71663	187494	54532	275374	60246	343042	131967
LIQUID CHLORINE	3719	521	5987	1476	5058	1025	3739	674	4699	979	4216	1091	3778	1339	4290	1455
TOTAL	**73639**	**17660**	**106744**	**29210**	**154244**	**39591**	**273456**	**86880**	**239321**	**87844**	**329459**	**82760**	**428873**	**85310**	**597971**	**187161**
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	2831	1980	1796	1240	321	265	206	204	442	363	1362	1210	2046	1872	984	247
CALCIUM CARBIDE	412	230	371	206	493	284	464	258	325	204	371	244	129	112	787	974
CARBON BLACK	114119	77832	114668	55019	332172	87414	122287	72959	122832	103643	144017	103457	138724	85640	203936	218180
POTASSIUM CHLORATE	634	492	758	576	1658	1145	1941	1245	3024	2124	3178	2190	2595	1803	1981	1564
SODIUM CHLORATE	31	21	13	13	118	56	1075	256	810	41	0	6	5	5	24	34
TITANIUM DIOXIDE	5158	7108	4436	5582	8183	10216	9560	15377	7345	12743	6235	10654	6483	11521	6051	15382
RED PHOSPHORUS	360	1299	482	1777	454	1757	455	1716	595	2242	650	2567	582	2460	626	3628
HYDROGEN PEROXIDE	244	143	351	222	270	284	116	214	263	225	808	482	3077	1053	5683	1996
CALCIUM CARBONATE	39803	11453	33808	9831	33918	9901	36967	10041	41264	11663	39414	13269	41300	14740	52876	19176
TOTAL	**163592**	**100558**	**156683**	**74466**	**377587**	**111322**	**173071**	**102270**	**176900**	**133248**	**196035**	**134079**	**194941**	**119206**	**272948**	**261181**
ORGANIC CHEMICALS																
ACETIC ACID	6489	3449	8378	5181	12914	6277	12220	5401	17821	10476	12746	6265	10697	6270	22227	20425
ACETIC ANHYDRIDE	20098	11565	18605	9941	20443	10277	19644	13743	18444	13582	20529	12815	23960	15302	20700	24118
ACETONE	3182	2975	10778	6392	3225	2201	5054	3173	10901	5904	11004	5646	28161	19355	21604	15500
PHENOL	2009	3338	6841	7379	4013	8192	4750	9709	4724	11740	22273	23408	53100	39575	43658	50811
METHANOL	49463	11525	44013	8196	12624	3123	9466	2846	10943	3819	12941	3482	8451	2607	18645	6084
FORMALDEHYDE	7467	1213	8480	1383	8406	1548	10616	2098	12484	2495	14153	2484	15241	2734	16486	4115
NITROBENZENE	150	137	49	38	344	231	60	49	103	110	133	131	98	99	119	149
CITRIC ACID	1737	1364	1487	1144	1670	1244	2393	1931	2323	2010	2411	1942	2296	2018	5572	11418
MALEIC ANHYDRIDE	37	47	80	67	232	164	233	227	87	105	167	193	50	62	114	204
PENTAERYTHRITOL	1557	2516	1632	2958	2044	3470	2110	3399	2287	4161	2584	4741	1336	2550	2620	6578
ANILINE	86	141	129	134	168	207	162	614	137	341	68	148	68	89	74	179

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
CHLORO METHANES	144	236	38	41	89	121	101	283	75	149	49	107	68	156	122	250
ISOBUTYLBENZENE	13944	19250	12572	14186	13430	14854	12341	14384	11740	16320	9705	14150	16156	20894	8541	13709
ONCB	2231	2283	843	883	973	950	0	0	0	0	0	0	0	0	0	0
PNCB	843	564	1670	1114	1023	738	0	0	0	0	0	0	0	0	0	0
MEK	673	922	184	795	189	98	19	36	465	477	243	245	66	75	10	37
ACETALDEHYDE	25	140	2	4	40	44	3	6	1148	912	1139	893	1027	692	993	812
ETHANOLAMINES	1027	3696	1129	7119	1692	4996	4801	14201	3143	13553	1686	10522	2760	11850	3081	10668
ETHYL ACETATE	115096	67934	104814	54269	93699	48020	105551	62174	118682	82170	108384	63095	108725	69937	118930	133346
MENTHOL	13135	115160	8836	94548	12006	125246	12749	183951	13351	253213	17089	265334	19980	240427	19795	222579
ORTHO NITRO TOLUENE	1152	1006	1168	999	1082	939	2650	2267	4289	4201	7220	7112	3682	3318	6853	7332
TOTAL	**240545**	**249461**	**231728**	**216771**	**190306**	**232940**	**204923**	**320492**	**233147**	**425738**	**244524**	**422713**	**295922**	**438010**	**310144**	**528314**
PESTICIDES & INSECTICIDES																
MALATHION	1260	2346	1010	1943	1264	2274	1977	3682	2499	5792	2318	6230	1673	5079	2772	9020
DIMETHOATE	369	1327	20	52	24	58	24	62	126	429	199	603	154	590	96	443
D.D.V.P.	564	1449	550	1461	322	1145	493	1835	689	2716	12	41	639	2620	468	1128
QUINALPHOS	996	3900	235	1036	384	1772	382	1645	281	1439	338	1606	522	2909	811	5809
CYPERMETHRIN	10487	50407	8837	45949	9416	45742	9706	62713	13609	112381	15122	95462	18945	106342	19820	126617
FENTHION	0	0	0	0	10	18	0	0	0	0	0	0	0	0	0	0
OTHER PESTICIDES	37862	178366	41058	214054	45560	208648	43320	216510	39174	233275	7416	28448	6155	23536	6410	24045
OTHER INSECTICIDES	45483	344754	31146	276427	41471	311285	50008	393497	62714	580271	106352	840555	111743	833725	125025	1083286
COPPER-OXYCHLORIDE	867	2311	810	1818	871	1921	723	1732	806	2427	2240	5896	1603	5135	1767	8035
2, 4-D	10938	18095	19449	29770	20677	27496	24125	36076	22242	46347	19623	32924	21097	33198	33070	80574
ISOPROTURON	2150	7972	1087	3830	356	1295	0	0	0	0	0	0	0	0	0	0
ALUMINIUM PHOSPHIDE	223	562	64	226	127	515	505	1703	481	2084	426	1909	764	3024	1029	3241
METHYL BROMIDE	551	1940	1274	4641	1756	6229	2000	7292	2208	8384	1628	6682	2089	9966	2214	11088
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	19150	151055	32381	266182	50720	362041	67039	425113	74058	595122	79434	717390	101726	857814	140909	1197464
OTHER FUNGICIDE NES	99327	210198	128994	279485	169373	344587	158179	329170	185896	413465	162961	425551	203677	496663	233275	715669
TOTAL	**230227**	**974682**	**266915**	**1126874**	**342331**	**1315026**	**358481**	**1481030**	**404783**	**2004132**	**398069**	**2163297**	**470787**	**2380601**	**567666**	**3266419**

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
DYES & PIGMENTS																
AZO DYES	51902	194665	55327	161970	60390	162456	69996	181785	72999	225224	68352	210313	64125	179167	76648	246547
ACID DIRECT DYES(OTHER THAN AZO)	4004	20146	3559	17300	4434	19689	5098	21655	5103	26145	5601	28666	5892	29584	6996	40191
BASIC DYES	7646	21701	8173	23896	9229	26186	10757	32222	12017	44585	12730	48887	13585	51140	13913	60670
DISPERSE DYES	12065	48545	13117	52818	16078	59912	14460	56914	20552	107647	23362	133160	18521	93517	24336	120607
FAST COLOUR BASES	2806	11890	2262	11868	2174	15766	2042	9726	2652	14987	5364	46929	3667	21816	4008	28273
OIL SOLUBLE (SOLVENT DYES)	6826	32614	6123	31703	8702	39439	8995	42906	10195	66808	11091	76571	9106	65358	10656	92079
OPTICAL WHITENING AGENTS	27211	44223	25203	46519	26957	46240	30124	48069	30259	66858	26084	82724	21458	44381	23448	63463
ORGANIC PIGMENT	191	500	75	531	71	293	62	185	15	98	50	333	67	229	29	84
PIGMENT EMULSION	76407	365943	81536	374190	88980	392700	102051	441253	110526	494598	110669	534039	116980	581196	130371	757608
REACTIVE DYES	107369	392147	113224	344963	128417	379350	147417	413080	158530	511426	169648	502283	152579	426490	180640	591072
SULPHUR DYES (SULPHUR BLACK)	1993	2627	1472	1945	2023	2682	5467	5794	5720	7303	4510	5233	3701	4115	5565	7958
VAT DYES	2132	31855	1364	20523	1404	22737	1707	26607	4475	46284	4524	64023	3643	63587	6936	81370
SOLUBILISED VAT DYES	29	283	36	354	31	265	46	529	63	789	71	1185	83	759	74	1043
FOOD COLOURS	26034	77218	27101	79537	28359	79492	31110	87129	29007	107344	25347	107786	30271	118294	35087	143435
NAPTHOLS	1139	3113	1489	3463	2076	4753	2329	5725	3276	8341	4169	11467	4982	10894	3053	8471
OTHER DYES	9612	27865	10159	22693	12711	24977	13735	26227	13621	31196	15218	34504	17473	34086	17930	38503
INORGANIC PIGMENTS	15854	10492	25826	25522	27236	30609	40345	39484	46160	41048	43507	40311	48262	45768	50868	55131
TOTAL	**353220**	**1285827**	**376046**	**1219795**	**419272**	**1307546**	**485741**	**1439290**	**525170**	**1800681**	**530297**	**1928414**	**514395**	**1770381**	**590558**	**2336505**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 17: Imports of Major Chemicals (Product-wise) from the FY 2014-15 to FY 2021-22

(QTY in MT; Value in Rs. Lakh)

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
ALKALI CHEMICALS																
SODA ASH	725517	112616	633263	101707	695307	102490	772622	111757	840591	144900	847704	152515	719731	114804	563140	97002
CAUSTIC SODA	407981	93584	484133	116303	425795	112391	421298	153382	208267	79927	309345	87982	248057	55495	203275	77347
LIQUID CHLORINE	648	274	482	189	35	170	58	208	266	696	81	255	39	200	149	383
TOTAL	**1134146**	**206474**	**1117878**	**218199**	**1121137**	**215051**	**1193978**	**265347**	**1049124**	**225523**	**1157130**	**240752**	**967827**	**170499**	**967827**	**170499**
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	30120	20259	27258	18102	46564	26437	49758	29075	62374	56075	40362	37910	61224	48059	74347	52878
CALCIUM CARBIDE	78332	31525	61935	25429	55692	23652	55651	23941	45321	21554	31218	14507	32666	17749	22008	15761
CARBON BLACK	139468	108915	124059	83401	128740	82424	186224	143618	278531	249368	197491	153367	190469	127583	156331	155878
POTASSIUM CHLORATE	6147	3856	3160	2026	100	61	29	22	128	272	55	119	909	884	0	9
SODIUM CHLORATE	21818	9085	17298	6400	7447	2907	8822	3041	14240	5884	24082	11254	11589	5118	16655	6822
TITANIUM DIOXIDE	17574	28243	16421	25709	13901	22943	13701	24771	14546	28686	16416	30825	13389	25107	15134	36230
RED PHOSPHORUS	36	98	0	0	0	1	0	3	14	51	18	57	4	18	0	1
HYDROGEN PEROXIDE	56276	14311	44084	11211	57068	15910	68474	19305	84261	36931	52727	15858	22355	8150	33475	11293
CALCIUM CARBONATE	562198	51581	715606	65090	700559	60902	846195	64587	1080252	86942	1169457	90705	855385	69433	1027322	103502
TOTAL	**911969**	**267873**	**1009821**	**237368**	**1010071**	**235237**	**1228854**	**308363**	**1579667**	**485763**	**1531826**	**354602**	**1187990**	**302101**	**1345272**	**382374**
ORGANIC CHEMICALS																
ACETIC ACID	712384	234821	792775	206305	847808	193958	884515	290624	937298	422360	926492	273709	904345	275694	1054823	778838
ACETIC ANHYDRIDE	2689	1538	2918	1780	2272	1118	4381	2346	12275	9700	20529	11716	18807	10479	20896	22339
ACETONE	126832	82658	138402	55796	135887	63055	146878	74975	116760	52108	72402	28094	82056	53673	118656	82777
PHENOL	200115	183502	248769	147715	282187	176601	288572	202842	231808	217710	144005	99070	170993	89789	206208	210164
METHANOL	1641624	319399	1711879	285259	1637457	295762	1783293	400004	1986712	519474	2286274	425567	2219944	434805	2397912	743153
FORMALDEHYDE	412	225	66	42	84	248	46	44	22	13	5	111	6	148	8	194
NITROBENZENE	1208	802	5838	2733	14429	6944	15384	8207	18204	10721	15533	8073	9866	5008	7816	6361
CITRIC ACID	67369	33345	75978	36119	81681	39558	84262	45489	95283	45136	90958	38453	94966	47550	99929	100565
MALEIC ANHYDRIDE	38388	35773	47399	31392	50813	34618	52627	42928	69920	61694	66942	46858	59533	46705	74467	107691
PENTAERYTHRITOL	13681	14646	19486	21468	19380	20690	17963	19614	18407	23000	21311	23116	13613	13022	16340	25537
ANILINE	36095	36876	38341	26965	44650	29368	65416	58924	88454	81524	80946	53293	72770	47402	92072	113186
CHLORO METHANES	113	289	608	364	258	223	519	429	1413	1089	2404	2122	2469	2111	1905	2163
ISOBUTYLBENZENE	0	0	0	0	0	0	0	0	0	0	2	4	0	0	0	0
ONCB	395	410	237	192	839	628	0	0	0	0	0	0	0	0	0	0
PNCB	3838	2301	8408	3886	6095	2899	0	0	0	0	0	0	0	0	0	0
MEK	27539	25599	40883	26950	30901	16629	45331	36027	47158	40994	25509	19145	42542	33013	42363	44585
ACETALDEHYDE	53	176	74	299	130	357	81	243	94	275	113	375	82	568	150	497
ETHANOLAMINES	11286	17183	10072	10321	11662	10202	16101	16140	16648	19347	16694	16398	19070	17807	18605	24326
ETHYL ACETATE	201	453	290	909	1664	861	43	127	2917	2358	2157	1768	141	1697	3778	5336

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
MENTHOL	507	4307	936	7112	1511	10211	1372	8573	1334	12718	3057	30181	4521	45226	4056	40528
ORTHO NITRO TOLUENE	1086	1053	117	77	579	436	267	212	74	57	0	0	0	0	0	0
TOTAL	**2885815**	**995356**	**3143476**	**865684**	**3170287**	**904366**	**3407051**	**1207748**	**3644781**	**1520278**	**3775333**	**1078053**	**3715724**	**1124697**	**4159984**	**2308240**
PESTICIDES & INSECTICIDES																
DIMETHOATE	0	0	0	0	0	0	0	0	0	0	0	0	63	326	153	723
D.D.V.P.	20	36	64	116	16	28	35	66	1561	3167	0	0	0	0	0	0
QUINALPHOS	0	0	0	0	0	0	0	0	0	0	15	81	0	0	0	0
CYPERMETHRIN	0	0	0	0	0	0	8	47	5	53	93	849	6	57	3	45
FENTHION	50	236	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OTHER PESTICIDES	2007	12072	1318	12700	1176	91641	1907	139991	1868	163792	4534	131268	5453	216253	1443	143124
OTHER INSECTICIDES	19369	205845	15634	213829	18067	208838	17307	239549	17188	240036	13525	268040	16512	343526	16376	385766
COPPER-OXYCHLORIDE	0	0	0	0	0	1	0	1	0	2	0	0	0	0	40	138
2, 4-D	34	77	72	123	16	27	1824	2735	2819	5935	2382	4311	2412	3657	601	2315
ISOPROTURON	0	0	0	0	0	0	0	0	3	4	0	0	0	0	0	0
ALUMINIUM PHOSPHIDE	3	54	6	98	0	0	0	0	5	39	1	27	7	40	0	1
METHYL BROMIDE	269	1150	53	250	24	70	18	107	2	14	28	141	12	63	30	170
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	12294	86257	10171	85167	16149	104626	15248	100387	18044	122207	14232	104807	30307	189422	24959	213811
OTHER FUNGICIDE NES	6628	68323	6550	78424	7143	85350	7798	98502	7738	97341	7770	101554	11418	145713	16117	226512
TOTAL	**40674**	**374050**	**33868**	**390707**	**42591**	**490581**	**44145**	**581385**	**49233**	**632590**	**42580**	**611078**	**66190**	**899057**	**59722**	**972605**
DYES & PIGMENTS																
AZO DYES	1114	5148	716	4016	630	3509	514	3734	437	4207	306	4096	298	3880	408	4775
ACID DIRECT DYES(OTHER THAN AZO)	436	2036	312	1685	188	1348	248	1942	322	2639	133	1295	163	1073	125	1548
BASIC DYES	724	5266	475	4135	560	4183	647	5445	487	6868	529	8213	735	9836	636	8916
DISPERSE DYES	4671	26330	6199	28647	4970	23618	4051	23972	1731	19295	2322	23128	2314	20496	2266	20665
FAST COLOUR BASES	327	2864	510	3058	426	2314	379	2113	169	1743	265	2149	260	2414	45	773
OIL SOLUBLE (SOLVENT DYES)	782	6414	689	5967	762	5446	846	6414	710	7812	590	6250	525	6140	894	14411
OPTICAL WHITENING AGENTS	565	4442	664	5376	612	5455	593	5540	565	6978	738	8746	588	6492	742	8961
ORGANIC PIGMENT	142	575	190	889	100	678	65	271	138	471	98	272	107	646	93	444
PIGMENT EMULSION	6663	48423	6578	47122	7085	47759	8261	52679	7985	57272	7303	54365	6443	53389	7080	65345
REACTIVE DYES	3146	26556	3148	27009	3460	28744	3340	24642	3117	26440	3661	27931	2962	21959	3461	28663
SULPHUR DYES (SULPHUR BLACK)	1151	2537	1332	2636	1283	2638	1252	2916	1116	3286	1041	3128	1337	3294	1810	5523
VAT DYES	17449	43388	20580	48846	23527	53539	26368	59134	21571	77638	16400	63470	13310	40263	20402	89474
SOLUBILISED VAT DYES	82	252	473	1007	337	756	319	764	358	1289	170	810	108	463	22	261
FOOD COLOURS	653	3872	1083	5225	1041	4859	1162	5057	1364	6747	1215	6695	375	6268	449	6638
NAPTHOLS	1024	3896	1051	3824	1107	3750	1286	4446	1255	5267	1374	6559	1465	5757	1355	8239
OTHER DYES	271	1868	177	1531	183	1533	512	2239	2337	7151	2265	7188	2332	7239	2439	8260
INORGANIC PIGMENTS	12735	30874	10514	28331	9597	24784	13128	30075	12790	43319	12173	57140	12017	63057	11430	53765
TOTAL	**51935**	**214741**	**54691**	**219304**	**55868**	**214913**	**62971**	**231383**	**56452**	**278422**	**50583**	**281435**	**45339**	**252666**	**53657**	**326661**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 18: Net Imports of Major Chemicals (Product-wise) from the FY 2014 -15 to FY 2021-22

[QTY in MT & Value in Rs. Lakh]

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
ALKALI CHEMICALS																
SODA ASH	697797	107450	614650	97780	630930	91697	662535	92380	778134	129698	709955	125378	570010	91079	312501	43263
CAUSTIC SODA	365781	81611	401989	92496	340986	84618	261668	86553	36102	8264	121851	33450	-27317	-4751	-139767	-54620
LIQUID CHLORINE	-3071	-247	-5505	-1287	-5023	-855	-3681	-466	-4433	-283	-4135	-836	-3739	-1139	-4141	-1072
TOTAL	**1060507**	**188814**	**1011134**	**188989**	**966893**	**175460**	**920522**	**178467**	**809803**	**137679**	**827671**	**157992**	**538954**	**85189**	**168593**	**-12429**
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	27289	18279	25462	16862	46243	26172	49552	28871	61932	55712	39000	36700	59178	46187	73363	52631
CALCIUM CARBIDE	77920	31295	61564	25223	55199	23368	55187	23683	44996	21350	30847	14263	32537	17637	21221	14787
CARBON BLACK	25349	31083	9391	28382	-203432	-4990	63937	70659	155699	145725	53474	49910	51745	41943	-47605	-62302
POTASSIUM CHLORATE	5513	3364	2402	1450	-1558	-1084	-1912	-1223	-2896	-1852	-3123	-2071	-1686	-919	-1981	-1555
SODIUM CHLORATE	21787	9064	17285	6387	7329	2851	7747	2785	13430	5843	24082	11248	11584	5113	16631	6788
TITANIUM DIOXIDE	12416	21135	11985	20127	5718	12727	4141	9394	7201	15943	10181	20171	6906	13586	9083	20848
RED PHOSPHORUS	-324	-1201	-482	-1777	-454	-1756	-455	-1713	-581	-2191	-632	-2510	-578	-2442	-626	-3627
HYDROGEN PEROXIDE	56032	14168	43733	10989	56798	15626	68358	19091	83998	36706	51919	15376	19278	7097	27792	9297
CALCIUM CARBONATE	522395	40128	681798	55259	666641	51001	809228	54546	1038988	75279	1130043	77436	814085	54693	974446	84326
TOTAL	**748377**	**167315**	**853138**	**162902**	**632484**	**123915**	**1055783**	**206093**	**1402767**	**352515**	**1335791**	**220523**	**993049**	**182895**	**1072324**	**121193**
ORGANIC CHEMICALS																
ACETIC ACID	705895	231372	784397	201124	834894	187681	872295	285223	919477	411884	913746	267444	893648	269424	1032596	758413
ACETIC ANHYDRIDE	-17409	-10027	-15687	-8161	-18171	-9159	-15263	-11397	-6169	-3882	0	-1099	-5153	-4823	196	-1779
ACETONE	123650	79683	127624	49404	132662	60854	141824	71802	105859	46204	61398	22448	53895	34318	97052	67277
PHENOL	198106	180164	241928	140336	278174	168409	283822	193133	227084	205970	121732	75662	117893	50214	162550	159353
METHANOL	1592161	307874	1667866	277063	1624833	292639	1773827	397158	1975769	515655	2273333	422085	2211493	432198	2379267	737069
FORMALDEHYDE	-7055	-988	-8414	-1341	-8322	-1300	-10570	-2054	-12462	-2482	-14148	-2373	-15235	-2586	-16478	-3921
NITROBENZENE	1058	665	5789	2695	14085	6713	15324	8158	18101	10611	15400	7942	9768	4909	7697	6212
CITRIC ACID	65632	31981	74491	34975	80011	38314	81869	43558	92960	43126	88547	36511	92670	45532	94357	89147
MALEIC ANHYDRIDE	38351	35726	47319	31325	50581	34454	52394	42701	69833	61589	66775	46665	59483	46643	74353	107487
PENTAERYTHRITOL	12124	12130	17854	18510	17336	17220	15853	16215	16120	18839	18727	18375	12277	10472	13720	18959
ANILINE	36009	36735	38212	26831	44482	29161	65254	58310	88317	81183	80878	53145	72702	47313	91998	113007
CHLORO METHANES	-31	53	570	323	169	102	418	146	1338	940	2355	2015	2401	1955	1783	1913
ISOBUTYLBENZENE	-13944	-19250	-12572	-14186	-13430	-14854	-12341	-14384	-11740	-16320	-9703	-14146	-16156	-20894	-8541	-13709
ONCB	-1836	-1873	-606	-691	-134	-322	0	0	0	0	0	0	0	0	0	0
PNCB	2995	1737	6738	2772	5072	2161	0	0	0	0	0	0	0	0	0	0
MEK	26866	24677	40699	26155	30712	16531	45312	35991	46693	40517	25266	18900	42476	32938	42353	44548
ACETALDEHYDE	28	36	72	295	90	313	78	237	-1054	-637	-1026	-518	-945	-124	-843	-315
ETHANOLAMINES	10259	13487	8943	3202	9970	5206	11300	1939	13505	5794	15008	5876	16310	5957	15524	13658
ETHYL ACETATE	-114895	-67481	-104524	-53360	-92035	-47159	-105508	-62047	-115765	-79812	-106227	-61327	-108584	-68240	-115152	-128010
MENTHOL	-12628	-110853	-7900	-87436	-10495	-115035	-11377	-175378	-12017	-240495	-14032	-235153	-15459	-195201	-15739	-182051

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ORTHO NITRO TOLUENE	-66	47	-1051	-922	-503	-503	-2383	-2055	-4215	-4144	-7220	-7112	-3682	-3318	-6853	-7332
TOTAL	**2645270**	**745895**	**2911748**	**648913**	**2979981**	**671426**	**3202128**	**887256**	**3411634**	**1094540**	**3530809**	**655340**	**3419802**	**686687**	**3849840**	**1779926**
PESTICIDES & INSECTICIDES																
MALATHION	-1260	-2346	-1010	-1943	-1264	-2274	-1977	-3682	-2499	-5792	-2318	-6230	-1673	-5079	-2772	-9020
DIMETHOATE	-369	-1327	-20	-52	-24	-58	-24	-62	-126	-429	-199	-603	-91	-264	57	280
D.D.V.P.	-544	-1413	-486	-1345	-306	-1117	-458	-1769	872	451	-12	-41	-639	-2620	-468	-1128
QUINALPHOS	-996	-3900	-235	-1036	-384	-1772	-382	-1645	-281	-1439	-323	-1525	-522	-2909	-811	-5809
ENDOSULPHAN	0	0	0	0	0	0	0	-1	0	0	0	0	0	0	0	0
CYPERMETHRIN	-10487	-50407	-8837	-45949	-9416	-45742	-9698	-62666	-13604	-112328	-15029	-94613	-18939	-106285	-19817	-126572
FENTHION	50	236	0	0	-10	-18	0	0	0	0	0	0	0	0	0	0
OTHER PESTICIDES	-35855	-166294	-39740	-201354	-44384	-117007	-41413	-76519	-37306	-69483	-2882	102820	-702	192717	-4967	119079
OTHER INSECTICIDES	-26114	-138909	-15512	-62598	-23404	-102447	-32701	-153948	-45526	-340235	-92827	-572515	-95231	-490199	-108649	-697520
COPPER-OXYCHLORIDE	-867	-2311	-810	-1818	-871	-1920	-723	-1731	-806	-2425	-2240	-5896	-1603	-5135	-1727	-7897
2, 4-D	-10904	-18018	-19377	-29647	-20661	-27469	-22301	-33341	-19423	-40412	-17241	-28613	-18685	-29541	-32469	-78259
ISOPROTURON	-2150	-7972	-1087	-3830	-356	-1295	0	0	3	4	0	0	0	0	0	0
ALUMINIUM PHOSPHIDE	-220	-508	-58	-128	-127	-515	-505	-1703	-476	-2045	-425	-1882	-757	-2984	-1029	-3240
METHYL BROMIDE	-282	-790	-1221	-4391	-1732	-6159	-1982	-7185	-2206	-8370	-1600	-6541	-2077	-9903	-2184	-10918
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	-6856	-64798	-22210	-181015	-34571	-257415	-51791	-324726	-56014	-472915	-65202	-612583	-71419	-668392	-115950	-983653
OTHER FUNGICIDE NES	-92699	-141875	-122444	-201061	-162230	-259237	-150381	-230668	-178158	-316124	-155191	-323997	-192259	-350950	-217158	-489157
TOTAL	**-189553**	**-600632**	**-233047**	**-736167**	**-299740**	**-824445**	**-314336**	**-899646**	**-355550**	**-1371542**	**-355489**	**-1552219**	**-404597**	**-1481544**	**-507944**	**-2293814**
DYES & PIGMENTS																
AZO DYES	-50788	-189517	-54611	-157954	-59760	-158947	-69482	-178051	-72562	-221017	-68046	-206217	-63827	-175287	-76240	-241772
ACID DIRECT DYES (OTHER THAN AZO)	-3568	-18110	-3247	-15615	-4246	-18341	-4850	-19713	-4781	-23506	-5468	-27371	-5729	-28511	-6871	-38643
BASIC DYES	-6922	-16435	-7698	-19761	-8669	-22003	-10110	-26777	-11530	-37717	-12201	-40674	-12850	-41304	-13277	-51754
DISPERSE DYES	-7394	-22215	-6918	-24171	-11108	-36294	-10409	-32942	-18821	-88352	-21040	-110032	-16207	-73021	-22070	-99942
FAST COLOUR BASES	-2479	-9026	-1752	-8810	-1748	-13452	-1663	-7613	-2483	-13244	-5099	-44780	-3407	-19402	-3963	-27500
OIL SOLUBLE (SOLVENT DYES)	-6044	-26200	-5434	-25736	-7940	-33993	-8149	-36492	-9485	-58996	-10501	-70321	-8581	-59218	-9762	-77668
OPTICAL WHITENING AGENTS	-26646	-39781	-24539	-41143	-26345	-40785	-29531	-42529	-29694	-59880	-25346	-73978	-20870	-37889	-22706	-54502
ORGANIC PIGMENT	-49	75	115	358	29	385	3	86	123	373	48	-61	40	417	64	360
PIGMENT EMULSION	-69744	-317520	-74958	-327068	-81895	-344941	-93790	-388574	-102541	-437326	-103366	-479674	-110537	-527807	-123291	-692263
REACTIVE DYES	-104223	-365591	-110076	-317954	-124957	-350606	-144077	-388438	-155413	-484986	-165987	-474352	-149617	-404531	-177179	-562409
SULPHUR DYES (SULPHUR BLACK)	-842	-90	-140	691	-740	-44	-4215	-2878	-4604	-4017	-3469	-2105	-2364	-821	-3755	-2435
VAT DYES	15317	11533	19216	28323	22123	30802	24661	32527	17096	31354	11876	-553	9667	-23324	13466	8104
SOLUBILISED VAT DYES	53	-31	437	653	306	491	273	235	295	500	99	-375	25	-296	-52	-782
FOOD COLOURS	-25381	-73346	-26018	-74312	-27318	-74633	-29948	-82072	-27643	-100597	-24132	-101091	-29896	-112026	-34638	-136797

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
NAPTHOLS	-115	783	-438	361	-969	-1003	-1043	-1279	-2021	-3074	-2795	-4908	-3517	-5137	-1698	-232
OTHER DYES	-9341	-25997	-9982	-21162	-12528	-23444	-13223	-23988	-11284	-24045	-12953	-27316	-15141	-26847	-15491	-30243
INORGANIC PIGMENTS	-3119	20382	-15312	2809	-17639	-5825	-27217	-9409	-33370	2271	-31334	16829	-36245	17289	-39438	-1366
TOTAL	**-301285**	**-1071086**	**-321355**	**-1000491**	**-363404**	**-1092633**	**-422770**	**-1207907**	**-468718**	**-1522259**	**-479714**	**-1646979**	**-469056**	**-1517715**	**-536901**	**-2009844**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 19: Top Five Export Destinations of selected Chemicals in the FY 2021-22

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
SODA ASH	BANGLADESH PR	137213.87	28210.12
	INDONESIA	32257.42	6428.41
	PHILIPPINES	18684.21	4241.32
	NEPAL	15408.20	3015.99
	THAILAND	10821.03	2363.51
	Product Total	**214384.73**	**44259.34**
CAUSTIC SODA	SOUTH AFRICA	53632.83	19410.17
	SAUDI ARAB	52509.75	25881.35
	INDONESIA	25332.30	11237.18
	KENYA	24280.45	9511.92
	ITALY	21938.74	6749.94
	Product Total	**177694.06**	**72790.56**
LIQUID CHLORINE	KENYA	866.70	240.08
	SRI LANKA DSR	805.50	94.22
	QATAR	662.58	129.12
	U ARAB EMTS	398.94	90.95
	GHANA	300.60	271.33
	Product Total	**3034.32**	**825.70**
ALUMINIUM FLUORIDE	U ARAB EMTS	500.00	92.16
	TURKEY	383.00	34.62
	JAPAN	100.00	117.66
	AUSTRALIA	1.00	0.84
	BELGIUM	0.05	0.61
	Product Total	**984.05**	**245.88**
CALCIUM CARBIDE	BANGLADESH PR	700.60	894.02
	NEPAL	47.52	32.02
	DJIBOUTI	22.50	23.60
	BHUTAN	16.13	20.59
	GERMANY	0.01	3.19
	Product Total	**786.76**	**973.41**
CARBON BLACK	SRI LANKA DSR	39696.85	35573.58
	VIETNAM SOC REP	28511.16	24805.87
	THAILAND	24891.04	23240.21
	KOREA RP	15157.56	11437.79
	INDONESIA	14610.77	11574.72
	Product Total	**122867.38**	**106632.17**
POTASSIUM CHLORATE	THAILAND	280.00	250.30
	PHILIPPINES	273.00	228.19
	MEXICO	233.00	171.04
	KENYA	200.00	140.87
	ETHIOPIA	162.00	122.47
	Product Total	**1148.00**	**912.88**
SODIUM CHLORATE	SOUTH AFRICA	18.05	8.49
	SINGAPORE	4.00	5.28
	BANGLADESH PR	1.35	1.67
	EGYPT A RP	0.76	14.14
	BHUTAN	0.00	0.02
	Product Total	**24.16**	**29.61**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
TITANIUM DIOXIDE	U S A	3010.47	7687.19
	ITALY	984.15	2876.60
	JAPAN	776.05	1396.29
	SPAIN	160.00	420.42
	SOUTH AFRICA	154.55	360.58
	Product Total	**5085.22**	**12741.08**
RED PHOSPHORUS	U S A	120.88	629.81
	CHILE	81.00	460.74
	RUSSIA	67.50	350.63
	ARGENTINA	45.50	352.37
	BRAZIL	41.00	221.50
	Product Total	**355.88**	**2015.04**
HYDROGEN PEROXIDE	GHANA	1704.11	573.50
	QATAR	704.41	212.36
	SENEGAL	624.13	191.98
	U ARAB EMTS	526.67	149.04
	KENYA	475.20	161.91
	Product Total	**4034.53**	**1288.79**
CALCIUM CARBONATE	NEPAL	23531.95	5938.84
	SOUTH AFRICA	6422.83	2123.62
	SRI LANKA DSR	4546.90	940.08
	BANGLADESH PR	4052.98	3527.66
	BAHARAIN IS	2214.28	133.21
	Product Total	**40768.94**	**12663.42**
ACETIC ACID	SPAIN	4805.80	3879.97
	BELGIUM	4077.01	3328.88
	U S A	3021.59	2452.13
	BANGLADESH PR	2423.02	2470.50
	U ARAB EMTS	1222.38	1151.32
	Product Total	**15549.80**	**13282.80**
ACETIC ANHYDRIDE	BELGIUM	17162.05	19818.49
	NETHERLAND	1800.00	2364.15
	BANGLADESH PR	586.32	636.84
	KOREA RP	556.76	629.41
	VIETNAM SOC REP	252.00	301.92
	Product Total	**20357.13**	**23750.82**
ACETONE	CHINA P RP	9459.57	4672.64
	IRAN	2298.20	2214.61
	U ARAB EMTS	2198.74	1498.73
	TURKEY	1584.23	1500.01
	KENYA	866.60	764.53
	Product Total	**16407.34**	**10650.52**
PHENOL	TURKEY	15537.54	15253.90
	CHINA P RP	4946.00	4673.74
	U ARAB EMTS	4719.43	5290.78
	IRAN	4249.05	5045.28
	NETHERLAND	3151.05	3379.78
	Product Total	**32603.08**	**33643.49**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
METHANOL	SRI LANKA DSR	6828.09	2279.47
	SOUTH AFRICA	4400.23	1309.01
	NEPAL	3849.95	1271.67
	OMAN	3007.95	842.33
	KENYA	215.48	111.59
	Product Total	**18301.70**	**5814.08**
FORMALDEHYDE	NEPAL	12594.97	2333.91
	BHUTAN	953.27	222.36
	CHILE	612.00	705.27
	KENYA	581.31	196.52
	MYANMAR	498.17	184.48
	Product Total	**15239.72**	**15239.72**
NITROBENZENE	INDONESIA	40.00	55.43
	JAPAN	40.00	38.43
	NEPAL	23.60	26.73
	U S A	14.00	25.28
	ITALY	0.75	1.22
	Product Total	**118.35**	**147.08**
CITRIC ACID	U S A	3525.46	7991.16
	TANZANIA REP	285.74	550.87
	KENYA	211.05	436.25
	LITHUANIA	200.00	125.76
	EGYPT A RP	139.38	151.89
	Product Total	**4361.63**	**9255.92**
MALEIC ANHYDRIDE	U ARAB EMTS	40.00	61.36
	SRI LANKA DSR	34.60	63.51
	BANGLADESH PR	25.00	51.21
	NEPAL	8.00	15.19
	KENYA	6.00	11.72
	Product Total	**113.60**	**202.98**
PENTAERYTHRITOL	U S A	1722.47	4649.71
	NETHERLAND	504.00	801.32
	BELGIUM	175.00	717.13
	NEPAL	113.55	203.91
	SWEDEN	36.00	53.11
	Product Total	**2551.02**	**6425.18**
ANILINE	U S A	32.00	79.88
	TURKEY	29.87	66.18
	MEXICO	11.00	27.71
	EGYPT A RP	0.23	1.01
	GERMANY	0.15	0.44
	Product Total	**73.25**	**175.20**
CHLORO METHANES	SAUDI ARAB	60.30	108.25
	U ARAB EMTS	48.09	90.61
	SINGAPORE	7.26	16.31
	U S A	4.56	33.13
	KENYA	1.38	0.89
	Product Total	**121.59**	**249.19**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
ISOBUTYLBENZENE	CHINA P RP	5945.76	9896.13
	U S A	2574.40	3756.41
	NETHERLAND	13.60	41.64
	KOREA RP	7.23	14.48
	Product Total	**8540.99**	**13708.66**
MEK	NEPAL	4.45	15.30
	U ARAB EMTS	4.40	12.80
	ANGOLA	0.24	0.90
	KENYA	0.22	2.08
	BHUTAN	0.13	1.59
	Product Total	**9.43**	**32.68**
ACETALDEHYDE	TURKEY	916.23	765.22
	NEPAL	72.07	16.92
	SWITZERLAND	2.80	12.98
	EGYPT A RP	1.21	1.90
	BANGLADESH PR	0.50	14.07
	Product Total	**992.80**	**811.09**
ETHANOLAMINES	U ARAB EMTS	454.20	625.22
	IRAN	376.28	693.82
	TURKEY	356.91	323.98
	U S A	324.77	1133.40
	KOREA RP	306.93	914.00
	Product Total	**1819.08**	**3690.43**
ETHYL ACETATE	BELGIUM	25713.78	29741.36
	NIGERIA	15751.48	18062.02
	ITALY	14642.10	16857.16
	SPAIN	9531.41	10787.08
	U ARAB EMTS	7425.92	7586.86
	Product Total	**73064.69**	**83034.48**
MENTHOL	CHINA P RP	14311.46	152015.44
	U S A	1093.43	13863.98
	SINGAPORE	749.06	8033.09
	JAPAN	618.21	8291.91
	NETHERLAND	469.75	6607.65
	Product Total	**17241.91**	**188812.08**
ORTHO NITRO TOLUENE	GERMANY	5135.62	5606.61
	CHINA P RP	873.71	687.05
	JAPAN	444.70	488.01
	NETHERLAND	399.28	550.67
	Product Total	**6853.30**	**7332.34**
MALATHION	TURKEY	857.15	2831.07
	U ARAB EMTS	642.50	2164.76
	EGYPT A RP	440.00	1258.08
	MEXICO	352.00	1231.32
	PHILIPPINES	180.00	561.76
	Product Total	**2471.65**	**8046.98**
DIMETHOATE	U ARAB EMTS	58.92	274.88
	ECUADOR	21.84	80.28
	NEPAL	14.16	80.18

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
	DJIBOUTI	1.26	6.84
	BHUTAN	0.00	0.65
	Product Total	**96.18**	**442.83**
D.D.V.P.	NIGERIA	391.47	851.90
	TANZANIA REP	38.24	122.48
	ZAMBIA	38.24	124.62
	NEPAL	0.00	29.39
	Product Total	**467.94**	**1128.38**
QUINALPHOS	VIETNAM SOC REP	693.00	5291.87
	BANGLADESH PR	75.26	308.86
	SAUDI ARAB	32.91	117.71
	HONDURAS	3.07	15.84
	THAILAND	3.00	32.66
	Product Total	**807.24**	**5766.93**
CYPERMETHRIN	CHINA P RP	3036.13	22946.76
	BRAZIL	1958.59	14769.79
	THAILAND	1944.60	14199.25
	U ARAB EMTS	1193.51	7048.28
	INDONESIA	1098.40	5663.70
	Product Total	**9231.22**	**64627.77**
OTHER PESTICIDES	NEPAL	1683.93	2195.19
	BRAZIL	718.78	2811.79
	U S A	252.74	3394.81
	MYANMAR	242.00	116.90
	COTE D' IVOIRE	214.50	503.51
	Product Total	**3111.95**	**9022.19**
OTHER INSECTICIDES	BRAZIL	47970.05	479094.75
	U S A	11374.95	185344.33
	BANGLADESH PR	6815.68	28799.86
	NIGERIA	3580.45	10904.63
	NETHERLAND	3050.16	28233.87
	Product Total	**72791.29**	**732377.44**
COPPER-OXYCHLORIDE	EGYPT A RP	333.40	1447.62
	SPAIN	245.00	1122.33
	LEBANON	120.30	551.40
	THAILAND	80.00	337.64
	TURKEY	76.99	346.86
	Product Total	**855.69**	**3805.85**
2, 4-D	BRAZIL	12239.62	28994.39
	U S A	6698.21	18950.58
	ARGENTINA	3438.60	7334.46
	TURKEY	1481.30	3653.65
	AUSTRALIA	1186.50	3474.12
	Product Total	**25044.23**	**62407.19**
ALUMINIUM PHOSPHIDE	BANGLADESH PR	535.58	1544.35
	NEPAL	134.50	9.13
	TURKEY	117.87	491.27
	MALAWI	32.34	180.30
	IRAQ	32.02	141.35
	Product Total	**852.31**	**2366.39**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
METHYL BROMIDE	AUSTRALIA	624.00	2999.57
	VIETNAM SOC REP	483.20	2330.16
	NEW ZEALAND	370.80	1645.88
	EGYPT A RP	222.00	1145.20
	PANAMA REPUBLIC	149.80	855.16
	Product Total	**1849.80**	**8975.97**
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	U S A	47347.70	469464.60
	BRAZIL	19109.79	193958.57
	AUSTRALIA	5590.62	32712.80
	ARGENTINA	5536.87	59946.35
	FRANCE	4505.17	31380.36
	Product Total	**82090.15**	**787462.67**
OTHER FUNGICIDE NES	BRAZIL	46128.55	179367.99
	BANGLADESH PR	22480.69	24847.80
	U S A	15354.03	73731.61
	COSTA RICA	11137.89	15870.34
	INDONESIA	9580.62	20536.61
	Product Total	**104681.77**	**314354.35**
AZO DYES	ITALY	12116.43	49898.53
	NETHERLAND	6915.56	15394.16
	CHINA P RP	6901.55	23117.08
	SPAIN	5386.17	19594.32
	TURKEY	3616.04	11152.28
	Product Total	**34935.75**	**119156.37**
ACID DIRECT DYES(OTHER THAN AZO)	U S A	1532.05	8602.23
	ITALY	696.63	4521.03
	CHINA P RP	526.91	3038.39
	NETHERLAND	366.86	3378.60
	MALAYSIA	356.64	1079.06
	Product Total	**3479.10**	**20619.30**
BASIC DYES	CHINA P RP	1610.83	6724.70
	U S A	1174.45	6431.32
	THAILAND	735.95	1873.60
	INDONESIA	728.80	1800.35
	ITALY	727.92	3078.39
	Product Total	**4977.96**	**19908.37**
DISPERSE DYES	TURKEY	5869.22	19756.38
	HONDURAS	3226.46	15501.98
	CHINA P RP	2369.87	16798.44
	NEPAL	1288.29	723.17
	EGYPT A RP	1140.50	4091.04
	Product Total	**13894.33**	**56871.01**
FAST COLOUR BASES	GERMANY	834.60	5814.11
	U S A	590.79	4258.36
	NETHERLAND	569.60	4767.33
	CHINA P RP	393.53	2921.12
	JAPAN	322.72	2583.75
	Product Total	**2711.24**	**20344.66**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
OIL SOLUBLE (SOLVENT DYES)	U S A	1522.00	18215.56
	U K	1457.23	6882.01
	ITALY	754.67	5179.69
	CHINA P RP	720.06	9454.17
	SINGAPORE	661.56	3471.92
	Product Total	**5115.51**	**43203.35**
OPTICAL WHITENING AGENTS	GERMANY	2598.24	7935.25
	SOUTH AFRICA	2176.80	3822.70
	BANGLADESH PR	2167.23	4010.93
	AUSTRALIA	2009.90	2092.13
	JAPAN	1591.32	1728.60
	Product Total	**10543.47**	**19589.61**
ORGANIC PIGMENT	NIGERIA	25.45	64.08
	OMAN	1.05	7.58
	AUSTRALIA	1.00	3.57
	IRAN	0.50	1.85
	SAUDI ARAB	0.37	3.18
	Product Total	**28.37**	**80.26**
PIGMENT EMULSION	CHINA P RP	19912.21	95812.11
	U S A	16315.40	108160.83
	NETHERLAND	7385.38	45849.01
	BELGIUM	5445.22	31851.29
	KOREA RP	5333.44	27207.58
	Product Total	**54391.66**	**308880.82**
REACTIVE DYES	BANGLADESH PR	41792.10	102611.74
	TURKEY	41264.97	118899.89
	HONDURAS	12275.84	43593.43
	INDONESIA	9537.41	31756.86
	SINGAPORE	9071.63	36773.00
	Product Total	**113941.95**	**333634.92**
SULPHUR DYES (SULPHUR BLACK)	EGYPT A RP	975.70	1072.26
	ITALY	856.25	951.13
	TURKEY	835.96	1344.99
	BANGLADESH PR	659.87	630.53
	NETHERLAND	371.58	413.96
	Product Total	**3699.35**	**4412.87**
VAT DYES	BANGLADESH PR	1804.53	9352.59
	CHINA P RP	1321.07	13903.99
	SINGAPORE	490.05	1623.88
	TURKEY	328.95	1472.08
	TAIWAN	260.26	650.92
	Product Total	**4204.86**	**27003.45**
SOLUBILISED VAT DYES	INDONESIA	40.66	729.37
	ETHIOPIA	24.00	182.79
	BANGLADESH PR	4.87	57.45
	U ARAB EMTS	1.75	26.49
	SINGAPORE	0.80	10.84
	Product Total	**72.08**	**1006.94**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
FOOD COLOURS	U S A	2939.15	15886.97
	CHINA P RP	2926.60	12026.65
	MEXICO	2460.02	10468.56
	INDONESIA	1684.27	8126.98
	VIETNAM SOC REP	1553.55	5802.09
	Product Total	**11563.58**	**52311.25**
NAPTHOLS	SOUTH AFRICA	825.78	1035.32
	U S A	334.59	1362.19
	RUSSIA	267.22	511.17
	KENYA	206.13	301.97
	U ARAB EMTS	130.39	198.47
	Product Total	**1764.12**	**3409.12**
OTHER DYES	NETHERLAND	2798.76	3805.97
	POLAND	2730.70	3583.43
	CHINA P RP	1336.41	3667.48
	U K	1091.42	1410.87
	ITALY	978.93	2629.04
	Product Total	**8936.22**	**15096.79**
INORGANIC PIGMENTS	KENYA	6824.86	4425.92
	ECUADOR	3358.08	2168.55
	ALGERIA	2613.10	3891.81
	BANGLADESH PR	2221.82	3153.42
	TANZANIA REP	2107.88	1701.86
	Product Total	**17125.75**	**15341.55**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 20: Top Five Import Destinations of selected Chemicals in the FY 2021-22

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
SODA ASH	KENYA	116716.4	18366.2
	TURKEY	104949.9	16948.9
	BULGARIA	96550.2	17011.6
	U ARAB EMTS	87043.1	15711.4
	U S A	81869.4	13385.4
	Product Total	**487129.0**	**81423.5**
CAUSTIC SODA	JAPAN	138015.0	51344.5
	U ARAB EMTS	16748.9	5414.8
	BANGLADESH PR	13950.0	6110.0
	QATAR	12844.4	5444.9
	OMAN	9079.0	1705.7
	Product Total	**190637.3**	**70019.9**
LIQUID CHLORINE	CHINA P RP	94.0	145.1
	KOREA RP	53.8	228.5
	FRANCE	1.4	8.7
	U S A	0.0	0.2
	U K	0.0	0.7
	Product Total	**149.2**	**383.2**
ALUMINIUM FLUORIDE	MEXICO	14625.0	12732.7
	CHINA P RP	12793.1	13171.4
	QATAR	12083.5	1397.5
	ITALY	10638.0	11017.4
	U ARAB EMTS	8342.6	9044.7
	Product Total	**58482.2**	**47363.7**
CALCIUM CARBIDE	CHINA P RP	17400.1	12742.2
	INDONESIA	4590.0	2999.1
	U S A	17.9	19.5
	Product Total	**22008.0**	**15760.9**
CARBON BLACK	CHINA P RP	34280.0	29886.0
	RUSSIA	28357.3	24559.5
	KOREA RP	24977.5	26677.0
	U ARAB EMTS	20885.6	16127.8
	SAUDI ARAB	8615.6	6461.7
	Product Total	**117116.1**	**103712.0**
POTASSIUM CHLORATE	FRANCE	0.1	7.1
	U K	0.0	0.5
	GERMANY	0.0	1.2
	BELGIUM	0.0	0.2
	U S A	0.0	0.3
	Product Total	**0.1**	**9.3**
SODIUM CHLORATE	URUGUAY	5850.0	2540.1
	BRAZIL	3450.0	1350.2
	U S A	3348.4	1329.0
	FRANCE	3105.7	1187.2
	FINLAND	898.0	367.5
	Product Total	**16652.1**	**6774.0**
TITANIUM DIOXIDE	CHINA P RP	4838.0	10549.7
	KOREA RP	4450.3	10221.2
	JAPAN	1773.6	4040.5

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
	NETHERLAND	1476.5	4375.1
	GERMANY	762.7	2357.0
	Product Total	**13301.0**	**31543.4**
RED PHOSPHORUS	GERMANY	0.0	0.1
	U K	0.0	0.0
	U S A	0.0	1.3
	Product Total	**0.0**	**1.4**
HYDROGEN PEROXIDE	BANGLADESH PR	28055.8	8361.2
	THAILAND	3572.1	1809.1
	KOREA RP	1533.7	563.6
	BELGIUM	262.5	139.8
	CHINA P RP	26.6	107.4
	Product Total	**33450.7**	**10981.1**
CALCIUM CARBONATE	EGYPT A RP	351451.3	24846.4
	MALAYSIA	303501.5	37115.9
	VIETNAM SOC REP	254512.8	27805.0
	JORDAN	93529.3	7086.0
	GREECE	8331.0	926.3
	Product Total	**1011325.8**	**97779.6**
ACETIC ACID	CHINA P RP	498805.2	355251.7
	MALAYSIA	275968.2	209318.3
	SINGAPORE	168458.8	130170.3
	TAIWAN	54968.2	42533.5
	U ARAB EMTS	26750.2	21792.3
	Product Total	**1024950.6**	**759066.1**
ACETIC ANHYDRIDE	SAUDI ARAB	20377.6	21919.0
	MALAYSIA	493.0	343.4
	CHINA P RP	25.0	76.3
	Product Total	**20895.6**	**22338.7**
ACETONE	THAILAND	33135.0	22516.5
	CHINA P RP	28913.5	22261.3
	KOREA RP	27867.5	19876.8
	TAIWAN	12756.0	7875.9
	SINGAPORE	8695.6	5639.0
	Product Total	**111367.7**	**78169.5**
PHENOL	CHINA P RP	99466.1	101477.2
	THAILAND	31989.3	33536.0
	SOUTH AFRICA	21629.8	20235.2
	SAUDI ARAB	19125.6	20698.9
	U S A	14455.5	14657.9
	Product Total	**186666.4**	**190605.2**
METHANOL	SAUDI ARAB	738393.8	234579.2
	QATAR	485923.9	147141.4
	OMAN	364886.9	112616.2
	U ARAB EMTS	328685.9	96952.3
	IRAN	99053.0	29684.1
	Product Total	**2016943.4**	**620973.3**
FORMALDEHYDE	CHINA P RP	3.5	148.6
	SPAIN	3.4	18.7
	GERMANY	1.3	19.5
	AUSTRALIA	0.1	0.9
	U S A	0.1	5.1
	Product Total	**8.4**	**192.7**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
NITROBENZENE	KOREA RP	7815.6	6357.8
	JAPAN	0.0	0.4
	HONG KONG	0.0	3.1
	Product Total	**7815.6**	**6361.3**
CITRIC ACID	CHINA P RP	98603.1	98659.3
	U ARAB EMTS	650.3	262.7
	GERMANY	206.3	957.0
	HONG KONG	175.0	201.8
	THAILAND	170.3	169.3
	Product Total	**99804.9**	**100250.1**
MALEIC ANHYDRIDE	CHINA P RP	40540.7	58289.5
	TAIWAN	16658.0	22235.5
	MALAYSIA	10414.9	16242.7
	INDONESIA	3285.0	5020.0
	KOREA RP	2213.5	3797.3
	Product Total	**73112.0**	**105585.0**
PENTAERYTHRITOL	SAUDI ARAB	10804.0	16835.9
	CHINA P RP	2216.7	3413.0
	SWEDEN	1163.0	1917.5
	TAIWAN	630.0	1069.4
	SPAIN	577.0	927.3
	Product Total	**15390.7**	**24163.0**
ANILINE	CHINA P RP	67536.1	84364.2
	U S A	9726.3	11188.3
	NETHERLAND	7181.0	8502.8
	BELGIUM	5472.1	6359.7
	U ARAB EMTS	1408.4	1917.2
	Product Total	**91323.9**	**112332.1**
CHLORO METHANES	CHINA P RP	1316.2	1082.6
	NETHERLAND	370.3	697.2
	U S A	198.5	345.9
	GERMANY	19.7	37.2
	Product Total	**1904.7**	**2162.9**
MEK	TAIWAN	16293.5	16491.7
	CHINA P RP	8180.0	9443.5
	KOREA RP	7234.0	6633.5
	NETHERLAND	4199.1	4647.8
	SOUTH AFRICA	4096.6	4656.3
	Product Total	**40003.2**	**41872.8**
ACETALDEHYDE	SWITZERLAND	91.6	154.2
	CHINA P RP	46.4	87.5
	GERMANY	6.9	99.7
	U S A	2.3	58.1
	U K	2.2	79.1
	Product Total	**149.4**	**478.6**
ETHANOLAMINES	U ARAB EMTS	5141.3	4733.8
	SAUDI ARAB	3368.1	3125.0
	MALAYSIA	3085.4	3116.3
	BELGIUM	1670.2	1928.1
	THAILAND	1485.0	1633.7
	Product Total	**14750.0**	**14536.9**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
ETHYL ACETATE	SAUDI ARAB	2031.3	2104.9
	CHINA P RP	1648.4	1684.6
	BELGIUM	38.6	626.3
	U S A	30.1	498.2
	SWITZERLAND	20.0	326.9
	Product Total	**3768.5**	**5240.9**
MENTHOL	MALAYSIA	2260.8	23456.3
	GERMANY	599.4	5568.8
	U S A	455.6	4387.2
	SINGAPORE	325.4	3089.0
	CHINA P RP	190.7	2245.4
	Product Total	**3832.0**	**38746.5**
DIMETHOATE	DENMARK	125.3	587.8
	U S A	20.9	98.0
	CHINA P RP	6.6	36.9
	Product Total	**152.8**	**722.7**
CYPERMETHRIN	U K	2.9	37.1
	UNSPECIFIED	0.2	7.2
	Product Total	**3.2**	**44.3**
OTHER PESTICIDES	CHINA P RP	678.3	139641.8
	TAIWAN	422.4	943.7
	U S A	130.4	1377.8
	AUSTRIA	115.0	720.2
	RUSSIA	45.0	196.4
	Product Total	**1391.1**	**142879.9**
OTHER INSECTICIDES	CHINA P RP	9570.2	146153.5
	ISRAEL	1968.1	21138.4
	U S A	1099.0	72710.6
	KOREA RP	763.3	25178.9
	NETHERLAND	733.8	34216.6
	Product Total	**14134.3**	**299397.9**
COPPER-OXYCHLORIDE	TURKEY	40.0	137.9
	GERMANY	0.0	0.4
	Product Total	**40.0**	**138.3**
2, 4-D	CHINA P RP	594.0	1417.3
	JAPAN	6.7	897.8
	GERMANY	0.0	0.0
	Product Total	**600.7**	**2315.1**
ALUMINIUM PHOSPHIDE	CHINA P RP	0.0	0.3
	ISRAEL	0.0	0.5
	Product Total	**0.0**	**0.8**
METHYL BROMIDE	HONG KONG	30.2	169.6
	Product Total	**30.2**	**169.6**
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	CHINA P RP	9021.8	61419.2
	ISRAEL	6537.3	36841.4
	TAIWAN	2622.2	6314.7
	JAPAN	1504.5	24019.7
	U K	1141.9	8757.9
	Product Total	**20827.7**	**137352.8**
OTHER FUNGICIDE NES	CHINA P RP	3974.7	51869.4
	THAILAND	3365.4	11163.8
	GERMANY	2428.1	41695.2

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
	U S A	1065.2	25346.8
	SPAIN	852.3	12715.7
	Product Total	**11685.7**	**142790.8**
AZO DYES	THAILAND	85.3	260.6
	CHINA P RP	75.6	741.5
	SPAIN	52.9	2373.4
	GERMANY	45.1	342.3
	SINGAPORE	40.4	168.0
	Product Total	**299.3**	**3885.7**
ACID DIRECT DYES(OTHER THAN AZO)	CHINA P RP	42.5	362.6
	HONG KONG	20.0	66.1
	ITALY	17.2	161.8
	MEXICO	13.2	257.6
	U S A	7.6	179.8
	Product Total	**100.6**	**1027.9**
BASIC DYES	CHINA P RP	524.3	7359.1
	ICELAND	81.0	845.0
	GERMANY	11.5	402.3
	ITALY	4.2	83.8
	U S A	2.6	59.9
	Product Total	**623.6**	**8750.3**
DISPERSE DYES	CHINA P RP	1545.2	13120.5
	ICELAND	312.5	1088.4
	SINGAPORE	138.3	2418.1
	INDONESIA	65.9	840.6
	HONG KONG	35.0	623.7
	Product Total	**2096.8**	**18091.3**
FAST COLOUR BASES	CHINA P RP	28.5	335.7
	BELGIUM	7.4	333.4
	GERMANY	4.4	37.5
	SPAIN	1.9	10.1
	ARGENTINA	1.5	8.2
	Product Total	**43.7**	**725.0**
OIL SOLUBLE (SOLVENT DYES)	CHINA P RP	618.2	11927.3
	KOREA RP	132.5	715.5
	U ARAB EMTS	79.3	604.8
	GERMANY	18.8	375.0
	TAIWAN	11.8	57.5
	Product Total	**860.7**	**13680.1**
OPTICAL WHITENING AGENTS	SWITZERLAND	263.5	3474.1
	CHINA P RP	174.5	1966.6
	BELGIUM	133.2	1720.8
	NETHERLAND	69.2	935.8
	SINGAPORE	41.4	535.6
	Product Total	**681.7**	**8632.8**
ORGANIC PIGMENT	U S A	72.3	318.5
	POLAND	10.0	10.8
	CHINA P RP	5.6	16.7
	KOREA RP	2.1	22.6
	ITALY	1.8	38.6
	Product Total	**91.7**	**407.3**

PRODUCTS	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
PIGMENT EMULSION	CHINA P RP	3772.8	27840.3
	KOREA RP	551.5	4932.1
	GERMANY	506.3	10467.3
	MALAYSIA	402.1	1031.3
	BELGIUM	345.4	4127.0
	Product Total	**5578.0**	**48398.0**
REACTIVE DYES	THAILAND	1467.4	11241.4
	KOREA RP	1044.7	5471.1
	CHINA P RP	540.3	8432.0
	SINGAPORE	110.2	949.9
	U K	71.8	761.6
	Product Total	**3234.4**	**26856.0**
SULPHUR DYES (SULPHUR BLACK)	CHINA P RP	1473.5	4222.8
	SPAIN	323.3	843.5
	JAPAN	5.0	70.4
	KOREA RP	3.6	281.0
	U K	2.0	71.4
	Product Total	**1807.4**	**5489.2**
VAT DYES	SINGAPORE	10560.5	27670.0
	CHINA P RP	9701.7	61022.1
	MEXICO	83.6	157.7
	CZECH REPUBLIC	24.0	269.6
	ITALY	22.7	55.8
	Product Total	**20392.6**	**89175.3**
SOLUBILISED VAT DYES	SINGAPORE	13.1	74.2
	ITALY	3.6	36.6
	CHINA P RP	2.7	85.5
	U S A	0.8	20.4
	TURKEY	0.6	11.8
	Product Total	**20.9**	**228.6**
FOOD COLOURS	TAIWAN	195.0	593.8
	CHINA P RP	55.0	1857.4
	U S A	39.8	746.1
	HONG KONG	20.4	58.7
	KOREA RP	19.5	122.3
	Product Total	**329.6**	**3378.4**
NAPTHOLS	CHINA P RP	1336.4	8026.6
	MALAYSIA	10.6	12.1
	SPAIN	2.5	12.8
	JAPAN	2.0	112.3
	U S A	0.8	29.7
	Product Total	**1352.4**	**8193.4**
OTHER DYES	U K	2130.5	5548.5
	U S A	177.6	1752.8
	CHINA P RP	79.2	276.6
	ITALY	34.8	305.1
	SINGAPORE	3.7	81.1
	Product Total	**2425.7**	**7964.1**
INORGANIC PIGMENTS	CHINA P RP	3135.0	8438.4
	U ARAB EMTS	1418.9	2072.8
	ISRAEL	1360.5	3718.1
	THAILAND	990.4	3523.9
	VIETNAM SOC REP	745.8	598.1
	Product Total	**7650.6**	**18351.3**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 21: Exports of Major Petrochemicals (Group-wise) from the FY 2014-15 to FY 2021-22

[QTY in MT & Value in Rs. Lakh]

GROUP	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
SYNTHETIC FIBRES	887182	917327	878358	833783	1025740	922018	1001053	977982	1015666	1172008	1059348	1054987	878619	787040	1202246	1438887
FIBRE INTERMEDIATES	73270	57347	247540	121394	323096	153574	351358	181069	456955	275919	234372	123612	475165	162929	127582	86540
POLYMERS	903266	793550	998339	732497	912124	667432	1188233	891771	1934155	1558391	1615451	1095332	1488512	968069	921155	942517
SYNTHETIC RUBBER (ELASTOMERS)	26040	34492	42688	42428	38204	46387	51889	54589	63550	70696	74036	73065	95037	79421	89936	111822
SYNTHETIC DETERGENT INTERMEDIATES	27992	29004	9634	7768	7058	5941	1413	1468	1048	1534	1044	1479	1876	1939	7491	8701
PERFORMANCE PLASTICS	409365	353492	813967	527737	972750	636450	1050548	747271	1080286	1018773	968791	739010	217142	198743	283722	353686
OLEFINS	72479	45302	149389	76055	117365	101742	260597	179804	368714	276701	336140	188100	284988	136102	255597	173883
AROMATICS	1888275	1163302	2033143	942807	1749173	885136	3303041	1754998	4550911	2880299	4271477	2337408	4660796	1854685	4434556	2998035
OTHER PETRO-BASED CHEMICALS	124125	143644	128670	101261	144135	116773	193342	138613	147298	139759	237571	194934	171468	169127	212298	249815
TOTAL EXPORT OF MAJOR	**4411994**	**3537460**	**5301728**	**3385730**	**5289645**	**3535453**	**7401474**	**4927565**	**9618583**	**7394080**	**8798230**	**5807927**	**8273603**	**4358055**	**7534583**	**6363886**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 22: Imports of Major Petrochemicals (Group-wise) from the FY 2014-15 to FY 2021-22

[QTY in MT & Value in Rs. Lakh]

GROUP	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
SYNTHETIC FIBRES	235590	346205	263774	346368	279993	342993	259632	363079	275617	453356	346600	460883	403273	410701	460377	678520
FIBRE INTERMEDIATES	2179870	1273665	2015419	1026126	1842229	943136	1808425	1072331	1454656	1056882	1919655	1059484	1441326	649525	2626726	1713284
POLYMERS	3736798	3177068	4214022	3132488	4452258	3267230	4751478	3549286	4479129	3684829	3430180	2639363	2641372	2142272	2941493	3267215
SYNTHETIC RUBBER (ELASTOMERS)	578400	758949	596101	612690	559919	628042	607867	741750	618500	851418	574832	709547	747278	718860	635138	1144125
SYNTHETIC DETERGENT INTERMEDIATES	134035	138461	218097	177489	228229	179003	205984	164533	227136	210428	264058	237426	265406	216258	277828	336160
PERFORMANCE PLASTICS	394766	496367	388796	445847	417442	472270	582692	621047	683851	891721	740577	782460	298958	293817	282523	394910
OLEFINS	49255	43981	25398	20177	83453	60651	50791	43283	69700	57846	75857	51011	43875	33958	91880	76193
AROMATICS	1023472	712564	1204325	633048	1614652	864845	1321018	708548	1320424	910212	1327535	772834	1300486	542096	1124365	742531
OTHER PETRO-BASED CHEMICALS	2372654	1897349	2739780	1775978	2650608	1764933	3255244	2232102	3227017	2709229	3543017	2388328	3068899	2152067	3291372	3656404
TOTAL IMPORT OF MAJOR PETROCHEMICALS	**10704840**	**8844609**	**11665712**	**8170211**	**12128783**	**8523103**	**12843131**	**9495959**	**12356030**	**10825921**	**12222311**	**9101336**	**10210873**	**7159554**	**11731702**	**12009342**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 23: Net Imports of Major Petrochemicals (Group-wise) from the FY 2014-15 to FY 2021-22

[QTY in MT & Value in Rs. Lakh]

GROUP	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
SYNTHETIC FIBRES	-651592	-571122	-614584	-487415	-745747	-579025	-741421	-614903	-740049	-718652	-712748	-594104	-475346	-376339	-741869	-760367
FIBRE INTERMEDIATES	2106600	1216318	1767879	904732	1519133	789562	1457067	891262	997701	780963	1685283	935872	966161	486596	2499144	1626744
POLYMERS	2833532	2383518	3215683	2399991	3540134	2599798	3563245	2657515	2544974	2126438	1814729	1544031	1152860	1174203	2020338	2324698
SYNTHETIC RUBBER (ELASTOMERS)	552360	724457	553413	570262	521715	581655	555978	687161	554950	780722	500796	636482	652241	639439	545202	1032303
SYNTHETIC DETERGENT INTERMEDIATES	106043	109457	208463	169721	221171	173062	204571	163065	226088	208894	263014	235947	263530	214319	270337	327459
PERFORMANCE PLASTICS	-14599	142875	-425171	-81890	-555308	-164180	-467856	-126224	-396435	-127052	-228214	43450	81816	95074	-1199	41224
OLEFINS	-23224	-1321	-123991	-55878	-33912	-41091	-209806	-136521	-299014	-218855	-260283	-137089	-241113	-102144	-163717	-97690
AROMATICS	-864803	-450738	-828818	-309759	-134521	-20291	-1982023	-1046450	-3230487	-1970087	-2943942	-1564574	-3360310	-1312589	-3310191	-2255504
OTHER PETRO-BASED CHEMICALS	2248529	1753705	2611110	1674717	2506473	1648160	3061902	2093489	3079719	2569470	3305446	2193394	2897431	1982940	3079074	3406589
TOTAL NET IMPORT OF MAJOR PETROCHEMICALS	**6292846**	**5307149**	**6363984**	**4784481**	**6839138**	**4987650**	**5441657**	**4568394**	**2737447**	**3431841**	**3424081**	**3293409**	**1937270**	**2801499**	**4197119**	**5645456**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 24: Exports of Major Petrochemicals (Product-wise) from the FY 2014-15 to FY 2021-22

[QTY in MT & Value in Rs. Lakh]

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
SYNTHETIC FIBRES																
ACRYLIC FIBRE	37420	59176	47911	58966	48332	60060	39213	52227	45932	71700	40505	59726	25569	33923	23743	43557
NYLON FILAMENT YARN	1848	6939	1639	6236	1857	6462	4014	12111	5794	18888	7748	22360	6098	15495	9363	29452
NYLON INDUSTRIAL YARN/TYRE CORD	1752	2937	1122	1471	1474	1872	1620	2239	1895	2827	3624	5116	4296	5939	5312	9033
POLYESTER FILAMENT YARN	648773	677742	634799	624444	748037	690836	717714	730282	696668	839555	711319	750466	540650	545550	762473	966876
POLYESTER STAPLE FIBRE	183575	151547	181813	129129	213903	150316	227441	169364	255455	225045	285157	204876	291399	172242	383703	329736
POLYPROPYLENE FILAMENT YARN	2232	3234	2844	3878	2077	2690	869	1117	494	713	720	965	729	1005	798	1297
POLYPROPYLENE STAPLE FIBRE	10611	11862	7531	6885	9755	8767	9497	8663	7892	8446	9509	9103	8212	7668	10896	14033
ELASTOMERIC/SPANDEX FILAMENT YARN	971	3890	699	2774	305	1015	685	1979	1536	4834	766	2375	1666	5218	5958	44903
TOTAL	**887182**	**917327**	**878358**	**833783**	**1025740**	**922018**	**1001053**	**977982**	**1015666**	**1172008**	**1059348**	**1054987**	**878619**	**787040**	**1202246**	**1438887**
FIBRE INTERMEDIATES																
ACRYLONITRILE	4	85	2323	2132	6	39	1514	1900	1872	3059	2988	3262	8533	8178	1956	3401
CAPROLACTUM	0	1	0	8	1010	867	53	93	77	129	258	327	6225	4672	25	554
DIMETHYL TEREPHTHALATE	0	0	1	1	1	1	0	0	1	2	0	1	0	0	0	0
MONO EHYLENE GLYCOL	73216	57216	72239	52081	62199	45932	137462	90499	292583	175325	151301	81361	325429	105684	71204	48936
PURIFIED TEREPHTHALIC ACID	50	45	172977	67172	259880	106735	212329	88577	162422	97404	79825	38661	134978	44395	54397	33649
TOTAL	**73270**	**57347**	**247540**	**121394**	**323096**	**153574**	**351358**	**181069**	**456955**	**275919**	**234372**	**123612**	**475165**	**162929**	**127582**	**86540**
POLYMERS																
LOW DENSITY POLYETHYLENE	21519	23853	24007	26531	26909	27321	108257	88430	164142	132765	140022	98135	39442	35801	49187	66522
HIGH DENSITY POLYTHYLENE	51663	51095	116114	97840	148142	117815	205797	155550	457416	365235	486892	315945	398659	247524	198169	192824
POLYESTYRENE	73695	69174	86290	72301	82542	75483	69814	67452	63990	64060	49611	43139	36502	27805	44494	52518
POLYPROPYLENE (INC. CO-POLYMER)	726906	620745	735410	503124	574234	382678	552002	397646	718053	596611	539045	386684	861712	561818	546609	547136
EXPANDABLE POLYESTYRENE	4810	5489	3762	3735	3697	3548	3119	3272	3064	3818	2745	2762	894	895	944	1279
POLY VINYL CHLORIDE	1988	2085	3054	3272	6484	6127	6662	6015	2133	1788	2060	1471	16985	8467	2537	2894
LINEAR LOW DENSITY POLYTHYLENE	10854	10267	15825	14160	53215	41558	228952	163632	508135	380841	395076	247196	134318	85759	66494	65425
PVC COMPOUND	11831	10842	13877	11534	16901	12902	13630	9774	17222	13273	0	0	0	0	12721	13919
TOTAL	**903266**	**793550**	**998339**	**732497**	**912124**	**667432**	**1188233**	**891771**	**1934155**	**1558391**	**1615451**	**1095332**	**1488512**	**968069**	**921155**	**942517**

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	18007	17961	31053	23969	27139	27423	40704	36382	46179	43572	44929	37838	39757	28768	35715	38037
POLY BUTADIENE RUBBER	1919	1978	5988	4008	5114	4942	7012	7376	13175	15311	20323	19289	23329	15059	22558	28190
ETHYL PROPYLENE DIMERS	2915	8114	2725	8882	3282	9531	2517	7696	2463	7958	2292	7284	1371	3275	1429	3438
ETHYL VINYL ACETATE	1141	1734	1274	1510	1494	1751	901	1314	530	1251	999	1614	1042	1650	1381	3351
NITRILE BUTADIENE RUBBER	444	1124	400	970	451	1092	427	1128	507	1316	719	1316	3823	4326	7134	9282
BUTYL RUBBER	1614	3581	1248	3089	724	1648	328	693	696	1288	4774	5724	25715	26343	21719	29524
TOTAL	**26040**	**34492**	**42688**	**42428**	**38204**	**46387**	**51889**	**54589**	**63550**	**70696**	**74036**	**73065**	**95037**	**79421**	**89936**	**111822**
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	27199	27204	9256	7034	6440	4816	930	809	323	367	193	253	926	956	6402	7462
ETHYLENE OXIDE	793	1800	378	734	618	1125	483	659	725	1167	851	1226	950	983	1089	1239
TOTAL	**27992**	**29004**	**9634**	**7768**	**7058**	**5941**	**1413**	**1468**	**1048**	**1534**	**1044**	**1479**	**1876**	**1939**	**7491**	**8701**
PERFORMANCE PLASTICS																
ABS RESIN	225	281	465	682	294	473	273	445	449	622	328	598	407	673	1744	2197
NYLON-6	16715	28775	14577	25321	17656	29593	21353	34774	19744	38965	21214	40855	0	0	0	0
POLYMETHYL METHACRYLATE	9306	11215	9158	10541	8557	10230	3563	3584	4323	5218	4632	5586	3296	4774	4104	6781
STYRENE ACRYLONITRILE	120	158	579	459	671	450	1179	682	387	380	460	362	230	212	817	990
POLYESTER CHIPS/PET CHIPS	375421	274943	783106	460787	937251	557185	1014588	655326	1043386	889691	930982	618181	202297	117960	262129	221810
POLYTETRAFLUOROETHYLENE (PTFE)	7578	38120	6082	29947	8321	38519	9592	52460	11997	83897	11175	73428	10912	75124	14928	121908
TOTAL	**409365**	**353492**	**813967**	**527737**	**972750**	**636450**	**1050548**	**747271**	**1080286**	**1018773**	**968791**	**739010**	**217142**	**198743**	**283722**	**353686**
OLEFINS																
BUTADIENE	72479	45301	129808	66961	106838	97268	103426	73371	136191	113889	174252	103916	166809	72272	144095	89886
ETHYLENE	0	1	5119	3789	27	23	136426	97327	193233	140672	152230	79955	102895	57712	111502	83997
PROPYLENE	0	0	14462	5305	10500	4451	20745	9106	39290	22140	9658	4229	15284	6118	0	0
TOTAL	**72479**	**45302**	**149389**	**76055**	**117365**	**101742**	**260597**	**179804**	**368714**	**276701**	**336140**	**188100**	**284988**	**136102**	**255597**	**173883**
AROMATICS																
BENZENE	576741	348900	914875	371288	789425	366822	1286323	662408	1651123	822052	1408477	635303	1507626	559554	1922951	1388168
MIXED XYLENE	10464	6923	8	49	66	110	418	278	981	668	410	297	535	330	46	57
ORTHO-XYLENE	227007	138341	234386	107621	154347	74761	185675	86881	225703	122734	177267	100950	309550	127934	234328	148221
TOLUENE	9994	6409	5268	3314	5843	3764	4103	2772	13601	9501	8124	5564	17834	9791	17804	13832
PARAXYLENE	1064069	662729	878606	460535	799492	439679	1826522	1002659	2659503	1925344	2677199	1595294	2825251	1157076	2259427	1447757
TOTAL	**1888275**	**1163302**	**2033143**	**942807**	**1749173**	**885136**	**3303041**	**1754998**	**4550911**	**2880299**	**4271477**	**2337408**	**4660796**	**1854685**	**4434556**	**2998035**
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	21	14	15839	3103	16	8	44861	6510	19181	4478	80857	20134	37412	8605	5902	3221
BUTANOL	759	993	195	162	2292	1189	863	703	452	655	282	287	1032	1288	577	887
OXO ALCOHOL	1191	907	582	565	1271	731	890	682	2935	1505	1328	1146	740	2021	988	5590
2-ETHYL HEXANOL	6391	6405	746	654	2055	1437	2636	1701	3175	2781	46	54	1408	1412	3463	5010
VINYL CHLORIDE MONOMER	0	0	0	0	0	0	0	0	0	3	0	0	0	1	6	8

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
EPICHLOHYDRINE	14	19	28	33	54	55	49	76	48	90	106	183	58	306	28	275
ISO BUTYLENE	1	2	28	249	1	3	0	2	0	1	18085	9028	6048	2593	18588	12966
METAXYLENE	23	146	46	140	64	217	4	263	15	282	35	587	18	857	20	676
METHYL ISOBUTYL KETONE	206	364	287	266	918	788	940	878	2038	1817	2165	1525	667	882	1350	2681
PIB	4993	5925	6128	7200	2237	2448	2620	2711	4297	4788	5828	5839	9729	8097	6327	7754
POLYCARBONATE	2459	2772	4790	4597	3990	3284	4926	5370	3432	4605	3331	3621	4447	5685	4603	6563
PROPYLENE GLYCOL	773	1043	531	724	865	1113	1117	1713	1697	2419	5934	6573	3254	3931	1706	5187
POLYVINYL ACETATE RESIN	15456	15384	11259	11415	8767	8927	6958	6522	8510	8622	9048	7767	8175	7358	9527	15019
UNSATURATED POLYSTER RESIN	12660	17074	12112	15025	16263	18552	14436	18212	14667	21668	15498	22694	17443	27544	22071	42671
CELLULOSE ACETATE BUTYRATE	44	93	6	81	8	30	1	18	1	15	0	0	9	39	0	2
CELLULOSE ACETATE SHEET	33	84	34	116	85	178	59	145	22	79	33	106	25	102	13	39
CELLULOSE NITRATE SHEET	12	16	3	5	19	14	2	5	7	24	5	9	4	31	2	13
MELAMINE MOULDING POWDER	6339	2284	7993	2541	10124	3072	14754	3747	16578	4758	21691	6495	21800	6695	32531	11571
POLYACETAL RESIN	537	598	312	383	387	439	141	279	276	402	334	540	590	1081	1636	3556
PHTHALIC ANHYDRIDE	38634	26744	40448	22378	42033	25960	37869	25156	26495	18956	28898	17976	23296	12668	32492	25529
STYRENE	6940	6623	793	669	5088	4176	4524	3842	6531	6690	4366	3326	17361	7081	41340	42223
VINYL ACTATE MONOMER	1562	1392	1695	1388	11755	6285	21261	13220	8344	6623	3434	2260	1834	1231	4545	6316
ISOPROPANOL	6139	6508	3716	2805	7385	5106	11004	7850	6281	5336	10442	7773	8298	9567	11100	11539
POLYOL	18938	48254	21099	26760	28458	32760	23427	39008	22316	43162	25825	77010	7820	60051	13483	40516
TOTAL	**124125**	**143644**	**128670**	**101259**	**144135**	**116772**	**193342**	**138613**	**147298**	**139759**	**237571**	**194933**	**171468**	**169126**	**212298**	**249812**
TOTAL EXPORT OF MAJOR PETRO-CHEMICALS	**4411994**	**3537460**	**5301728**	**3385728**	**5289645**	**3535452**	**7401474**	**4927565**	**9618583**	**7394080**	**8798230**	**5807926**	**8273603**	**4358054**	**7534583**	**6363883**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 25: Imports of Major Petrochemicals (Product-wise) from the FY 2014-15 to FY 2021-22

[QTY in MT & Value in Rs. Lakh]

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
SYNTHETIC FIBRES																
ACRYLIC FIBRE	36339	60959	39238	53809	36771	44394	32184	46549	40475	71158	56316	84841	41928	53586	35164	76074
NYLON FILAMENT YARN	27813	59448	28972	54485	31063	53352	22731	43317	23259	52088	24476	49669	17058	34533	25307	60951
NYLON INDUSTRIAL YARN/TYRE CORD	3750	7035	4411	6803	7741	10247	6566	10070	8108	16323	6893	11802	9459	15174	11445	31261
POLYESTER FILAMENT YARN	72718	89105	72605	86166	84367	92492	82784	100756	83954	118045	115170	129162	238680	197017	295709	343248
POLYESTER STAPLE FIBRE	81864	71552	99719	73357	99809	70113	88990	71053	91775	89685	118176	94729	84273	64616	78310	78489
POLYPROPYLENE FILAMENT YARN	716	1002	697	1001	695	850	1343	1715	1362	2007	670	954	755	1418	315	975
POLYPROPYLENE STAPLE FIBRE	329	461	1885	1997	2016	2181	3281	3378	3333	3863	2778	3097	2164	2316	2986	4218
Elastomeric/Spandex Filament Yarn	12061	56643	16247	68750	17531	69364	21753	86241	23351	100187	22121	86629	8956	42041	11141	83304
TOTAL	**235590**	**346205**	**263774**	**346368**	**279993**	**342993**	**259632**	**363079**	**275617**	**453356**	**346600**	**460883**	**403273**	**410701**	**460377**	**678520**
FIBRE INTERMEDIATES																
ACRYLONITRILE	97388	118956	160202	121692	139709	108192	159778	172707	182234	244043	175867	200713	135230	121075	175763	298158
CAPROLACTUM	32276	43571	44577	45299	52906	50601	58413	75965	66497	99336	68049	75256	57649	55553	60061	94382
DIMETHYL TEREPHTHALATE	2094	1594	2216	1400	1761	1051	2256	1520	1455	1137	1807	1199	1766	982	1973	1567
MONO EHYLENE GLYCOL	1003540	550364	1111582	539689	1235385	604838	1066477	584695	634714	371592	787574	312149	621221	226286	917787	471777
PURIFIED TEREPHTHALIC ACID	1044572	559180	696842	318046	412468	178454	521501	237444	569756	340774	886358	470167	625460	245629	1471142	847400
TOTAL	**2179870**	**1273665**	**2015419**	**1026126**	**1842229**	**943136**	**1808425**	**1072331**	**1454656**	**1056882**	**1919655**	**1059484**	**1441326**	**649525**	**2626726**	**1713284**
POLYMERS																
LOW DENSITY POLYETHYLENE	325901	295717	374761	313547	391501	330125	464591	398992	341063	310441	352372	282510	256287	208489	222431	268779
HIGH DENSITY POLYTHYLENE	842892	811233	921743	798927	1000457	824364	993072	840665	902265	872720	787964	634354	810467	648402	827307	863139
POLYESTYRENE	39647	50104	42514	47364	44374	54225	52790	64224	56312	69827	54371	62759	69916	81878	65664	121494
POLYPROPYLENE (INC. CO-POLYMER)	611673	589950	700914	574265	781188	611882	938998	762085	854828	837001	994615	853958	854399	746492	1136898	1290866
EXPANDABLE POLYESTYRENE	3113	3441	2981	2723	3779	3554	2644	2744	1241	1611	1037	1184	4684	4308	5511	6709
POLY VINYL CHLORIDE	1293338	854467	1501311	878823	1702852	1015835	1846296	1123738	2037570	1354121	928376	587544	419309	300980	460352	508138
LINEAR LOW DENSITY POLYTHYLENE	550109	515931	590015	459471	469075	381387	425112	335698	276313	228745	311445	217054	226310	151723	223153	208037
PVC COMPOUND	70125	56225	79783	57368	59032	45858	27975	21140	9537	10363	0	0	0	0	177	53
TOTAL	**3736798**	**3177068**	**4214022**	**3132488**	**4452258**	**3267230**	**4751478**	**3549286**	**4479129**	**3684829**	**3430180**	**2639363**	**2641372**	**2142272**	**2941493**	**3267215**

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	223549	264399	172802	155614	149559	155436	132989	161301	123010	156987	102738	118659	152373	149081	169618	256501
POLY BUTADIENE RUBBER	70471	79518	74646	63210	84910	93064	94772	122673	104671	138315	97712	107321	114961	113497	109987	167151
ETHYL PROPYLENE DIMERS	33348	54653	39370	60759	43411	54947	45099	59035	52800	80061	45465	59429	41810	52572	48943	101663
ETHYL VINYL ACETATE	139414	155970	165264	162033	144604	141686	183348	184503	178684	202884	193671	212988	189581	212461	182004	383881
NITRILE BUTADIENE RUBBER	26719	44760	51937	44391	36451	45999	40310	63203	38519	73014	41179	60140	158510	52408	38508	78806
BUTYL RUBBER	84899	159649	92082	126683	100984	136910	111349	151035	120816	200157	94067	151010	90043	138841	86078	156123
TOTAL	**578400**	**758949**	**596101**	**612690**	**559919**	**628042**	**607867**	**741750**	**618500**	**851418**	**574832**	**709547**	**747278**	**718860**	**635138**	**1144125**
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	133994	137918	217997	176537	228092	177675	205910	163748	227111	210012	264026	236771	265392	215927	277724	333278
ETHYLENE OXIDE	41	543	100	952	137	1328	74	785	25	416	32	655	14	331	104	2882
TOTAL	**134035**	**138461**	**218097**	**177489**	**228229**	**179003**	**205984**	**164533**	**227136**	**210428**	**264058**	**237426**	**265406**	**216258**	**277828**	**336160**
PERFORMANCE PLASTICS																
ABS RESIN	69910	94132	90081	100935	102685	114201	98026	131230	119398	173631	104643	126833	98848	129553	112791	210059
NYLON-6	133891	237580	144545	218291	158810	233711	175945	299915	215718	430268	217382	345202	0	0	0	0
POLYMETHYL METHACRYLATE	15367	21697	20309	30401	27175	35588	29994	47445	29540	55142	29331	45525	31774	44980	25928	51293
STYRENE ACRYLONITRILE	6411	7884	9569	9061	8542	8299	9430	10630	9188	11431	10452	11103	13347	14631	20468	29048
POLYESTER CHIPS/PET CHIPS	167015	123074	122206	74948	117996	68960	266358	113614	307111	199059	375865	233917	151926	85030	120110	80693
POLYTETRAFLUOROETHYLENE (PTFE)	2172	12000	2086	12211	2234	11511	2939	18213	2896	22190	2904	19880	3063	19623	3226	23817
TOTAL	**394766**	**496367**	**388796**	**445847**	**417442**	**472270**	**582692**	**621047**	**683851**	**891721**	**740577**	**782460**	**298958**	**293817**	**282523**	**394910**
OLEFINS																
BUTADIENE	3223	2823	994	706	2105	1657	2859	3104	1048	1363	14	82	29	108	24	138
ETHYLENE	43905	38467	21050	14753	80917	57116	39119	32795	60583	50604	64816	43283	39902	28526	62387	49807
PROPYLENE	2127	2691	3354	4718	431	1878	8813	7384	8069	5879	11027	7646	3944	5324	29469	26248
TOTAL	**49255**	**43981**	**25398**	**20177**	**83453**	**60651**	**50791**	**43283**	**69700**	**57846**	**75857**	**51011**	**43875**	**33958**	**91880**	**76193**
AROMATICS																
BENZENE	47	35	0	5	0	8	60	66	22264	12820	11153	5330	19212	8254	4195	2724
MIXED XYLENE	1647	1155	108	96	113	125	2424	1200	641	433	122	139	524	293	40	60
ORTHO-XYLENE	35697	23547	34502	16871	26275	14609	15730	8337	22974	15464	16382	9962	25136	11309	16390	11452
TOLUENE	287877	183823	343662	163765	392749	183101	414144	194854	438055	235492	464497	238119	601835	238357	500323	315330
PARAXYLENE	698204	504004	826053	452311	1195515	667002	888660	504091	836490	646003	835381	519284	653779	283883	603417	412965
TOTAL	**1023472**	**712564**	**1204325**	**633048**	**1614652**	**864845**	**1321018**	**708548**	**1320424**	**910212**	**1327535**	**772834**	**1300486**	**542096**	**1124365**	**742531**
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	465292	117028	600033	104976	503987	86304	713334	108450	581677	141440	780433	182591	632881	150504	625955	379706
BUTANOL	56954	42657	62512	31380	57959	26234	53679	30719	48955	35342	58865	33488	43270	27054	29060	35970
OXO ALCOHOL	1285	3866	1270	4347	3186	6713	2272	6324	2696	7376	2873	6210	2798	4355	3088	5707
2-ETHYL HEXANOL	134894	117375	109095	66012	66867	37312	58129	39652	54107	44522	81656	56216	56250	38505	13840	19050
VINYL CHLORIDE MONOMER	317925	178829	349371	167169	344423	177368	484390	247256	457532	252913	511166	280807	479876	315306	581809	552782

Table 26: Net Imports of Major Petrochemicals (Product-wise) from the FY 2014-15 to FY 2021-22

[QTY in MT & Value in Rs. Lakh]

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
SYNTHETIC FIBRES																
ACRYLIC FIBRE	-1081	1783	-8673	-5157	-11561	-15666	-7029	-5678	-5457	-542	15811	25115	16359	19663	11421	32517
NYLON FILAMENT YARN	25965	52509	27333	48249	29206	46890	18717	31206	17465	33200	16728	27309	10960	19038	15944	31499
NYLON INDUSTRIAL YARN/TYRE CORD	1998	4098	3289	5332	6267	8375	4946	7831	6213	13496	3269	6686	5163	9235	6133	22228
POLYESTER FILAMENT YARN	-576055	-588637	-562194	-538278	-663670	-598344	-634930	-629526	-612714	-721510	-596149	-621304	-301970	-348533	-466764	-623628
POLYESTER STAPLE FIBRE	-101711	-79995	-82094	-55772	-114094	-80203	-138451	-98311	-163680	-135360	-166981	-110147	-207126	-107626	-305393	-251247
POLYPROPYLENE FILAMENT YARN	-1516	-2232	-2147	-2877	-1382	-1840	474	598	868	1294	-50	-11	26	413	-483	-322
POLYPROPYLENE STAPLE FIBRE	-10282	-11401	-5646	-4888	-7739	-6586	-6216	-5285	-4559	-4583	-6731	-6006	-6048	-5352	-7910	-9815
Elastomeric/Spandex Filament Yarn	11090	52753	15548	65976	17226	68349	21068	84262	21815	95353	21355	84254	7290	36823	5183	38401
TOTAL	**-651592**	**-571122**	**-614584**	**-487415**	**-745747**	**-579025**	**-741421**	**-614903**	**-740049**	**-718652**	**-712748**	**-594104**	**-475346**	**-376339**	**-741869**	**-760367**
FIBRE INTERMEDIATES																
ACRYLONITRILE	97384	118871	157879	119560	139703	108153	158264	170807	180362	240984	172879	197451	126697	112897	173807	294757
CAPROLACTUM	32276	43570	44577	45291	51896	49734	58360	75872	66420	99207	67791	74929	51424	50881	60036	93828
DIMETHYL TEREPHTHALATE	2094	1594	2215	1399	1760	1050	2256	1520	1454	1135	1807	1198	1766	982	1973	1567
MONO EHYLENE GLYCOL	930324	493148	1039343	487608	1173186	558906	929015	494196	342131	196267	636273	230788	295792	120602	846583	422841
PURIFIED TEREPHTHALIC ACID	1044522	559135	523865	250874	152588	71719	309172	148867	407334	243370	806533	431506	490482	201234	1416745	813751
TOTAL	**2106600**	**1216318**	**1767879**	**904732**	**1519133**	**789562**	**1457067**	**891262**	**997701**	**780963**	**1685283**	**935872**	**966161**	**486596**	**2499144**	**1626744**
POLYMERS																
LOW DENSITY POLYETHYLENE	304382	271864	350754	287016	364592	302804	356334	310562	176921	177676	212350	184375	216845	172688	173244	202257
HIGH DENSITY POLYTHYLENE	791229	760138	805629	701087	852315	706549	787275	685115	444849	507485	301072	318409	411808	400878	629138	670315
POLYESTYRENE	-34048	-19070	-43776	-24937	-38168	-21258	-17024	-3228	-7678	5767	4760	19620	33414	54073	21170	68976
POLYPROPYLENE (INC. CO-POLYMER)	-115233	-30795	-34496	71141	206954	229204	386996	364439	136775	240390	455570	467274	-7313	184674	590289	743730
EXPANDABLE POLYESTYRENE	-1697	-2048	-781	-1012	82	6	-475	-528	-1823	-2207	-1708	-1578	3790	3413	4567	5430
POLY VINYL CHLORIDE	1291350	852382	1498257	875551	1696368	1009708	1839634	1117723	2035437	1352333	926316	586073	402324	292513	457815	505244
LINEAR LOW DENSITY POLYTHYLENE	539255	505664	574190	445311	415860	339829	196160	172066	-231822	-152096	-83631	-30142	91992	65964	156659	142612
PVC COMPOUND	58294	45383	65906	45834	42131	32956	14345	11366	-7685	-2910	0	0	0	0	-12544	-13866
TOTAL	**2833532**	**2383518**	**3215683**	**2399991**	**3540134**	**2599798**	**3563245**	**2657515**	**2544974**	**2126438**	**1814729**	**1544031**	**1152860**	**1174203**	**2020338**	**2324698**
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	205542	246438	141749	131645	122420	128013	92285	124919	76831	113415	57809	80821	112616	120313	133903	218464
POLY BUTADIENE RUBBER	68552	77540	68658	59202	79796	88122	87760	115297	91496	123004	77389	88032	91632	98438	87429	138961
ETHYL PROPYLENE DIMERS	30433	46539	36645	51877	40129	45416	42582	51339	50337	72103	43173	52145	40439	49297	47514	98225
ETHYL VINYL ACETATE	138273	154236	163990	160523	143110	139935	182447	183189	178154	201633	192672	211374	188539	210811	180623	380530
NITRILE BUTADIENE RUBBER	26275	43636	51537	43421	36000	44907	39883	62075	38012	71698	40460	58824	154687	48082	31374	69524
BUTYL RUBBER	83285	156068	90834	123594	100260	135262	111021	150342	120120	198869	89293	145286	64328	112498	64359	126599
TOTAL	**552360**	**724457**	**553413**	**570262**	**521715**	**581655**	**555978**	**687161**	**554950**	**780722**	**500796**	**636482**	**652241**	**639439**	**545202**	**1032303**

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	106795	110714	208741	169503	221652	172859	204980	162939	226788	209645	263833	236518	264466	214971	271322	325816
ETHYLENE OXIDE	-752	-1257	-278	218	-481	203	-409	126	-700	-751	-819	-571	-936	-652	-985	1643
TOTAL	**106043**	**109457**	**208463**	**169721**	**221171**	**173062**	**204571**	**163065**	**226088**	**208894**	**263014**	**235947**	**263530**	**214319**	**270337**	**327459**
PERFORMANCE PLASTICS																
ABS RESIN	69685	93851	89616	100253	102391	113728	97753	130785	118949	173009	104315	126235	98441	128880	111047	207862
NYLON-6	117176	208805	129968	192970	141154	204118	154592	265141	195974	391303	196168	304347	0	0	0	0
POLYMETHYL METHACRYLATE	6061	10482	11151	19860	18618	25358	26431	43861	25217	49924	24699	39939	28478	40206	21824	44512
STYRENE ACRYLONITRILE	6291	7726	8990	8602	7871	7849	8251	9948	8801	11051	9992	10741	13117	14419	19651	28058
POLYESTER CHIPS/PET CHIPS	-208406	-151869	-660900	-385839	-819255	-488225	-748230	-541712	-736275	-690632	-555117	-384264	-50371	-32930	-142019	-141117
POLYTETRAFLUOROETHYLENE(PTFE)	-5406	-26120	-3996	-17736	-6087	-27008	-6653	-34247	-9101	-61707	-8271	-53548	-7849	-55501	-11702	-98091
TOTAL	**-14599**	**142875**	**-425171**	**-81890**	**-555308**	**-164180**	**-467856**	**-126224**	**-396435**	**-127052**	**-228214**	**43450**	**81816**	**95074**	**-1199**	**41224**
OLEFINS																
BUTADIENE	-69256	-42478	-128814	-66255	-104733	-95611	-100567	-70267	-135143	-112526	-174238	-103834	-166780	-72164	-144071	-89748
ETHYLENE	43905	38466	15931	10964	80890	57093	-97307	-64532	-132650	-90068	-87414	-36672	-62993	-29186	-49115	-34190
PROPYLENE	2127	2691	-11108	-587	-10069	-2573	-11932	-1722	-31221	-16261	1369	3417	-11340	-794	29469	26248
TOTAL	**-23224**	**-1321**	**-123991**	**-55878**	**-33912**	**-41091**	**-209806**	**-136521**	**-299014**	**-218855**	**-260283**	**-137089**	**-241113**	**-102144**	**-163717**	**-97690**
AROMATICS																
BENZENE	-576694	-348865	-914875	-371283	-789425	-366814	-1286263	-662342	-1628859	-809232	-1397324	-629973	-1488414	-551300	-1918756	-1385444
MIXED XYLENE	-8817	-5768	100	47	47	15	2006	922	-340	-235	-288	-158	-11	-37	-6	3
ORTHO-XYLENE	-191310	-114794	-199884	-90750	-128072	-60152	-169945	-78544	-202729	-107270	-160885	-90988	-284414	-116625	-217938	-136769
TOLUENE	277883	177414	338394	160451	386906	179337	410041	192082	424454	225991	456373	232555	584001	228566	482519	301498
PARAXYLENE	-365865	-158725	-52553	-8224	396023	227323	-937862	-498568	-1823013	-1279341	-1841818	-1076010	-2171472	-873193	-1656010	-1034792
TOTAL	**-864803**	**-450738**	**-828818**	**-309759**	**-134521**	**-20291**	**-1982023**	**-1046450**	**-3230487**	**-1970087**	**-2943942**	**-1564574**	**-3360310**	**-1312589**	**-3310191**	**-2255504**
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	465271	117014	584194	101873	503971	86296	668473	101940	562496	136962	699576	162457	595469	141899	620053	376485
BUTANOL	56195	41664	62317	31218	55667	25045	52816	30016	48503	34687	58583	33201	42238	25766	28483	35083
OXO ALCOHOL	94	2959	688	3782	1915	5982	1382	5642	-239	5871	1545	5064	2058	2334	2100	117
2-ETHYL HEXANOL	128503	110970	108349	65358	64812	35875	55493	37951	50932	41741	81610	56162	54842	37093	10377	14040
VINYL CHLORIDE MONOMER	317925	178829	349371	167169	344423	177368	484390	247256	457532	252910	511166	280807	479876	315305	581803	552774
EPICHLOHYDRINE	33574	33610	43355	37610	48058	34508	55975	51370	64965	83221	61057	72154	55144	57868	66377	118624
ISO BUTYLENE	13009	12220	15825	10277	20050	14130	48702	36007	44558	40253	-7298	-1553	-4242	-1362	-18534	-12823
METAXYLENE	923	756	3018	2615	2603	2383	2074	1801	2928	3024	1875	1404	2693	1635	4706	3532
METHYL ISOBUTYL KETONE	23037	26279	27289	21838	21569	16600	33744	30392	31894	27772	27812	16720	30077	31063	35848	60161
PIB	6297	10469	8239	10122	13797	14501	12421	14253	11990	15301	10297	14018	6667	10010	12158	17135
POLYCARBONATE	122096	187056	133745	203159	134375	200911	154018	250839	187003	364667	172361	259696	174664	262214	207191	469391
PROPYLENE OXIDE	22914	25917	25552	25697	23064	21699	23446	23594	26800	30694	20160	20127	17361	22038	20504	32293
PROPYLENE GLYCOL	47976	49677	53514	46157	50474	38843	56216	47866	64801	66670	61438	48042	56278	51390	60469	124591
POLYVINYL ACETATE RESIN	-11453	-7084	-8050	-5474	-5724	-5098	-3510	-1463	-5797	-4728	-5470	-2812	-4357	-2487	-5076	-7021
UNSATURATED POLYSTER RESIN	16195	16836	18191	21543	23712	23703	35452	35539	28287	38324	33118	36041	32039	31168	26028	56042
ETHYL BENZENE	128	182	150	146	308	267	351	320	719	806	463	471	500	490	947	1247
CELLULOSE ACETATE BUTYRATE	-43	-88	-4	-69	-5	-12	2	-8	-1	-15	12	18	10	-25	57	104

PRODUCT	2014-15		2015-16		2016-17		2017-18		2018-19		2019-20		2020-21		2021-22	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
CELLULOSE ACETATE SHEET	1227	665	1261	659	981	386	1287	776	1494	1043	1323	907	1286	957	1632	1593
CELLULOSE NITRATE SHEET	251	451	85	255	56	236	97	322	99	372	70	261	1239	507	519	353
MELAMINE MOULDING POWDER	3742	10072	3879	11420	2873	12232	-55	13246	-1298	15369	-6746	12277	-9808	8730	-18972	11561
POLYACETAL RESIN	32068	29394	34900	33790	37496	37390	43531	43338	48483	58644	47339	52464	48421	55077	47242	68490
PHTHALIC ANHYDRIDE	13716	13093	39355	21740	50025	27607	92571	61126	118306	88521	145584	92063	117485	68219	88719	66170
STYRENE	610860	537073	716903	515870	724539	553395	784749	650813	811248	737428	872556	607553	720788	452338	847159	757652
VINYL ACTATE MONOMER	137991	113085	139954	86872	150249	80874	163703	103973	163009	129228	159432	96717	136530	87016	174413	246556
ISOPROPANOL	57055	44508	83890	44841	89877	50413	99460	63966	134832	93195	143653	75766	178494	155169	124346	100942
POLYOL	148978	198098	165140	216251	147308	192627	195114	242614	226175	307510	213930	253370	161679	168529	160525	311500
TOTAL	**2248529**	**1753705**	**2611110**	**1674719**	**2506473**	**1648161**	**3061902**	**2093489**	**3079719**	**2569470**	**3305446**	**2193395**	**2897431**	**1982941**	**3079074**	**3406592**
TOTAL IMPORT OF MAJOR PETRO-CHEMICALS	**6292846**	**5307149**	**6363984**	**4784483**	**6839138**	**4987651**	**5441657**	**4568394**	**2737447**	**3431841**	**3424081**	**3293410**	**1937270**	**2801500**	**4197119**	**5645459**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 27: Top Five Export Destinations of selected Petrochemicals in the FY 2021-22

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
ACRYLIC FIBRE	KENYA	8822.5	8767.4
	ETHIOPIA	3710.9	3545.2
	U S A	1354.7	5841.8
	SOUTH AFRICA	1334.9	4538.5
	BANGLADESH PR	1231.6	3673.0
	Product Total	**16454.6**	**26365.9**
NYLON FILAMENT YARN	TURKEY	1589.0	3739.4
	NEW ZEALAND	978.2	3074.0
	U ARAB EMTS	975.0	3749.4
	BRAZIL	899.0	2530.6
	AUSTRALIA	586.7	1627.1
	Product Total	**5027.8**	**14720.5**
NYLON INDUSTRIAL YARN/TYRE CORD	USA	709.3	1664.0
	MEXICO	681.9	1128.6
	BANGLADESH PR	527.5	826.6
	SPAIN	503.2	830.1
	TURKEY	435.6	656.5
	Product Total	**2857.6**	**5105.8**
POLYESTER FILAMENT YARN	TURKEY	206388.2	251494.7
	BRAZIL	128549.3	135301.9
	EGYPT A RP	77355.6	85191.4
	ARGENTINA	31954.0	38698.7
	BANGLADESH PR	30350.4	52957.9
	Product Total	**474597.5**	**563644.6**
POLYESTER STAPLE FIBRE	U S A	61852.8	56572.4
	TURKEY	48990.9	41959.5
	NEPAL	37138.7	29276.1
	MEXICO	22335.1	20336.7
	BELGIUM	20059.8	16610.0
	Product Total	**190377.3**	**164754.7**
POLYPROPYLENE FILAMENT YARN	NIGERIA	115.8	179.3
	NEPAL	109.7	177.2
	MEXICO	73.1	120.2
	BANGLADESH PR	60.2	104.4
	U S A	56.6	85.8
	Product Total	**415.5**	**666.8**
POLYPROPYLENE STAPLE FIBRE	U S A	8515.6	10515.2
	SAUDI ARAB	1817.4	2550.3
	NEPAL	318.2	525.8
	CHINA P RP	73.0	120.0
	U ARAB EMTS	48.1	94.3
	Product Total	**10772.2**	**13805.6**
ELASTOMERIC/ SPANDEX FILAMENT YARN	TURKEY	1817.5	13631.3
	CHINA P RP	1783.3	12868.5

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	BANGLADESH PR	667.0	5111.7
	SRI LANKA DSR	463.4	3942.2
	BRAZIL	390.0	3263.1
	Product Total	**5121.2**	**38816.9**
ACRYLONITRILE	EGYPT A RP	0.0	0.0
	SPAIN	0.0	1.5
	U ARAB EMTS	1956.2	3399.5
	Product Total	**1956.2**	**3401.0**
CAPROLACTUM	INDONESIA	18.0	36.0
	BANGLADESH PR	5.0	11.0
	SPAIN	1.6	503.5
	NETHERLAND	0.0	0.0
	IRELAND	0.0	0.0
	Product Total	**24.6**	**550.5**
DIMETHYL TEREPHTHALATE	GERMANY	0.0	0.1
	SOUTH AFRICA	0.0	0.0
	TURKEY	0.0	0.0
	Product Total	**0.0**	**0.1**
MONO EHYLENE GLYCOL	CHINA P RP	27149.1	12724.5
	EGYPT A RP	17229.0	9355.6
	INDONESIA	8779.4	9328.5
	TAIWAN	6570.2	6365.4
	KOREA RP	5807.2	6056.0
	Product Total	**65534.9**	**43830.1**
PURIFIED TEREPHTHALIC ACID	TURKEY	18804.0	9594.1
	SAUDI ARAB	8297.5	4329.4
	MALAYSIA	5040.0	2572.1
	U K	4873.2	2619.6
	BELGIUM	3505.0	1863.7
	Product Total	**40519.7**	**20978.9**
LOW DENSITY POLYETHYLENE	EGYPT A RP	10580.9	15464.3
	TURKEY	9618.4	13383.2
	U ARAB EMTS	4978.3	5037.7
	KENYA	3485.6	3271.8
	OMAN	2905.6	4027.6
	Product Total	**31568.9**	**41184.5**
HIGH DENSITY POLYTHYLENE	CHINA P RP	57841.2	43705.2
	NEPAL	35223.0	34594.2
	VIETNAM SOC REP	31561.9	25863.2
	KENYA	9453.9	9531.0
	U ARAB EMTS	8003.5	10694.6
	Product Total	**142083.5**	**124388.2**
POLYESTYRENE	EGYPT A RP	8867.1	10681.5
	BANGLADESH PR	4745.7	4498.4
	U ARAB EMTS	2961.7	3473.3
	CHINA P RP	2607.6	3469.1
	ITALY	2473.6	3137.9

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	Product Total	**21655.7**	**25260.2**
POLYPROPYLENE (INC. CO-POLYMER)	TURKEY	90935.5	96478.8
	BANGLADESH PR	58818.6	50294.1
	CHINA P RP	51734.9	43089.6
	NEPAL	44611.0	46576.9
	VIETNAM SOC REP	40971.5	36526.3
	Product Total	**287071.6**	**272965.7**
EXPANDABLE POLYESTYRENE	QATAR	306.0	404.0
	JORDAN	180.0	201.2
	BANGLADESH PR	123.5	215.2
	NEPAL	104.4	150.6
	SOUTH AFRICA	54.0	75.3
	Product Total	**767.9**	**1046.2**
POLY VINYL CHLORIDE	QATAR	521.0	576.6
	CHINA P RP	492.2	411.3
	NEPAL	371.1	384.3
	BURUNDI	294.2	320.2
	TURKEY	243.4	395.8
	Product Total	**1921.9**	**2088.3**
LINEAR LOW DENSITY POLYTHYLENE	KENYA	14469.8	13718.4
	U ARAB EMTS	7146.1	6950.6
	BANGLADESH PR	6147.1	5407.0
	CHINA P RP	6110.5	4755.5
	NEPAL	3531.2	3670.9
	Product Total	**37404.7**	**34502.4**
PVC COMPOUND	NIGERIA	3868.8	3924.9
	NEPAL	2836.1	3062.5
	KENYA	1073.4	1301.9
	U S A	1069.7	713.8
	QATAR	642.3	728.8
	Product Total	**9490.2**	**9731.9**
STYRENE BUTADIENE RUBBER	VIETNAM SOC REP	5029.8	4931.4
	THAILAND	4415.3	5140.4
	CHINA P RP	3209.6	3395.9
	U ARAB EMTS	3036.5	2463.4
	BANGLADESH PR	2670.5	3767.6
	Product Total	**18361.7**	**19698.7**
POLY BUTADIENE RUBBER	CHINA P RP	9990.4	10641.3
	THAILAND	5995.5	7821.3
	SRI LANKA DSR	2976.3	4592.3
	VIETNAM SOC REP	1965.6	2607.5
	BANGLADESH PR	1073.6	1591.4
	Product Total	**22001.4**	**27253.7**
ETHYL PROPYLENE DIMERS	BANGLADESH PR	417.2	328.2
	U ARAB EMTS	327.8	795.0
	VIETNAM SOC REP	134.1	490.4
	U S A	125.9	554.1

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	SAUDI ARAB	82.0	211.0
	Product Total	**1087.1**	**2378.6**
ETHYL VINYL ACETATE	NEPAL	498.6	1038.2
	U ARAB EMTS	287.5	783.4
	NIGERIA	106.9	288.9
	SPAIN	99.0	191.6
	BANGLADESH PR	87.8	187.7
	Product Total	**1079.8**	**2489.8**
NITRILE BUTADIENE RUBBER	MALAYSIA	2936.4	3456.8
	THAILAND	1387.2	1375.9
	SRI LANKA DSR	1387.2	1413.9
	U ARAB EMTS	423.5	855.7
	U S A	325.0	826.6
	Product Total	**6459.4**	**7928.8**
BUTYL RUBBER	CHINA P RP	7447.7	9938.5
	U S A	3372.1	4351.2
	BANGLADESH PR	2209.6	3371.0
	KOREA RP	2139.5	2800.6
	VIETNAM SOC REP	1595.0	2024.3
	Product Total	**16764.0**	**22485.6**
LINEAR ALKYL BENZENE	BANGLADESH PR	1798.0	1860.3
	YEMEN REPUBLC	799.4	1096.6
	NEPAL	617.9	599.0
	CHINA P RP	604.0	684.0
	DJIBOUTI	419.8	543.2
	Product Total	**4239.0**	**4783.1**
ETHYLENE OXIDE	THAILAND	325.9	450.2
	MALAYSIA	255.2	264.4
	VIETNAM SOC REP	238.8	235.2
	INDONESIA	159.2	155.1
	NEPAL	76.5	50.1
	Product Total	**1055.7**	**1154.9**
ABS RESIN	HONG KONG	542.4	429.0
	KOREA RP	462.4	766.9
	MALAYSIA	392.5	295.0
	POLAND	97.9	136.7
	CHINA P RP	79.6	180.8
	Product Total	**1574.9**	**1808.3**
POLYMETHYL METHACRYLATE	NEPAL	1327.5	1456.7
	BANGLADESH PR	819.2	1029.7
	ISRAEL	496.0	878.4
	GERMANY	237.8	931.7
	RUSSIA	216.1	392.9
	Product Total	**3096.6**	**4689.4**
STYRENE ACRYLONITRILE	POLAND	531.0	555.0
	NIGERIA	100.0	85.5
	U ARAB EMTS	53.0	120.2

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	THAILAND	39.7	63.9
	PHILIPPINES	23.5	40.9
	Product Total	**747.2**	**865.5**
POLYESTER CHIPS/PET CHIPS	BAHARAIN IS	77194.6	64271.2
	U ARAB EMTS	54739.8	45774.2
	MEXICO	37159.0	30956.5
	POLAND	12935.1	11342.5
	EGYPT A RP	12420.1	10495.5
	Product Total	**194448.5**	**162839.9**
POLYTETRAFLUOROETHYLENE(PTFE)	U S A	4558.5	36111.5
	GERMANY	4084.4	32235.2
	ITALY	1627.2	12832.0
	TURKEY	781.8	7088.2
	U K	621.2	6430.8
	Product Total	**11673.1**	**94697.7**
BUTADIENE	MALAYSIA	60418.1	35380.9
	KOREA RP	31940.4	19345.6
	TAIWAN	27912.9	19016.8
	INDONESIA	18344.3	11023.6
	SAUDI ARAB	5106.1	2276.9
	Product Total	**143721.8**	**87043.8**
ETHYLENE	QATAR	76125.0	57253.0
	INDONESIA	28550.7	21655.2
	TAIWAN	6825.0	5076.1
	TANZANIA REP	0.9	5.1
	OMAN	0.4	3.4
	Product Total	**111502.0**	**83992.8**
PROPYLENE	U K	0.0	0.0
	Product Total	**0.0**	**0.0**
BENZENE	SAUDI ARAB	948218.2	664221.4
	BELGIUM	205777.5	158618.5
	CHINA P RP	177051.1	128694.0
	NETHERLAND	143818.9	105573.3
	U S A	141338.9	102269.6
	Product Total	**1616204.7**	**1159376.8**
MIXED XYLENE	BANGLADESH PR	17.5	8.2
	CAMBODIA	14.0	7.8
	NEPAL	8.9	15.9
	IRAQ	1.7	4.9
	U ARAB EMTS	1.2	2.3
	Product Total	**43.3**	**39.2**
ORTHO-XYLENE	BELGIUM	68482.7	44514.7
	TAIWAN	54460.7	33500.2
	ITALY	42982.5	27973.7
	CHINA P RP	37050.1	20951.7
	NETHERLAND	28586.0	19561.8
	Product Total	**231561.9**	**146502.1**

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
TOLUENE	CHINA P RP	8220.1	6775.3
	KENYA	1736.3	1315.4
	U ARAB EMTS	1620.3	1012.8
	EGYPT A RP	1100.3	720.9
	UGANDA	1070.2	836.1
	Product Total	**13747.2**	**10660.5**
PARAXYLENE	CHINA P RP	859157.0	561425.0
	MALAYSIA	337294.9	219978.3
	U S A	326810.4	193198.8
	INDONESIA	287532.5	186108.3
	PORTUGAL	98768.0	64784.3
	Product Total	**1909562.8**	**1225494.8**
ETHYLENE DICHLORIDE	THAILAND	5762.8	3029.7
	SAUDI ARAB	120.0	90.8
	CHINA P RP	15.0	91.8
	TURKEY	3.9	6.9
	ALGERIA	0.3	0.4
	Product Total	**5901.9**	**3219.8**
BUTANOL	BRUNEI	236.4	329.5
	NEPAL	97.0	147.3
	ISRAEL	38.9	63.5
	KENYA	38.8	53.1
	VIETNAM SOC REP	26.4	60.6
	Product Total	**437.4**	**654.1**
OXO ALCOHOL	NETHERLAND	787.5	1045.0
	U S A	135.1	2065.0
	JAPAN	47.6	56.0
	BANGLADESH PR	4.2	15.2
	GERMANY	4.2	882.3
	Product Total	**978.5**	**4063.5**
2-ETHYL HEXANOL	U S A	2105.6	3197.4
	U ARAB EMTS	788.0	926.6
	IRAN	206.0	328.5
	ARGENTINA	199.8	306.9
	PHILIPPINES	100.0	115.0
	Product Total	**3399.4**	**4874.4**
VINYL CHLORIDE MONOMER	U ARAB EMTS	5.8	7.7
	Product Total	**5.8**	**7.7**
EPICHLOHYDRINE	SOUTH AFRICA	19.2	46.9
	U ARAB EMTS	5.8	20.5
	U S A	2.9	202.1
	TURKEY	0.1	0.5
	DOMINIC REP	0.0	4.0
	Product Total	**28.0**	**274.1**
ISO BUTYLENE	INDONESIA	1415.0	954.6
	MALAYSIA	470.0	317.1
	MALDIVES	0.0	0.4

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	OMAN	7904.3	6144.6
	SAUDI ARAB	8798.7	5549.0
	Product Total	**18588.0**	**12965.7**
METAXYLENE	BELGIUM	8.2	39.1
	NEPAL	5.4	4.1
	DENMARK	4.0	382.9
	ITALY	2.5	243.6
	ARGENTINA	0.4	6.2
	Product Total	**20.4**	**675.9**
METHYL ISOBUTYL KETONE	U ARAB EMTS	687.1	1303.3
	VIETNAM SOC REP	138.1	309.9
	NIGERIA	102.0	202.7
	COSTA RICA	96.5	195.1
	NEPAL	86.4	170.0
	Product Total	**1110.1**	**2180.9**
PIB	SINGAPORE	2730.4	2966.6
	CHINA P RP	899.8	894.1
	U ARAB EMTS	471.0	729.4
	VIETNAM SOC REP	279.2	332.0
	RUSSIA	208.6	248.7
	Product Total	**4589.0**	**5170.8**
POLYCARBONATE	KOREA RP	1247.1	1504.6
	ITALY	800.7	1150.1
	GERMANY	509.1	617.6
	POLAND	402.1	562.6
	BELGIUM	310.2	389.4
	Product Total	**3269.1**	**4224.4**
PROPYLENE OXIDE	CANADA	0.0	0.0
	THAILAND	0.1	3.3
	Product Total	**0.1**	**3.4**
PROPYLENE GLYCOL	U ARAB EMTS	369.9	527.5
	IRAN	258.0	617.6
	NEPAL	250.1	731.9
	SINGAPORE	154.2	303.5
	IRELAND	120.1	1036.6
	Product Total	**1152.3**	**3217.1**
POLYVINYL ACETATE RESIN	U S A	2692.8	5584.0
	TURKEY	930.0	1766.0
	BELGIUM	844.0	1543.3
	NIGERIA	738.7	533.6
	GHANA	674.9	704.1
	Product Total	**5880.4**	**10131.0**
UNSATURATED POLYSTER RESIN	QATAR	2336.6	3924.8
	NEPAL	2135.2	2744.3
	BANGLADESH PR	1848.8	3473.8
	U ARAB EMTS	1345.4	3034.2
	OMAN	1306.8	1797.3

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	Product Total	**8972.9**	**14974.3**
ETHYL BENZENE	KOREA RP	0.0	0.0
	OMAN	0.0	0.2
	QATAR	0.0	0.0
	SUDAN	0.0	0.0
	Product Total	**0.0**	**0.2**
CELLULOSE ACETATE BUTYRATE	NEPAL	0.4	2.0
	Product Total	**0.4**	**2.0**
CELLULOSE ACETATE SHEET	HONG KONG	0.0	0.0
	NEPAL	1.5	2.6
	THAILAND	11.6	36.6
	Product Total	**13.1**	**39.3**
CELLULOSE NITRATE SHEET	NEPAL	1.2	7.5
	CAMEROON	0.2	1.1
	ZAMBIA	0.2	1.0
	QATAR	0.1	3.2
	EQUTL GUINEA	0.0	0.1
	Product Total	**1.7**	**12.9**
MELAMINE MOULDING POWDER	NEPAL	26937.3	5594.7
	COTE D' IVOIRE	821.8	516.3
	GHANA	656.0	400.1
	SRI LANKA DSR	640.0	424.8
	GUINEA	608.0	414.7
	Product Total	**29663.1**	**7350.5**
POLYACETAL RESIN	THAILAND	354.6	770.4
	U ARAB EMTS	225.3	546.2
	MALAYSIA	197.8	350.1
	CHINA P RP	188.4	368.5
	VIETNAM SOC REP	112.1	245.3
	Product Total	**1078.2**	**2280.5**
PHTHALIC ANHYDRIDE	U ARAB EMTS	13363.0	10503.0
	SAUDI ARAB	9396.0	7358.5
	EGYPT A RP	5016.0	3924.7
	TUNISIA	1259.0	1061.8
	ALGERIA	1078.0	775.5
	Product Total	**30112.0**	**23623.5**
STYRENE	U ARAB EMTS	28762.7	29798.7
	NETHERLAND	3850.0	3473.5
	IRAN	2858.5	2858.9
	TURKEY	2565.0	2429.8
	SRI LANKA DSR	1771.4	1854.0
	Product Total	**39807.5**	**40414.9**
VINYL ACTATE MONOMER	TURKEY	1113.3	1553.3
	U ARAB EMTS	1096.0	1299.4
	BANGLADESH PR	730.4	1001.6
	MOROCCO	538.5	744.3
	Product Total	**3478.2**	**4598.6**

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
ISOPROPANOL	U ARAB EMTS	3490.1	3059.8
	U S A	1881.5	1738.6
	SRI LANKA DSR	1815.3	1913.0
	KENYA	684.6	744.2
	JORDAN	546.2	598.2
	Product Total	**8417.8**	**8053.9**
POLYOL	SINGAPORE	5244.9	24775.0
	BANGLADESH PR	2666.1	4520.1
	ITALY	944.6	1347.9
	U ARAB EMTS	649.5	1274.0
	CHINA P RP	439.3	896.3
	Product Total	**9944.4**	**32813.3**

Source: DGCIS, Kolkata, M/o Commerce and Industry

Table 28: Top Five Import Destinations of selected Petrochemicals in the FY 2021-22

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
ACRYLIC FIBRE	THAILAND	10414.80	21903.55
	JAPAN	4736.10	10312.06
	GERMANY	4088.85	8878.54
	TURKEY	3734.26	8262.83
	NEPAL	3207.42	8529.93
	Product Total	**26181.43**	**57886.90**
NYLON FILAMENT YARN	CHINA P RP	20754.36	46450.43
	TAIWAN	916.00	2573.20
	VIETNAM SOC REP	821.00	1623.25
	SRI LANKA DSR	539.26	2356.49
	KOREA RP	519.03	1317.06
	Product Total	**23549.64**	**54320.44**
NYLON INDUSTRIAL YARN/ TYRE CORD	CHINA P RP	7968.94	21297.44
	TAIWAN	1287.53	3259.82
	INDONESIA	637.04	1728.38
	U K	372.30	1010.93
	KOREA RP	202.56	168.86
	Product Total	**10468.37**	**27465.43**
POLYESTER FILAMENT YARN	CHINA P RP	218841.09	238354.74
	INDONESIA	29540.02	38144.15
	VIETNAM SOC REP	9005.61	10562.96
	KOREA RP	7504.47	10772.21
	THAILAND	7379.95	12817.77
	Product Total	**272271.13**	**310651.83**
POLYESTER STAPLE FIBRE	CHINA P RP	28637.43	27842.94
	KOREA RP	14535.15	16140.22
	THAILAND	11366.38	9871.47
	INDONESIA	8677.33	7965.96
	MALAYSIA	7129.40	7408.11
	Product Total	**70345.68**	**69228.69**
POLYPROPYLENE FILAMENT YARN	SAUDI ARAB	180.73	285.82
	TURKEY	73.38	126.83
	TAIWAN	22.37	45.17
	KOREA RP	16.60	27.02
	PORTUGAL	8.77	37.18
	Product Total	**301.84**	**522.01**
POLYPROPYLENE STAPLE FIBRE	CHINA P RP	1888.82	2629.76
	SAUDI ARAB	695.38	1007.10
	JAPAN	123.76	120.11
	KOREA RP	63.00	89.02
	BELGIUM	57.25	116.42
	Product Total	**2828.20**	**3962.40**
ELASTOMERIC/SPANDEX FILAMENT YARN	KOREA RP	4044.37	31163.44
	CHINA P RP	2227.10	14325.63

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	SINGAPORE	1757.90	15079.12
	VIETNAM SOC REP	1744.31	12856.32
	THAILAND	519.82	3699.28
	Product Total	**10293.50**	**77123.79**
ACRYLONITRILE	CHINA P RP	59971.43	105593.05
	KOREA RP	42114.46	68962.06
	U S A	18454.66	29581.07
	TAIWAN	17262.48	28861.24
	BRAZIL	13198.51	22329.38
	Product Total	**151001.52**	**255326.80**
CAPROLACTUM	KOREA RP	31156.80	50543.76
	RUSSIA	15380.00	23521.05
	THAILAND	5600.00	8575.39
	BELGIUM	4680.00	6951.73
	U S A	1104.00	1405.61
	Product Total	**57920.80**	**57920.80**
DIMETHYL TEREPHTHALATE	TURKEY	1092.00	827.91
	KOREA RP	520.70	463.26
	GERMANY	198.00	170.23
	JAPAN	72.00	43.56
	U ARAB EMTS	60.00	41.31
	Product Total	**1942.70**	**1546.26**
MONO EHYLENE GLYCOL	KUWAIT	599484.92	308669.87
	SAUDI ARAB	224738.01	111418.79
	SINGAPORE	61687.58	34052.56
	U ARAB EMTS	12803.44	7205.25
	CHINA P RP	6993.44	3532.96
	Product Total	**905707.40**	**464879.43**
PURIFIED TEREPHTHALIC ACID	CHINA P RP	677070.81	381871.27
	THAILAND	389408.68	234548.31
	TAIWAN	342710.00	192794.42
	KOREA RP	26296.00	15786.77
	MALAYSIA	17045.00	11219.13
	Product Total	**1452530.49**	**836219.90**
LOW DENSITY POLYETHYLENE	BELGIUM	31822.29	48070.91
	U ARAB EMTS	31713.75	34324.61
	U S A	29342.50	26208.52
	SAUDI ARAB	24900.79	28000.65
	THAILAND	17742.29	22645.53
	Product Total	**135521.63**	**159250.22**
HIGH DENSITY POLYTHYLENE	U ARAB EMTS	332412.41	323871.82
	QATAR	112713.10	107373.01
	SAUDI ARAB	86553.11	80566.70
	U S A	57241.45	55733.50
	OMAN	40553.65	34238.94
	Product Total	**629473.72**	**629473.72**
POLYESTYRENE	KOREA RP	22277.44	35369.58

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	U ARAB EMTS	11685.73	12868.63
	TAIWAN	6461.41	10380.70
	THAILAND	4232.06	5679.90
	U S A	3867.66	24364.28
	Product Total	**48524.29**	**88663.09**
POLYPROPYLENE (INC. CO-POLYMER)	SINGAPORE	243090.05	285214.54
	U ARAB EMTS	243043.97	247896.88
	SAUDI ARAB	218585.06	226259.86
	CHINA P RP	120151.49	142853.19
	THAILAND	79682.44	98898.65
	Product Total	**904553.01**	**1001123.13**
EXPANDABLE POLYESTYRENE	TAIWAN	1721.76	2061.97
	CHINA P RP	1500.10	1741.84
	KOREA RP	1209.45	1546.28
	U ARAB EMTS	773.20	804.93
	U S A	209.59	268.13
	Product Total	**5414.10**	**6423.15**
POLY VINYL CHLORIDE	THAILAND	89460.85	107404.25
	TAIWAN	72057.48	84474.37
	KOREA RP	62592.58	56838.45
	CHINA P RP	60130.79	72976.00
	JAPAN	53235.45	61927.20
	Product Total	**337477.15**	**337477.15**
LINEAR LOW DENSITY POLYTHYLENE	U ARAB EMTS	52455.04	48552.39
	SINGAPORE	34306.13	33586.43
	MALAYSIA	26719.72	21815.06
	SAUDI ARAB	24215.99	23537.35
	QATAR	20839.35	19793.21
	Product Total	**158536.23**	**147284.44**
PVC COMPOUND	BELGIUM	108.42	30.03
	CHINA P RP	0.10	0.74
	GERMANY	20.24	6.99
	NETHERLAND	46.84	13.02
	SEYCHELLES	1.63	2.06
	Product Total	**177.22**	**52.83**
STYRENE BUTADIENE RUBBER	KOREA RP	54925.51	80292.14
	POLAND	31822.55	45887.78
	RUSSIA	15984.67	22798.77
	THAILAND	7469.55	14084.30
	GERMANY	7381.48	10233.66
	Product Total	**117583.76**	**173296.65**
POLY BUTADIENE RUBBER	KOREA RP	33874.50	54417.91
	RUSSIA	13581.79	20254.57
	SAUDI ARAB	10609.68	14090.85
	U ARAB EMTS	10507.68	13653.55
	GERMANY	8507.99	12810.61
	Product Total	**77081.64**	**115227.49**

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
ETHYL PROPYLENE DIMERS	KOREA RP	14667.24	31960.73
	U S A	9936.07	19395.43
	SAUDI ARAB	6775.57	13644.87
	JAPAN	5596.36	11974.54
	SINGAPORE	1723.25	3472.11
	Product Total	**38698.49**	**80447.67**
ETHYL VINYL ACETATE	KOREA RP	70699.78	156800.81
	SAUDI ARAB	46437.80	91079.64
	THAILAND	16174.01	34735.97
	TAIWAN	10388.73	24684.19
	BELGIUM	10099.07	19589.70
	Product Total	**153799.39**	**326890.31**
NITRILE BUTADIENE RUBBER	KOREA RP	14842.72	29304.69
	JAPAN	5758.43	12087.03
	RUSSIA	4824.25	7632.48
	MALAYSIA	4124.02	7993.23
	BELGIUM	2146.61	4995.92
	Product Total	**31696.03**	**62013.34**
BUTYL RUBBER	RUSSIA	26763.22	44147.56
	SINGAPORE	23653.75	44225.49
	U S A	10388.33	17410.32
	U K	9322.03	20502.67
	JAPAN	5439.80	10905.17
	Product Total	**75567.13**	**137191.20**
LINEAR ALKYL BENZENE	SAUDI ARAB	156120.34	193439.67
	QATAR	37208.93	45021.43
	SPAIN	27552.03	35824.25
	THAILAND	24683.67	30798.52
	U ARAB EMTS	17066.72	8454.23
	Product Total	**262631.70**	**313538.09**
ETHYLENE OXIDE	ARGENTINA	0.06	12.64
	BELGIUM	0.19	3.20
	CHINA P RP	86.95	2525.96
	TURKEY	0.10	5.55
	U S A	16.33	334.53
	Product Total	**103.62**	**2881.87**
ABS RESIN	KOREA RP	67841.19	126495.36
	TAIWAN	19990.62	37822.59
	SAUDI ARAB	7137.03	12699.08
	THAILAND	4548.60	9093.37
	MALAYSIA	3886.86	6803.28
	Product Total	**103404.30**	**192913.68**
POLYMETHYL METHACRYLATE	KOREA RP	12130.20	25274.84
	SAUDI ARAB	4526.47	6561.63
	SINGAPORE	4309.22	7219.87
	CHINA P RP	1013.88	2062.97

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	BELGIUM	868.12	2123.82
	Product Total	**22847.89**	**43243.13**
STYRENE ACRYLONITRILE	KOREA RP	9083.23	13284.32
	JAPAN	4100.52	5606.89
	THAILAND	2019.80	2953.80
	CHINA P RP	1546.88	2043.84
	GERMANY	858.80	1242.59
	Product Total	**17609.22**	**25131.44**
POLYESTER CHIPS/PET CHIPS	VIETNAM SOC REP	25333.00	21610.12
	CHINA P RP	24986.83	20198.05
	TAIWAN	15011.57	12435.12
	U S A	10124.91	3236.50
	U ARAB EMTS	6586.39	2804.28
	Product Total	**82042.70**	**60284.08**
POLYTETRAFLUOROETHYLENE(PTFE)	CHINA P RP	956.52	6871.56
	RUSSIA	627.44	3288.93
	U S A	363.13	3596.24
	NETHERLAND	342.22	3676.80
	ITALY	316.48	1932.27
	Product Total	**2605.80**	**19365.80**
BUTADIENE	CHINA P RP	22.00	114.38
	GERMANY	2.17	23.73
	Product Total	**24.17**	**138.11**
ETHYLENE	MALAYSIA	19577.75	17861.09
	U ARAB EMTS	19150.85	13952.67
	SAUDI ARAB	16184.97	11172.56
	THAILAND	7406.46	6520.26
	CHINA P RP	49.30	205.19
	Product Total	**62369.34**	**49711.76**
PROPYLENE	U ARAB EMTS	17492.18	13453.57
	THAILAND	9310.23	8661.77
	KOREA RP	2278.38	2143.66
	CHINA P RP	379.98	1950.71
	BELGIUM	5.42	18.23
	Product Total	**29466.19**	**26227.93**
BENZENE	GERMANY	0.14	7.44
	NETHERLAND	4194.69	2706.27
	SPAIN	0.01	0.06
	U S A	0.02	10.35
	Product Total	**4194.85**	**2724.12**
MIXED XYLENE	KOREA RP	25.89	26.59
	BELGIUM	14.00	16.09
	JAPAN	0.22	7.09
	GERMANY	0.09	8.40
	SWITZERLAND	0.08	1.21
	Product Total	**40.28**	**59.38**
ORTHO-XYLENE	SINGAPORE	5437.37	3504.99

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	OMAN	4517.49	3203.59
	KOREA RP	4113.73	3158.96
	IRAN	2006.09	1350.71
	U ARAB EMTS	315.00	212.78
	Product Total	**16389.68**	**11431.03**
TOLUENE	THAILAND	188871.37	120621.76
	KOREA RP	107467.83	67494.44
	U ARAB EMTS	49345.95	31832.20
	SINGAPORE	41853.90	23950.58
	TAIWAN	31914.66	20671.79
	Product Total	**419453.71**	**264570.77**
PARAXYLENE	SAUDI ARAB	221421.04	153853.20
	JAPAN	198630.87	135434.13
	SINGAPORE	133809.82	91687.18
	OMAN	49554.53	31984.35
	KOREA RP	0.40	3.45
	Product Total	**603416.65**	**412962.31**
ETHYLENE DICHLORIDE	SAUDI ARAB	274684.11	162129.80
	U S A	195616.47	125837.83
	QATAR	111232.10	63745.60
	TAIWAN	23990.09	15393.68
	INDONESIA	10490.24	6785.04
	Product Total	**616013.01**	**373891.94**
BUTANOL	MALAYSIA	10310.12	13651.39
	CHINA P RP	5791.17	7031.68
	SOUTH AFRICA	5568.45	7029.68
	SAUDI ARAB	2458.00	2405.75
	U S A	2371.80	3202.45
	Product Total	**26499.54**	**33320.95**
OXO ALCOHOL	SINGAPORE	1021.30	1570.65
	THAILAND	635.03	1248.42
	MALAYSIA	624.23	952.15
	INDONESIA	567.34	981.20
	CHINA P RP	102.03	420.38
	Product Total	**2949.94**	**5172.79**
2-ETHYL HEXANOL	MALAYSIA	5265.70	7037.84
	BELGIUM	3550.69	5271.46
	NETHERLAND	2002.99	3042.64
	TAIWAN	1813.36	2655.59
	GERMANY	630.00	402.76
	Product Total	**13262.74**	**18410.28**
VINYL CHLORIDE MONOMER	QATAR	371686.88	327181.41
	JAPAN	75339.02	90138.04
	FRANCE	54757.53	50420.34
	INDONESIA	53717.15	56829.58
	TAIWAN	8700.65	9616.61
	Product Total	**564201.22**	**534185.97**

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
EPICHLOHYDRINE	THAILAND	48615.17	85156.10
	BELGIUM	5398.22	8133.91
	CHINA P RP	4653.34	9321.09
	TAIWAN	3019.60	5836.75
	KOREA RP	2459.37	6175.54
ISO BUTYLENE	**Product Total**	**64145.70**	**114623.39**
	CHINA P RP	53.07	107.73
	U S A	0.75	34.66
	POLAND	0.01	0.10
	PHILIPPINES	0.00	0.05
	KOREA RP	0.00	0.27
	Product Total	**53.83**	**142.81**
METAXYLENE	JAPAN	4707.62	4178.01
	THAILAND	17.94	22.45
	GERMANY	0.09	6.31
	U S A	0.02	0.44
	SWITZERLAND	0.02	0.65
METHYL ISOBUTYL KETONE	**Product Total**	**4725.68**	**4207.86**
	KOREA RP	27242.13	47408.25
	SOUTH AFRICA	5317.07	7833.96
	NETHERLAND	2229.95	3422.57
	U S A	1525.05	2496.92
	JAPAN	541.45	1098.58
	Product Total	**36855.63**	**62260.28**
PIB	KOREA RP	10880.21	13239.46
	MALAYSIA	3573.28	4516.41
	U S A	2221.64	2569.21
	FRANCE	724.57	1469.57
	CHINA P RP	368.84	666.68
	Product Total	**17768.54**	**22461.32**
POLYCARBONATE	THAILAND	79135.02	165241.86
	KOREA RP	46514.93	127042.09
	SPAIN	21841.40	42863.22
	CHINA P RP	19656.25	43262.68
	SAUDI ARAB	13396.70	28788.15
	Product Total	**180544.30**	**407198.00**
PROPYLENE OXIDE	SAUDI ARAB	9134.05	15724.46
	SINGAPORE	7403.52	8269.76
	KOREA RP	1627.21	3368.67
	THAILAND	1077.62	2095.40
	CHINA P RP	720.00	1785.17
PROPYLENE GLYCOL	**Product Total**	**19962.40**	**31243.45**
	SINGAPORE	17587.03	36100.34
	CHINA P RP	13645.33	28575.02
	SAUDI ARAB	12807.00	26671.15
	KOREA RP	8351.28	18890.38
	THAILAND	5968.41	12284.29

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	Product Total	**58359.04**	**122521.18**
POLYVINYL ACETATE RESIN	GERMANY	2190.84	3358.22
	CHINA P RP	823.45	1743.62
	BELGIUM	422.10	746.63
	NETHERLAND	401.99	775.88
	INDONESIA	111.60	118.11
	Product Total	**3949.98**	**6742.45**
UNSATURATED POLYSTER RESIN	CHINA P RP	20392.95	40144.13
	TAIWAN	10316.85	18852.06
	MALAYSIA	6388.63	12431.17
	KOREA RP	2951.46	7305.89
	ITALY	1877.43	4053.68
	Product Total	**41927.32**	**82786.92**
ETHYL BENZENE	CHINA P RP	581.39	791.99
	U S A	252.13	271.97
	NETHERLAND	40.36	65.39
	KOREA RP	37.96	54.22
	GERMANY	21.22	38.18
	Product Total	**933.06**	**1221.75**
CELLULOSE ACETATE BUTYRATE	U S A	57.16	105.71
	Product Total	**57.16**	**105.71**
CELLULOSE ACETATE SHEET	CHINA P RP	855.93	1052.49
	ITALY	759.85	389.91
	HONG KONG	21.59	127.89
	TAIWAN	7.15	55.60
	U S A	0.02	2.52
	Product Total	**1644.53**	**1628.40**
CELLULOSE NITRATE SHEET	U K	236.42	49.18
	CHINA P RP	100.25	267.77
	POLAND	70.01	14.89
	GERMANY	47.06	9.67
	BELGIUM	45.01	12.37
	Product Total	**498.75**	**353.88**
MELAMINE MOULDING POWDER	THAILAND	3724.96	6287.37
	CHINA P RP	3237.32	4408.71
	JAPAN	1653.28	2844.46
	TAIWAN	1463.48	2484.66
	NORWAY	1105.22	1850.97
	Product Total	**11184.26**	**17876.17**
POLYACETAL RESIN	MALAYSIA	12961.83	18430.23
	KOREA RP	11716.24	18161.87
	THAILAND	10138.05	14915.43
	U S A	4331.06	6016.52
	SINGAPORE	2390.33	3925.55
	Product Total	**41537.52**	**61449.61**
PHTHALIC ANHYDRIDE	TAIWAN	36504.00	28152.03
	KOREA RP	30376.18	22905.17

PRODUCT	COUNTRY	QUANTITY (MT)	VALUE (RS. LAKHS)
(1)	(2)	(3)	(4)
	CHINA P RP	17452.53	13035.30
	INDONESIA	14577.30	10475.70
	THAILAND	9349.34	7621.56
	Product Total	**108259.34**	**82189.76**
STYRENE	SINGAPORE	347752.89	305659.52
	KUWAIT	170193.53	151943.02
	KOREA RP	137369.50	127878.52
	SAUDI ARAB	93743.12	82387.04
	CHINA P RP	46848.53	45223.72
	Product Total	**795907.55**	**713091.81**
VINYL ACTATE MONOMER	SINGAPORE	83321.61	122775.18
	SAUDI ARAB	57149.68	77553.11
	CHINA P RP	25824.34	34944.78
	KOREA RP	9912.37	13089.83
	U S A	1614.71	2701.31
	Product Total	**177822.71**	**251064.21**
ISOPROPANOL	CHINA P RP	40883.65	33600.14
	KOREA RP	36798.60	29815.32
	TAIWAN	27889.74	23263.91
	U S A	8759.02	7037.91
	NETHERLAND	7456.50	6410.56
	Product Total	**121787.51**	**100127.84**
POLYOL	THAILAND	41594.58	81316.91
	CHINA P RP	40890.92	75995.68
	SINGAPORE	30624.00	58911.65
	KOREA RP	22871.87	41610.24
	TAIWAN	8127.31	21023.14
	Product Total	**144108.68**	**278857.62**

Source: *DGCIS, Kolkata, M/o Commerce and Industry*

Table 29: Exchange Rates of Indian Rupee vis-a-vis US$

MONTH	RS./US$
(1)	(2)
March 2022	76.24
February 2022	75.00
January 2022	74.44
December 2021	75.37
November 2021	74.50
October 2021	74.92
September 2021	73.56
August 2021	74.18
July 2021	74.53
June 2021	73.56
May 2021	73.27
April 2021	74.47
March 2021	72.79
February 2021	72.76
January 2021	73.11
December 2020	73.59
November 2020	74.22
October 2020	73.46
September 2020	73.48
August 2020	74.67
July 2020	74.99
June 2020	75.73
May 2020	75.66
April 2020	76.24
March 2020	74.35
February 2020	71.49
January 2020	71.31
December 2019	71.19
November 2019	71.45
October 2019	71.04
September 2019	71.33
August 2019	71.15
July 2019	68.81
June 2019	69.44
May 2019	69.77
April 2019	69.43

Note: *Worked out on the basis of average daily exchange rates, as notified by RBI.*
Source: 1. *https://www.rbi.org.in/scripts/ReferenceRateArchive.aspx*
2. *https://www.fbil.org.in*

Table 30: World Exports of Chemicals by top 10 countries - 2021

HS Code			Rank										World Export
			1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
	28	Country	China	Germany	USA	Japan	Rep. of Korea	Australia	Netherlands	Canada	United Kingdom	Brazil	
		Trade Value	23602	14724	14197	9401	7774	6349	5415	4569	4369	4292	153661
	29	Country	China	USA	Ireland	Germany	Switzerland	Rep. of Korea	Netherlands	India	Japan	Belgium	
		Trade Value	82584	44307	37138	31032	29688	23490	22453	21184	18334	17293	471015
	30	Country	Germany	Switzerland	USA	Belgium	Ireland	Italy	France	China	Netherlands	United Kingdom	
		Trade Value	119270	101559	89654	73681	67540	48531	39028	38552	37186	26168	829888
	31	Country	Russian Federation	China	Canada	Morocco	USA	Saudi Arabia	Netherlands	Germany	Qatar	Belgium	
		Trade Value	12495	11472	6650	5716	5051	3595	2928	2729	2410	1851	80793
	32	Country	Germany	China	USA	Japan	Netherlands	Italy	India	United Kingdom	France	Spain	
		Trade Value	14158	10444	8430	5433	5407	3987	3843	3545	3526	3505	93752
	38	Country	USA	Germany	China	Netherlands	France	Japan	United Kingdom	Italy	Belgium	Rep. of Korea	
		Trade Value	38692	33261	28426	19807	14873	14627	8709	8707	7569	7275	280652
	39	Country	China	USA	Germany	Rep. of Korea	Netherlands	Japan	Italy	Other Asia, nes	France	Belgium	
		Trade Value	131074	79082	73696	43196	32363	30349	26639	26465	25736	23956	790445
	4002	Country	Rep. of Korea	USA	Japan	Thailand	Viet Nam	Russian Federation	Other Asia, nes	Germany	China	Malaysia	
		Trade Value	4052	2616	2469	2305	2046	1898	1773	1716	1355	1046	28130

		Rank										World Export
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
54	Country	China	Other Asia, nes	Rep. of Korea	India	Italy	Turkey	Japan	Viet Nam	USA	Germany	
	Trade Value	25580	2554	2548	2341	1946	1871	1866	1789	1611	1365	55346
55	Country	China	Indonesia	USA	India	Turkey	Rep. of Korea	Thailand	Austria	Italy	Japan	
	Trade Value	12938	2261	2162	1905	1728	1612	1275	1201	1071	1065	37286
All Chemicals@	**Country**	**China**	**Germany**	**USA**	**Switzerland**	**Belgium**	**Netherlands**	**Ireland**	**France**	**Italy**	**Rep. of Korea**	
	Trade Value	**366027**	**292943**	**285801**	**142139**	**132711**	**127498**	**112306**	**103563**	**103138**	**102063**	**2820969**
All Chemicals excluding Pharmaceuticals	**Country**	**China**	**USA**	**Germany**	**Rep. of Korea**	**Netherlands**	**Japan**	**France**	**Belgium**	**Italy**	**Other Asia, nes**	
	Trade Value	**327475**	**196147**	**173673**	**93624**	**90312**	**83714**	**64535**	**59029**	**54607**	**51558**	**1991081**

@-Includes all products covered under the HS code 28, 29, 30, 31, 32, 38, 39, 4002, 54 and 55

Chapter 28: Inorganic Chemicals; Organic or Inorganic Compounds of Precious Metals, of Rare-Earth Metals, of Radioactive Elements or of Isotopes;

Chapter 29: Organic Chemicals; **Chapter30:** Pharmaceutical products; **Chapter 31:** Fertilizers ;

Chapter 32: Tanning or Dyeing Extracts; Tannins and their Derivatives; Dyes, Pigments and Other Colouring Matter; Paints and Varnishes; Putty and other Mastics Inks;

Chapter 38: Miscellaneous Chemical Products; **Chapter 39:** Plastics and articles thereof;

4002: Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any pro;

Chapter 54: Man-made Filaments and **Chapter 55:** Man-made staple fibres

Source: http://comtrade.un.org./ (UN Comtrade Database)

Table 31: World Imports of Chemicals by top 10 countries - 2021

			Rank										World Export
			1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
HS Code	28	Country	China	USA	Rep. of Korea	India	Germany	Japan	France	Canada	Netherlands	Mexico	
		Trade Value	14995	13789	11024	9639	7742	7727	5074	4793	4263	3621	153434
	29	Country	USA	China	Germany	Belgium	India	Italy	Netherlands	Japan	France	Rep. of Korea	
		Trade Value	64425	60471	40553	31952	27247	19153	17113	16785	16632	15973	515815
	30	Country	USA	Germany	Belgium	Switzerland	China	Japan	France	Italy	United Kingdom	Netherlands	
		Trade Value	149500	80660	47104	43873	41887	37289	34000	30893	27073	25588	822407
	31	Country	Brazil	USA	India	France	Australia	China	Thailand	Argentina	Canada	Indonesia	
		Trade Value	16624	10289	9117	2833	2817	2765	2295	2285	2208	2204	95031
	32	Country	Germany	China	USA	France	Netherlands	Italy	Rep. of Korea	Mexico	India	Canada	
		Trade Value	7308	6067	5207	4461	3701	3231	2968	2652	2544	2541	91675
	38	Country	China	Germany	USA	Netherlands	United Kingdom	France	Italy	Rep. of Korea	Mexico	India	
		Trade Value	24379	22596	21960	16274	13137	11793	9424	9216	7872	7779	291489
	39	Country	China	USA	Germany	France	Mexico	Italy	Poland	United Kingdom	Netherlands	Canada	
		Trade Value	84347	82463	55191	29984	29733	27512	21206	21047	20848	20579	775153
	4002	Country	China	Malaysia	USA	Thailand	Germany	India	Viet Nam	Indonesia	Turkey	Italy	
		Trade Value	8292	2482	1645	1576	1313	1258	898	884	795	764	30264
	54	Country	Viet Nam	China	Turkey	USA	Indonesia	Brazil	Italy	Germany	India	Mexico	
		Trade Value	3595	2853	2269	2250	1639	1625	1594	1556	1500	1159	42551
	55	Country	Viet Nam	USA	China	Turkey	Germany	Italy	Cambodia	India	Brazil	Indonesia	
		Trade Value	2587	1939	1882	1693	1673	1192	1119	1058	1055	1007	34309
All Chemicals@		**Country**	**USA**	**China**	**Germany**	**Belgium**	**France**	**Italy**	**Japan**	**Netherlands**	**India**	**United Kingdom**	**2852129**
		Trade Value	**353467**	**247938**	**219993**	**107017**	**106841**	**97621**	**90701**	**90619**	**82697**	**81433**	

		Rank										World Export
		1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	
All Chemicals excluding Pharmaceuticals	Country	China	USA	Germany	India	France	Italy	Nether-lands	Belgium	Mexico	Rep. of Korea	2029722
	Trade Value	206050	203968	139334	79400	72840	66728	65031	59913	59116	56427	

@-Includes all products covered under the HS code 28, 29, 30, 31, 32, 38, 39, 4002, 54 and 55

Chapter 28: Inorganic Chemicals; Organic or Inorganic Compounds of Precious Metals, of Rare-Earth Metals, of Radioactive Elements or of Isotopes;

Chapter 29: Organic Chemicals; **Chapter30:** Pharmaceutical products; **Chapter 31:** Fertilizers ;

Chapter 32: Tanning or Dyeing Extracts; Tannins and their Derivatives; Dyes, Pigments and Other Colouring Matter; Paints and Varnishes; Putty and other Mastics Inks;

Chapter 38: Miscellaneous Chemical Products; **Chapter 39:** Plastics and articles thereof;

4002: Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any pro;

Chapter 54: Man-made Filaments and **Chapter 55:** Man-made staple fibres

Source: http://comtrade.un.org./ (UN Comtrade Database)

Table 32: India's share in World Exports and Imports of Chemicals - 2021

Value in US$ Million

HS Code	Commodity	Export				Import			
		Trade Value		% of World Export	Rank in the World	Trade Value		% of World Import	Rank in the World
		India	World			India	World		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
28	INORGANIC CHEMICALS	2410	153661	1.57	15	9639	153434	6.28	4
29	ORGANIC CHEMICALS	21184	471015	4.50	8	27247	515815	5.28	5
30	PHARMACEUTICAL PRODUCTS	19461	829888	2.34	12	3297	822407	0.40	43
31	FERTILISERS.	85	80793	0.11	58	9117	95031	9.59	3
32	TANNING OR DYEING	3843	93752	4.10	7	2544	91675	2.77	9
38	MISCELLANEOUS CHEMICAL PRODUCTS.	6474	280652	2.31	14	7779	291489	2.67	10
39	PLASTIC AND ARTICLES THEREOF	8555	790445	1.08	24	19258	775153	2.48	12
4002	SYNTHETIC RUBBER AND FACTICE	134	28130	0.48	26	1258	30264	4.16	6
54	MAN-MADE FILAMENTS	2341	55346	4.23	4	1500	42551	3.52	9
55	MAN-MADE STAPLE FIBRES	1905	37286	5.11	4	1058	34309	3.08	8
All Chemicals @		**66391**	**2820969**	2.35	**13**	**82697**	**2852129**	2.90	**9**
Chemicals (excluding Pharmaceutical Products)		**46930**	**1991081**	2.36	**11**	**79400**	**2029722**	3.91	**4**
Total of All HS Code Commodities		**394814**	**21943638**	1.80	**18**	**570402**	**21931327**	2.60	**11**

@-Includes all products covered under the HS code 28, 29, 30, 31, 32, 38, 39, 4002, 54 and 55

Chapter 28: Inorganic Chemicals; Organic or Inorganic Compounds of Precious Metals, of Rare-Earth Metals, of Radioactive Elements or of Isotopes;
Chapter 29: Organic Chemicals; **Chapter30:** Pharmaceutical products; **Chapter 31:** Fertilizers ;
Chapter 32: Tanning or Dyeing Extracts; Tannins and their Derivatives; Dyes, Pigments and Other Colouring Matter; Paints and Varnishes; Putty and other Mastics Inks;
Chapter 38: Miscellaneous Chemical Products; **Chapter 39:** Plastics and articles thereof;
4002: Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any pro;
Chapter 54: Man-made Filaments and **Chapter 55:** Man-made staple fibres
Source: http://comtrade.un.org./ (UN Comtrade Database)

Section - IV

Foreign Direct Investment (FDI)

Section - IV

Foreign Direct Investment (FDI)

Table 33: Sectors Attracting Highest FDI Equity Inflowsfrom the FY 2019-20 to FY 2021-22

Amount in Rs. crores (US$ in million)

Ranks	Sector	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)
1.	**SERVICES SECTOR ***	55,429 (7,854)	37,542 (5,060)	53,165 (7,131)
2.	**COMPUTER SOFTWARE & HARDWARE**	54,250 (7,673)	1,94,291 (26,145)	1,07,762 (14,461)
3.	**TELECOMMUNICATIONS**	30,940 (4,445)	2,884 (392)	4,980 (668)
4.	**TRADING**	32,406 (4,574)	19,349 (2,608)	33,779 (4,538)
5.	**CONSTRUCTION DEVELOPMENT: Townships, housing, built-up infrastructure and construction-development projects**	4,350 (617)	3,117 (422)	932 (125)
6.	**AUTOMOBILE INDUSTRY**	19,753 (2,824)	12,115 (1,637)	51,624 (6,994)
7.	**CHEMICALS (OTHER THAN FERTILIZERS)**	7,492 (1,058)	6,300 (847)	7,202 (966)
8.	**CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES**	14,510 (2,042)	58,240 (7,875)	24,178 (3,248)
9.	**DRUGS & PHARMACEUTICALS**	3,650 (518)	11,015 (1,490)	10,552 (1,414)
10.	**METALLURGICAL INDUSTRIES**	14,970 (2,101)	10,002 (1,340)	16,783 (2,272)

Note:

(i) Services sector includes Financial, Banking, Insurance, Non-Financial/Business, Outsourcing, R&D, Courier, Tech.*

(ii) FDI Sectoral data has been revalidated / reconciled in line with the RBI, which reflects minor changes in the FDI figures (increase/decrease) as compared to the earlier published sectoral data.

(iii) Figures are provisional.

(iv) Source: https://dpiit.gov.in/sites/default/files/FDI_Factsheet_December_2022.pdf

Section - V

Index of Industrial Production (IIP)

Section - V

Index of Industrial Production (IIP)

Table 34: Monthly Production Growth in 'Chemicals and Chemical Products' vis-a-vis Manufacturing Sector in the FY 2021-22 (Based on IIP with Base year: 2011-12)

Period	Chemicals and chemical products	Manufacturing	General
Weight	**7.87**	**77.63**	**100.00**
Index of Industrial Production (Base Year : 2011-12=100)			
Mar / 2021	127.9	143.3	145.6
Apr / 2021	118.1	124.6	126.1
May / 2021	109.1	111.5	115.1
Jun / 2021	116.3	121.2	122.8
Jul / 2021	128.0	131.0	131.5
Aug / 2021	124.8	131.9	132.4
Sep / 2021	124.3	131.9	129.5
Oct / 2021	125.9	136.4	135.0
Nov / 2021	118.1	128.9	128.0
Dec / 2021	125.9	139.8	138.8
Jan / 2022	124.9	139.2	139.3
Feb / 2022	115.3	129.9	131.4
Mar / 2022	121.1	145.3	148.8
Production Growth (%)			
Apr / 2021	-7.7	-13.0	-13.4
May / 2021	-7.6	-10.5	-8.7
Jun / 2021	6.6	8.7	6.7
Jul / 2021	10.1	8.1	7.1
Aug / 2021	-2.5	0.7	0.7
Sep / 2021	-0.4	0.0	-2.2
Oct / 2021	1.3	3.4	4.2
Nov / 2021	-6.2	-5.5	-5.2
Dec / 2021	6.6	8.5	8.4
Jan / 2022	-0.8	-0.4	0.4
Feb / 2022	-7.7	-6.7	-5.7
Mar / 2022	5.0	11.9	13.2

Source: *Ministry of Statistics and Programme Implementation*

Table 35: Annual Production Growth in Chemicals and Chemical Products vis-a-vis Manufacturing Sector from the FY 2015-16 to FY 2020-21 (Based on IIP with Base year: 2011-12)

Years	Chemicals and Chemical Products	Manufacturing	General
Weight	**7.87**	**77.63**	**100.00**
Index of Industrial Production (Base Year: 2011-12=100)			
2015-16	113.7	115.9	114.7
2016-17	116.5	121.0	120.0
2017-18	116.1	126.6	125.3
2018-19	119.0	131.5	130.1
2019-20	118.5	129.6	129.0
2020-21	116.0	117.2	118.1
2021-22	121.0	131.0	131.6
Production Growth (%)			
2016-17	2.5	4.4	4.6
2017-18	-0.3	4.6	4.4
2018-19	2.5	3.9	3.8
2019-20	-0.4	-1.4	-0.8
2020-21	-2.1	-9.6	-8.4
2021-22	4.3	11.8	11.4

Source: *Ministry of Statistics and Programme Implementation*

Table 36: Weights of Products Covered Under Chemicals and Chemical Products (Industry Division 20 of NIC- 2008) in the Index of Industrial Production for Manufacting Sector.

NIC 2008	Item groups	Weights (in %)	Name of Source Agencies
(1)	(2)	(3)	(4)
20111	Oxygen	0.0423	DPIIT
20112	Acetic Acid	0.0191	DCPC
20112	Phosphoric acid	0.0157	DPIIT
20112	Purified Terephthalic Acid (PTA)	0.3512	DCPC
20112	Sulphuric Acid	0.0479	DPIIT
20114	Dyes and pigments	0.2355	DCPC
20115	ABS resin	0.0188	DCPC
20116	Calcium Carbonate	0.0572	DCPC
20116	Caustic soda (sodium hydroxide)	0.1638	DCPC
20116	Ethyl acetate	0.0571	DCPC
20116	Isopropyl alcohol	0.0178	DCPC
20116	Monoethylene glycol, MEG	0.0413	DCPC
20116	Soda ash/ washing soda	0.1200	DCPC
20116	Titanium dioxide	0.0362	DCPC
20116	Zinc sulphate	0.0150	DPIIT
20118	Aromatic Chemicals	0.0806	DPIIT
20119	Aniline	0.0154	DCPC
20119	Butadiene	0.0335	DCPC
20119	Catalyst, chemical	0.0415	DPIIT
20119	Expandable Polystyrene , EPS (thermocol)	0.0521	DCPC
20119	Fatty Acid	0.0254	DIPP
20119	Linear Alkyl Benzene	0.0563	DCPC
20119	Liquid chlorine	0.0595	DCPC
20119	Phthalic anhydride, PAN	0.0353	DCPC
20119	Polyol	0.0636	DCPC
20119	Sodium Silicate	0.0204	DPIIT
20121	Urea	0.5590	D/o Fertilizers
20122	NPK fertilizers	0.3897	D/o Fertilizers
20123	Ammonia	0.2101	DPIIT
20123	Ammonium nitrate	0.0118	DPIIT
20123	Ammonium sulphate	0.0261	DPIIT
20123	Formaldehyde	0.0121	DCPC
20123	Nitric Acid	0.0181	DPIIT
20129	Diammonium Phosphate (DAP)	0.0761	D/o Fertilizers
20129	Superphosphate	0.0332	D/o Fertilizers
20131	Polyester chips or Polyethylene terepthalate(PET) chips	0.1108	DCPC
20131	Polymers (incl. Polyethylene, PVC, Poly propylene)	0.5954	DCPC
20131	PTFE (TEFLON)	0.0244	DCPC
20132	Caprolactam	0.0457	DCPC
20132	Synthetic rubber (incl. PBR, SBR)	0.0295	DCPC
20211	Detergent powder and washing powder	0.2578	DPIIT

NIC 2008	Item groups	Weights (in %)	Name of Source Agencies
(1)	(2)	(3)	(4)
20211	Pesticides-technical grade	0.2116	DCPC
20221	Paints (all types)	0.3874	DPIIT
20221	Varnish (all types)	0.0209	DPIIT
20223	Printing ink	0.0795	DPIIT
20229	Thinner	0.0110	DPIIT
20231	Toilet soap (excl. baby soap)- incl. liquid soap and foam	0.6078	DPIIT
20232	Organic surface active agents/ surfactants, except soap (incl. dishwashing soaps, wetting and cleansing agents)	0.1378	DPIIT
20233	Detergent cake, washing soap cake/ bar	0.4607	DPIIT
20235	Tooth paste	0.3223	DPIIT
20236	Hair dye	0.0468	DPIIT
20236	Hair oil	0.0556	DPIIT
20236	Hair shampoo	0.0929	DPIIT
20237	Creams and lotions for topical application	0.1255	DPIIT
20238	Agarbatti	0.1706	DPIIT
20291	Safety matches (match box)	0.0638	DPIIT
20292	Fire works/pyrotechnic articles	0.0366	DPIIT
20292	Gun powder, detonators/ prepared explosives	0.0397	DPIIT
20293	Fragrances & Oil essentials	0.1967	DPIIT
20295	Adhesive formulations other than natural gum	0.3985	DPIIT
20295	Gelatin	0.0233	DPIIT
20297	Methanol	0.0291	DCPC
20299	Hydrogen Peroxide	0.0500	DCPC
20299	Mosquito coil	0.0215	DPIIT
20302	Man-made fibres (incl. Viscose and Artificial Fibres)	0.1614	DCPC & O/o Textile Commissioner

Source: *Ministry of Statistics and Programme Implementation*
DPIIT: *Department for Promotion of Industry and Internal Trade*
DCPC: *Department of Chemicals and Petrochemicals*

Section - VI

Inflation Based on Wholesale Price Index (WPI)

Section - VI

Inflation Based on Wholesale Price Index (WPI)

Table 37: Annual Inflation of Chemicals & Chemical products vis-à-vis other commodities from the FY 2016-17 to FY 2021-22 (Based on WPI with base year: 2011-12)

Year	All Commodities	Food Articles	Manufactured Products	Chemicals & Chemical Products
Weight (%)	**100**	**15.26**	**64.23**	**6.47**
Inflation (%)				
2015-2016	109.70	134.90	109.20	112.60
2016-2017	111.60	140.30	110.70	111.00
2017-2018	114.90	143.20	113.80	112.50
2018-2019	119.80	143.70	117.90	119.10
2019-2020	121.80	155.80	118.30	117.50
2020-2021	123.40	160.70	121.50	118.20
2021-2022	139.40	167.30	135.00	133.50
Wholesale Price Index(Base Year: 2011-12=100)				
2016-2017	1.73	4.00	1.37	-1.42
2017-2018	2.96	2.07	2.80	1.35
2018-2019	4.26	0.35	3.60	5.87
2019-2020	1.67	8.42	0.34	-1.34
2020-2021	1.31	3.15	2.70	0.60
2021-2022	12.97	4.11	11.11	12.94

Source: *Office of the Economic Advisor (http://eaindustry.nic.in)*

Table 38:- Monthly Inflation of Chemicals & Chemical Products vis-a-vis other commodities in the FY 2021-22 (Based on WPI with base year: 2011-12)

Month	All Commodities	Food Articles	Manufactured Products	Chemicals & Chemical Products
(1)	(2)	(3)	(4)	(5)
Whole Sale Price Index (Base Year: 2011-12)				
Mar / 2021	129.90	156.40	127.90	125.60
Apr / 2021	132.00	161.60	129.90	128.00
May / 2021	132.90	159.60	131.50	128.40
Jun / 2021	133.70	160.50	131.60	128.30
Jul / 2021	135.00	161.50	132.30	129.30
Aug / 2021	136.20	161.70	133.20	130.30
Sep / 2021	137.40	164.10	134.00	131.10
Oct / 2021	140.70	171.60	135.90	134.30
Nov / 2021	143.70	178.30	136.60	136.40
Dec / 2021	143.30	176.70	136.50	136.80
Jan / 2022	143.80	172.00	137.20	137.50
Feb / 2022	145.30	170.40	138.90	139.20
Mar / 2022	148.90	169.60	142.30	142.30
Growth (%)				
Apr / 2021	1.6	3.3	1.6	1.9
May / 2021	0.7	-1.2	1.2	0.3
Jun / 2021	0.6	0.6	0.1	-0.1
Jul / 2021	1.0	0.6	0.5	0.8
Aug / 2021	0.9	0.1	0.7	0.8
Sep / 2021	0.9	1.5	0.6	0.6
Oct / 2021	2.4	4.6	1.4	2.4
Nov / 2021	2.1	3.9	0.5	1.6
Dec / 2021	-0.3	-0.9	-0.1	0.3
Jan / 2022	0.3	-2.7	0.5	0.5
Feb / 2022	1.0	-0.9	1.2	1.2
Mar / 2022	2.5	-0.5	2.4	2.2

Source: *Office of the Economic Advisor (http://eaindustry.nic.in)*

Table 39 :- WPI (Base year 2011-12) of Chemicals & Chemical Products (Group-wise) from the FY 2016-17 to FY 2021-22

DESCRIPTION	WEIGHT (%)	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Chemicals and Chemical Products	**6.47**	**111.00**	**112.50**	**119.10**	**117.50**	**118.20**	**133.50**
Basic Chemicals	**1.43**	104.70	111.20	125.00	119.90	118.60	143.80
Fertilizers and Nitrogen Compounds	**1.48**	118.70	117.10	121.10	123.10	123.60	129.60
Plastic and Synthetic Rubber in primary form	**1.00**	113.70	113.00	117.60	112.40	116.70	140.30
Pesticides and Other Agrochemical Products	**0.45**	116.80	115.30	120.20	122.60	124.40	132.10
Paints, Varnishes and Similar Coatings, Printing Ink and Mastics	**0.49**	108.50	108.60	112.70	114.70	114.90	130.40
Soap and Detergents, Cleaning and Polishing Preparations, Perfumes and Toilet Preparations	**0.61**	113.70	115.20	116.80	118.60	120.60	128.10
Other Chemical Products	**0.69**	106.50	110.10	116.60	114.20	115.10	130.30
Man-Made Fibres	**0.30**	94.10	97.50	104.00	97.90	93.70	106.60

Source: *Office of the Economic Advisor (http://eaindustry.nic.in)*

Section - VII

Miscellaneous

Section - VII

Miscellaneous

Tabe 40: Growth Rates of Core Industries from the FY 2016-17 to FY 2021-22 (Base Year: 2011-12)

Sector	Weight (%)	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Coal (%)	**10.33**	3.2	2.6	7.4	-0.4	-1.9	8.5
Crude Oil (%)	**8.98**	-2.5	-0.9	-4.1	-5.9	-5.2	-2.6
Natural Gas (%)	**6.88**	-1.0	2.9	0.8	-5.6	-8.2	19.2
Refinery Products (%)	**28.04**	4.9	4.6	3.1	0.2	-11.2	8.9
Fertilizers (%)	**2.63**	0.2	0.0	0.3	2.7	1.7	0.7
Steel (%)	**17.92**	10.7	5.6	5.1	3.4	-8.7	16.9
Cement (%)	**5.37**	-1.2	6.3	13.3	-0.9	-10.8	20.8
Electricity (%)	**19.85**	5.8	5.3	5.2	0.9	-0.5	8.0
Overall Index	**100.00**	**4.8**	**4.3**	**4.4**	**0.4**	**-6.4**	**10.4**

Source: *Office of the Economic Advisor (http://eaindustry.nic.in)*

Table 41: Index of Core Industries from the FY 2015-16 to FY 2020-21 (Base year: 2011-12)

Sector	Weight (%)	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Coal	**10.33**	121.8	124.9	134.1	133.6	131.1	142.3
Crude Oil	**8.98**	94.5	93.7	89.8	84.5	80.1	77.9
Natural Gas	**6.88**	66.5	68.4	69.0	65.1	59.8	71.3
Refinery Products	**28.04**	119.7	125.2	129.1	129.4	114.9	125.1
Fertilizers	**2.63**	106.6	106.6	107.0	109.8	111.6	112.4
Steel	**17.92**	133.1	140.5	147.7	152.6	139.4	163.0
Cement	**5.37**	122.0	129.7	147.0	145.7	130.0	156.9
Electricity	**19.85**	141.6	149.2	156.9	158.4	157.6	170.1
Overall Index	**100.00**	**120.5**	**125.7**	**131.2**	**131.6**	**123.2**	**136.1**

Source: *Office of the Economic Advisor (http://eaindustry.nic.in)*

Table 42: Consumption of Naphtha, Natural Gas and Fuel Oil from the FY 2017-18 to FY 2021-22

Name of Product	Description	Unit	2017-18	2018-19	2019-20	2020-21	2021-22*
(1)	(2)	(3)	(5)	(6)	(7)	(8)	(9)
Naphtha	Production	K Tonnes	20006	19786	20679	19403	19994
	Import	K Tonnes	2212	2082	1662	1199	1268
		Value in Rs. Crore	8161	9665	6678	3844	7137
	Export	K Tonnes	8951	6963	8897	6509	6861
		Value in Rs. Crore	29075	28893	31509	18643	37231
	Availability	K Tonnes	13266	14904	13444	14093	14401
	Consumption	K Tonnes	12889	14131	14268	14100	14277
Natural Gas[1]	Gross Production	MMSCM	32649	32873	31184	28673	34024
	Net Production	MMSCM	31731	32054	30257	27784	33131
	Import $	MMSCM	27439	28740	33887	33031	30776
		Value in Rs. Crore	52122	71867	67383	58129	100011
	Availability	MMSCM	59170	60796	64144	60815	63907
	Consumption **	MMSCM	52832	53840	56492	56117	61491
Fuel Oil	Production	K Tonnes	9486	10032	8609	7242	8327
	Import	K Tonnes	1213	1419	4583	6454	9024
		Value in Rs. Crore	3231	4782	11791	14312	32958
	Export	K Tonnes	2525	2197	1527	1177	1757
		Value in Rs. Crore	5291	6537	3811	2318	6633
	Availability	K Tonnes	8174	9255	11665	12519	15594
	Consumption	K Tonnes	6721	6564	6302	5586	6255
Naphtha	Fertilizers Sector	K Tonnes	368	352	150	66	0
	Petrochemical Sector	K Tonnes	10011	10602	10874	11339	11904
Natural Gas[2]	Fertilizer Industries	MMSCM	14676	14987	16115	17781	18079
	Petrochemicals Industry	MMSCM	4024	3386	3569	3072	2864
Fuel Oil (Furnace Oil + LSHS)	Chemicals & allied	K Tonnes	248	309	253	237	239

* Provisional ** Sectorial Sales $ Imports of LNG

[1] Data of Natural gas is reconciled due to change in nomenclature, rationalisation and classification of reporting.
[2] The reasons for the variation between the consolidated availability and the consumption can be attributed to stock changes, conversion factor (volume/energy), Flaring/Losses (in case of Natural gas) and the provisional data reported by the companies.
Net Production=Gross Production - Flared/Losses
Source: Ministry of Petroleum and Natural Gas(M/o PNG)

Table 43: Important indicators of Industry Division 20 & 21 (Unincorporated Sector) in 2015-16 (July 2015 - June 2016)

Description	Rural	Urban	Rural + Urban
(1)	(2)	(3)	(4)
Estimated no. of workers in Industry Division 20 (Unincorporated) of NIC 2008	204480	167540	372020
Estimated no. of workers in Industry Division 21 (Unincorporated) of NIC 2008	12692	9454	22146
Estimated no. of workers in Unincorporated Manufacturing sector	18655607	17385712	36041319
Estimated no. of workers in Unincorporated sector (All activities) #	49867273	61403553	111270826
Estimated no. of enterprises in Industry Division 20 (Unincorporated) of NIC 2008	105985	66721	172706
Estimated no. of enterprises in Industry Division 21 (Unincorporated) of NIC 2008	2935	3410	6345
Estimated no. of enterprises in Unincorporated manufacturing sector	11414431	8250444	19664875
Estimated no. of enterprises in Unincorporated sector (All activities) #	32489670	30902305	63391975
Estimated GVA of Industry Division 20 (Unincorporated) (in Rs. Crore)	780	1552	2332
Estimated GVA of Industry Division 21 (Unincorporated) (in Rs. Crore)	130	143	273
Estimated GVA of Manufacturing Sector (Unincorporated) (in Rs. Crore)	89829	178233	268062
Estimated GVA of Unincorporated sector (All activities) (in Rs. Crore)	344872	807437	1152309
Share of GVA from Industry Division 20 (Unincorporated) in GVA Unincorporated sector (All activities in %)	0.23	0.19	0.20
Share of GVA from Industry Division 21 (Unincorporated) in GVA Unincorporated sector (All activities in %)	0.04	0.02	0.02
Share of GVA from Manufacturing sector (Unincorporated) in GVA Unincorporated sector (All activities in %)	26.05	22.07	23.26
GVA per worker of Industry Division 20 (Unincorporated) sector (in Rs.)	38146	92635	62685
GVA per worker of Industry Division 21 (Unincorporated) sector (in Rs.)	102427	151259	123273
GVA per worker of Manufacturing sector (Unincorporated) (in Rs.)	48151	102517	74376
GVA per worker of unincorporated sector (All Activities) in Rs.	69158	131497	103559
GVA per enterprise of Industry Division 20 (Unincorporated) sector (in Rs.)	73595	232610	135027
GVA per enterprise of Industry Division 21 (Unincorporated) sector (in Rs.)	442930	419355	430260
GVA per enterprise of Manufacturing Sector (Unicorporated) (in Rs.)	78698	216028	136315
GVA per enterprise of Unincorporated Sector (All activities) (in Rs.)	106148	261287	181775

including Manufacturing activities, Noncaptive electricity generation , trading activities and other services (non agricultural enterprises excluding constructions)

Source:NSS Report No. 582 : Economic Characterstics of Unincorporated Non-Agricultural Enterprises excluding constructions in India. NSS 73rd Round (July 2015- June 2016)

Table 44: Employment in Chemicals and Chemical products (Industry Division 20, NIC-2008) from the FY 2014-15 to FY 2019-20

S.No.	Industry	Number of Persons Engaged					
		2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Chemical and Chemicals products (Industry Division 20, NIC 2008)	712994	743438	790263	828315	887240	932428
2	Industries Other than Chemicals and Chemical products	13168392	13556272	14120926	14120926	15392971	15691863
3	All Industries	13881386	14299710	14911189	15614619	16280211	16624291
4	**Share in Employment (%)**						
	(a) Share of Chemicals and Chemical products	5.1	5.2	5.3	5.3	5.4	5.6
	(b) Share of Other than C&PC	94.9	94.8	94.7	90.4	94.6	94.4
5	**Growth in Employment (%)**						
	(a) Chemicals and Chemical products	0.6	4.3	6.3	4.8	7.1	5.1
	(b) Industries Other Than Chemicals and Chemical products	2.6	2.9	4.2	0.0	9.0	1.9
	(c) All Industries	2.5	3.0	4.3	4.7	4.3	2.1

Note: *As per NIC - 2008, Chemical & Chemical products are covered under the Industry Division 20.*

Source: *Annual Survey of Industries (ASI) 2019-20 (Factory Sector), Ministry of Statistics & Programme Implementation*

Table 45: Gross Value Added from Chemicals and Chemical products (Industry Division 20: NIC 2008) and Pharmaceutical; medicinal chemicals and botanical product (Industry Division 21: NIC 2008) vis-a-vis Manufacturing sector and all Economic Activities

At Current Prices

(Rs. in Crore)

Description	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Industry Division 20: Chemicals and chemical products (Corporate)	192668	207565	223172	247860	241882	265619
Industry Division 20:Chemicals and chemical products (Household)	1222	1029	1423	2173	2135	2102
Industry Division 20: Chemicals and chemical products (Corporate +Household)	193890	208593	224595	250032	244017	267721
Growth over previous year (%)		***7.6***	***7.7***	***11.3***	***-2.4***	***9.7***
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products (Corporate)	144319	157237	165019	190831	186420	217620
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products (Household)	567	667	585	606	624	652
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	*144886*	*157904*	*165604*	*191437*	*187044*	*218271*
Total Chemicals and Chemical Products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	**338776**	**366497**	**390199**	**441470**	**431060**	**485993**
Growth over previous year (%)		***8.2***	***6.5***	***13.1***	***-2.4***	***12.7***
Manufacturing (Corporate)	1850139	2042040	2248880	2459081	2361995	2423367
Manufacturing (Household)	296050	291682	317743	353479	342815	286068
Manufacturing (Corporate +Household)	**2146189**	**2333721**	**2566623**	**2812560**	**2704809**	**2709435**
Growth over previous year (%)		***8.7***	***10.0***	***9.6***	***-3.8***	***0.2***
GVA at basic prices for All Economic activities	12574498.6	13965199.7	15505665.2	17175128.3	18355109.4	18057809.8

At Current Prices *(Rs. in Crore)*

Description	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Growth over previous year (%)		***11.1***	***11.0***	***10.8***	***6.9***	***-1.6***
Share of GVA of Manufacturing sector in GVA for All Economic Activities	*17.1*	*16.7*	*16.6*	*16.4*	*14.7*	*15.0*
Share of GVA of Chemicals and chemical products **excluding** Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)in GVA for All Economic Activities	1.5	1.5	1.4	1.5	1.3	1.5
Share of GVA of Chemicals and chemical products **including** Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21) in GVA for All Economic Activities	2.7	2.6	2.5	2.6	2.3	2.7
Share of GVA of Chemicals and chemical products (Industry Division 20)in GVA for Manufacturing Sector	9.0	8.9	8.8	8.9	9.0	9.9
Share of GVA of Chemicals and chemical products **including** Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)in GVA for Manufacturing Sector	15.8	15.7	15.2	15.7	15.9	17.9

Source: *Ministry of Statistics & Programme Implementation.*

Table 46: Gross Value Added from Chemicals and Chemical products (Industry Division 20: NIC 2008) and Pharmaceutical; medicinal chemicals and botanical product (Industry Division 21: NIC 2008) vis-a-vis Manufacturing sector and all Economic Activities

At Constant Price (2011-12) *(Rs. In Crore)*

Description	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Industry Division 20: Chemicals and chemical products (Corporate)	119330	122965	126099	145051	158986	177502
Industry Division 20:Chemicals and chemical products (Household)	1085	927	1265	1824	1817	1778
Industry Division 20: Chemicals and chemical products (Corporate +Household)	*120415*	*123892*	*127364*	*146876*	*160803*	*179280*
Growth over previous year (%)		***2.9***	***2.8***	***15.3***	***9.5***	***11.5***
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products (Corporate)	110119	131359	136154	154519	146442	166249
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products (Household)	478	557	483	491	490	498
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	*110597*	*131916*	*136637*	*155010*	*146931*	*166747*
Total Chemicals and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	**231012**	**255808**	**264001**	**301885**	**307735**	**346026**
Growth over previous year (%)		***10.7***	***3.2***	***14.4***	***1.9***	***12.4***
Manufacturing (Corporate)	1643539	1803931	1941557	2039878	1983151	2017833
Manufacturing (Household)	260311	250834	267871	289114	278142	229907
Manufacturing (Corporate +Household)	**1903850**	**2054764**	**2209428**	**2328992**	**2261294**	**2247740**

At Constant Price (2011-12) *(Rs. In Crore)*

Description	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Growth over previous year (%)		***7.9***	***7.5***	***5.4***	***-2.9***	***-0.6***
GVA at basic prices for All Economic activities	10491870	11328285	12034171	12733798	13219476	12585074
Growth over previous year (%)		***8.0***	***6.2***	***5.8***	***3.8***	***-4.8***
Share of GVA of Manufacturing sector in GVA for All Economic Activies	*18.1*	*18.1*	*18.4*	*18.3*	*17.1*	*17.9*
Share of GVA of Chemicals and chemical products **excluding** Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)in GVA for All Economic Activies	1.1	1.1	1.1	1.2	1.2	1.4
Share of GVA of Chemicals and chemical products **including** Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21) in GVA for All Economic Activies	2.2	2.3	2.2	2.4	2.3	2.7
Share of GVA of Chemicals and chemical products (Industry Division 20) in GVA for Manufacturing Sector	6.3	6.0	5.8	6.3	7.1	8.0
Share of GVA of Chemicals and chemical products, **including** Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)in GVA for Manufacturing Sector	12.1	12.4	11.9	13.0	13.6	15.4

Source: *Ministry of Statistics & Programme Implementation.*

Table 47: Value of Output from Chemicals and Chemical products (Industry Division 20: NIC 2008) and Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21: NIC 2008) vis-a-vis Manufacturing sector

At Current prices *(Rs. In crore)*

Description	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Manufacturing (Corporate)	7591834	8162260	9032405	10845743	10801811	10143586
Manufacturing (Household)	825639	824799	936733	1058116	1035605	887524
Manufacturing (Corporate +Household)	**8417473**	**8987059**	**9969138**	**11903859**	**11837417**	**11031110**
Chemicals and chemical products (Corporate) (Industry Division 20)	668344	662125	729330	950939	954414	977150
Chemicals and chemical products (Household) (Industry Division 20)	6100	5137	7104	10848	10660	10494
Total Chemicals and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)	**674444**	**667262**	**736434**	**961786**	**965074**	**987644**
Pharmaceutical; medicinal chemicals and botanical products -(Corporate) (Industry Division 21)	300519	318143	325755	399906	403754	440719
Pharmaceutical; medicinal chemicals and botanical products -(Household) (Industry Division 21)	2833	3330	2922	3026	3113	3254
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	**303352**	**321472**	**328677**	**402932**	**406867**	**443973**
Total Chemicals and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	***977796***	***988734***	***1065111***	***1364718***	***1371941***	***1431617***

Source: *Ministry of Statistics & Programme Implementation.*

Table 48: Value of Output from Chemicals and Chemical products (Industry Division 20: NIC 2008) and Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21: NIC 2008) vis-a-vis Manufacturing sector

At constant prices (2011-12) *(Rs. In crore)*

Description	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Manufacturing (Corporate)	7245184	7675612	8200088	9401296	9376024	8655145
Manufacturing (Household)	732581	712666	791191	865740	838120	707542
Manufacturing (Corporate +Household)	**7977765**	**8388278**	**8991280**	**10267035**	**10214144**	**9362687**
Chemicals and chemical products (Corporate) (Industry Division 20)	593556	596509	648293	798437	812267	826692
Chemicals and chemical products (Household) (Industry Division 20)	5417	4628	6315	9108	9073	8878
Total Chemicals and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)	**598973**	**601137**	**654608**	**807545**	**821340**	**835570**
Pharmaceutical; medicinal chemicals and botanical products --Corporate (Industry Division 21)	253175	265783	268775	323811	317167	336684
Pharmaceutical; medicinal chemicals and botanical products --Household (Industry Division 21)	2387	2782	2411	2450	2445	2486
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	**255562**	**268565**	**271185**	**326261**	**319613**	**339170**
Total Chemicals and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	***854535***	***869702***	***925793***	***1133806***	***1140952***	***1174740***

Source: *Ministry of Statistics & Programme Implementation.*

Table 49:- All India Estimate of Selected Characteristics of Factory Sector for Chemicals and Chemical products (Industry Division 20: NIC 2008), Pharmaceutical; medicinal chemicals and botanical product (Industry Division 21: NIC 2008) and Maufacture of Megnetic and Optical Media (industry Division 268)

Description	2015-16	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)
Industry Division 20: Chemical and chemical products					
Number of factories	12015	12168	12568	12902	13459
Number of workers	541343	588806	614733	666623	693865
Total Output (Rs. crore)	609216	583008	661499	821126	793096
Total Inputs (Rs. crore)	473764	446877	517336	661207	627208
Gross Value Added (Rs. crore)	135452	136131	144163	159919	165888
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products					
Number of factories	5036	4946	5051	5161	5326
Number of workers	395988	431732	454024	483238	516095
Total Output (Rs. crore)	265742	271959	285014	342227	348658
Total Inputs (Rs. crore)	174162	174414	182832	224274	226275
Gross Value Added (Rs. crore)	91581	97545	102182	117953	122382
Industry Division 268: Maufacture of Megnetic and Optical Media					
Number of factories	5	3	10	15	15
Number of workers	491	200	529	1970	1053
Total Output (Rs. Lakh)	31259	7534	75141	375859	87974
Total Inputs (Rs. Lakh)	23350	5819	61256	283135	79865
Gross Value Added (Rs. Lakh)	7909	1715	13885	92724	8109

Source: *Annual Survey of Industries (ASI) 2019-20, Ministry of Statistics & Programme Implementation*

Table 50: State wise Estimate of Selected Characteristics of Factory Sector for Industry Division 20: NIC 2008: Chemicals and Chemical Products

State	No. of Factories				GVA (Rs. Lakh)				Total Output (Rs Lakh)			
	2016-17	2017-18	2018-19	2019-20	2016-17	2017-18	2018-19	2019-20	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Andhra Pradesh	405	368	394	499	331177	356689	446176	391353	2130755	2265003	2509301	2684412
Assam	129	120	133	173	216239	264490	223202	337713	495458	789313	757604	857461
Bihar	61	44	52	52	5813	15373	16415	27090	50286	76265	84900	128635
Chhattisgarh	113	109	110	124	16917	8133	8010	18916	137414	85687	201584	246128
Goa	45	38	36	39	162389	137513	72231	77919	659576	701225	747163	426077
Gujarat	2459	2596	2757	2861	4233550	4499173	5481852	5583012	19379723	22062065	29156214	27084554
Haryana	305	333	362	430	295782	301646	371391	397800	1375643	1507216	1831951	1930160
Himachal Pradesh	235	208	225	220	585106	732011	528976	685131	1723963	1722044	1480706	1675243
Jammu & Kashmir	126	148	134	135	218570	211080	235599	230321	741058	701986	975425	932792
Jharkhand	107	100	88	93	121407	114797	82897	46901	301703	529388	317377	217142
Karnataka	581	591	659	658	295813	340167	464619	629721	1419647	1600629	2079037	3079683
Kerala	141	139	127	173	362628	263532	376499	317489	904458	818774	1019809	942693
Madhya Pradesh	268	319	314	316	346909	349899	276016	266236	1101147	1530984	1451534	1909243
Maharashtra	1842	1790	1772	1827	2278858	2361059	2404081	2315109	9566108	10814777	13079364	11162926
Meghalya	4	5	4	3	4177	2462	1171	1124	8910	4891	4997	2710
Mizoram	0	0	0	4	0	0	0	74	0	0	0	135
Odisha	95	104	97	99	336314	408461	553716	657505	1041620	1188177	1478344	1531407
Punjab	147	180	165	204	106447	164390	104209	142837	698169	895038	815753	877850
Rajasthan	336	398	372	401	486262	336071	453739	509303	2799626	2443874	3441389	2875300
Sikkim	3	3	3	3	24694	9299	10771	8510	150743	23123	32609	16984
Tamil Nadu	2521	2639	2679	2704	646481	950622	694678	685097	2918077	3610434	3582598	4091296
Tripura	10	8	9	8	70	74	1	43	198	119	78	427
Uttar Pradesh	685	716	721	759	522193	728207	883256	934418	2870926	3813975	5049876	5448956
Uttarkhand	219	232	233	238	808699	591227	880498	895746	2091798	2064430	2563120	2319208
West Bengal	342	333	355	352	584589	501561	445340	440481	2911301	3278063	3360107	3568921
Dadra & N Haveli	177	167	202	186	202142	218598	395490	367001	813926	1006494	3163327	2659237
Daman & Diu	118	152	168	129	99930	163344	108722	169943	630760	1043393	1105225	907816
Chandigarh	NA	NA	0	3	NA	NA	0	833	NA	NA	0	7735
Delhi	72	69	95	69	15696	21407	21751	29318	205669	225011	192024	164725

State	No. of Factories				GVA (Rs. Lakh)				Total Output (Rs Lakh)			
	2016-17	2017-18	2018-19	2019-20	2016-17	2017-18	2018-19	2019-20	2016-17	2017-18	2018-19	2019-20
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Puducheery	97	96	99	106	188074	179677	270689	207665	470007	463889	606063	549701
Telagana	519	558	532	585	115427	184446	178966	214042	693463	874400	1016178	1009569
All India	**12162**	**12563**	**12897**	**13453**	**13612353**	**14415408**	**15990961**	**16588651**	**58292132**	**66140667**	**82103657**	**79309126**

Source: *Annual Survey of Industries (Factory Sector) 2019-20, Ministry of Statistics & Programme Implementation*

NA: *Not Available*

Table 51: Production, Import, Export, Consumption of Major Chemicals and Petrochemicals and Export as Percentage (%) of Production and Import as Percentage (%) of Consumption

(In Thousand Tonnes)

Group	Description	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
Major Chemicals	Production	**9660**	**9884**	**10234**	**11069**	**11589**	**11943**	**11243**	**12743**
Major Petrochemicals									
A. Basic major Petrochemicals		13448	14905	15510	15670	16269	19041	17938	19371
B. Intermediates		16816	18690	18743	19063	19057	22119	21903	22686
C. Other Petro-based Chemicals		1963	2159	2174	2080	2192	2364	2318	2531
Total Major Chemicals and Petrochemicals		**41887**	**45638**	**46661**	**47882**	**49108**	**55467**	**53402**	**57332**
Major Chemicals	Exports	**1061**	**1138**	**1484**	**1496**	**1579**	**1698**	**1905**	**2339**
Major Petrochemicals									
A. Basic major Petrochemicals		2254	2743	2956	3293	4095	3719	2681	2505
B. Intermediates		2034	2430	2190	3915	5377	4842	5421	4818
C. Other Petro-based Chemicals		124	129	144	193	147	238	171	212
Total Major Chemicals and Petrochemicals		**5473**	**6440**	**6773**	**8897**	**11198**	**10497**	**10179**	**9874**
Major Chemicals	Imports	**5025**	**5360**	**5400**	**5937**	**6379**	**6557**	**5983**	**6385**
Major Petrochemicals									
A. Basic major Petrochemicals		5080	5681	5938	6408	6284	5356	4356	4597
B. Intermediates		3253	3245	3540	3180	2845	3323	2786	3843
C. Other Petro-based Chemicals		2373	2740	2651	3255	3227	3543	3069	3291
Total Major Chemicals and Petrochemicals		**15729**	**17025**	**17529**	**18780**	**18735**	**18780**	**16194**	**18117**
Major Chemicals	Consumption$	**13623**	**14106**	**14150**	**15510**	**16389**	**16802**	**15321**	**16789**
Major Petrochemicals									
A. Basic major Petrochemicals		**16274**	**17842**	**18492**	**18785**	**18458**	**20678**	**19613**	**21464**
B. Intermediates		**18034**	**19505**	**20094**	**18328**	**16525**	**20600**	**19268**	**21711**
C. Other Petro-based Chemicals		**4211**	**4770**	**4680**	**5142**	**5272**	**5670**	**5216**	**5610**
Total Major Chemicals and Petrochemicals		**52143**	**56223**	**57416**	**57765**	**56645**	**63751**	**59418**	**65575**
Major Chemicals	Exports as % of Production	11.0	11.5	14.5	13.5	13.6	14.2	16.9	18.4
Major Petrochemicals									
A. Basic major Petrochemicals		16.8	18.4	19.1	21.0	25.2	19.5	14.9	12.9
B. Intermediates		12.1	13.0	11.7	20.5	28.2	21.9	24.7	21.2
C. Other Petro-based Chemicals		6.3	6.0	6.6	9.3	6.7	10.0	7.4	8.4
Total Major Chemicals and Petrochemicals		13.1	14.1	14.5	18.6	22.8	18.9	19.1	17.2
Major Chemicals	Imports as % of Consumption	473.5	470.9	363.9	396.9	403.9	386.1	314.1	273.0
Major Petrochemicals									
A. Basic major Petrochemicals		31.2	31.8	32.1	34.1	34.0	25.9	22.2	21.4
B. Intermediates		18.0	16.6	17.6	17.4	17.2	16.1	14.5	17.7
C. Other Petro-based Chemicals		56.3	57.4	56.6	63.3	61.2	62.5	58.8	58.7
Total Major Chemicals and Petrochemicals		**30.2**	**30.3**	**30.5**	**32.5**	**33.1**	**29.5**	**27.3**	**27.6**

$ Derived consumption as Production+ Imports-Exports

Table 52: Exports of all Chemicals as Percentage (%) of Value of output and Imports of all Chemicals as Percentage (%) of Consumption

(Rs. In Crore)

Item	Code	2016-17	2017-18	2018-19	2019-20	2020-21
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Exports of Pharmaceutical products	HS code 30	86705	85447	103240	115473	143738
Exports of Fertilizers	HS code 31	466	685	1038	837	779
Exports of all Chemicals (including Pharmaceutical products and Fertilizers)	HS codes 28, 29, 30, 31, 32, 38, 39, 4002, 54 and 55	277364	305413	387853	391604	423855
Imports of Pharmaceutical products	HS code 30	11515	12241	14581	16530	18934
Imports of Fertilizers	HS code 31	28754	30108	46457	47397	51034
Imports of Chemicals and Chemical products	HS codes 28, 29, 30, 31, 32, 38, 39, 4002, 54 and 55	309458	360205	455872	423587	443683
Value of Output of Chemicals and Chemical products (at current prices)	Industry Division 20 and 21: NIC 2008	988734	1065111	1364718	1371941	1431617
Consumption of Chemicals and Chemical products	Value of Output + Imports - Exports	1020828	1119903	1432737	1403924	1451445
Exports of all Chemicals as % of Value of Output		28.1	28.7	28.4	28.5	29.6
Imports of all Chemicals as % of Derived Consumption		30.3	32.2	31.8	30.2	30.6

Chapter 28: *Inorganic Chemicals; Organic or Inorganic Compounds of Precious Metals, of Rare-Earth Metals, of Radioactive Elements or of Isotopes;* ***Chapter 29:*** *Organic Chemicals;* ***Chapter30:*** *Pharmaceutical products;* ***Chapter 31:*** *Fertilizers;* ***Chapter 32:*** *Tanning or Dyeing Extracts; Tannins and their Derivatives; Dyes, Pigments and Other Colouring Matter; Paints and Varnishes; Putty and other Mastics; Inks; Chapter* ***38:*** *Miscellaneous Chemical Products;* ***Chapter 39:*** *Plastics and articles thereof;* ***4002:*** *Synthetic rubber and factice derived from oils, in primary forms or in plates, sheets or strip; mixtures of any pro* ***Chapter 54:*** *Man-made Filaments and* ***Chapter 55:*** *Man-made staple fibres*

Note: 1. *Data source in recspect of Imports, Exports (Chapter-wise) is DGCIS Portal.*

2: *Data Source in respect of value of output is National Account Statistics, 2022, Ministry of Statistics & Programme Implementation*

TEAM

1. **Sh. Arun Baroka** - Secretary
2. **Sh. Ganga Kumar** - Dy. DG
3. **Sh. Ram Sajeevan** - Director
4. **Sh. Patil Naresh Dnyaneshwar** - Assistant Director
5. **Sh. Devendra Kumar Singh** - Senior Statistical Officer
6. **Sh. Rakesh Kumar** - Junior Statistical Officer
7. **Sh. Ankur Debnath** - Junior Statistical Officer

Important Quotes in Chemical and Petrochemical sector:

- The meeting of two personalities is like the contact of two chemical substances: if there is any reaction, both are transformed.-**Carl Jung**
- Chemistry begins in the stars. The stars are the source of the chemical elements, which are the building blocks of matter and the core of our subject.-**Peter Atkins**
- Chemistry can be a good and bad thing. Chemistry is good when you make love with it. Chemistry is bad when you make crack with it.-**Adam Sandler**
- All that glitters may not be gold, but at least it contains free electrons. -**John Desmond Bernal**
- To think is to practice brain chemistry.-**Deepak Chopra**
- One thing that you cant fake is chemistry.-**Blake Shelton**
- No, this trick won't work... How on earth are you ever going to explain in terms of chemistry and physics so important a biological phenomenon as first love? -**Albert Einstein**
- There's nothing colder than chemistry.-**Anita Loos**
- If you're in love and there's that chemistry, that's what it's all about. -**Sanaa Lathan**
- My interest in the sciences started with mathematics in the very beginning, and later with chemistry in early high school and the proverbial home chemistry set. -**Rudolph A. Marcus**
- You know it's right when you feel this undeniable connection and chemistry. -**Ali Larter**
- Pipelines are by far the safest way to transport petroleum. They are safer than tankers, safer than trucks, safer than rail.-**John Hoeven**
- Petroleum is the product of a distillation from great depth and issues from the primitive rocks beneath which the forces of all volcanic action lie. -**Alexander von Humboldt**
- Important reserves of natural resources, like petroleum and precious metals, are the bulwarks for laying the foundations for the future.-**Enrique Pena Nieto**

Statistics and Monitoring Division
Department of Chemicals and Petrochemicals
Ministry of Chemicals and Fertilizers
Government of India