



सत्यमेव जयते

CHEMICALS AND PETROCHEMICALS STATISTICS AT A GLANCE - 2019



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

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ಡಿ.वी. ಸದಾನಂದ ಗೌಡ



रसायन एवं उर्वरक मंत्री
भारत सरकार
Minister of Chemicals & Fertilizers
GOVERNMENT OF INDIA



MESSAGE

Department of Chemicals and Petrochemicals is highly importance due to its relevance under the Ministry of Chemicals & Fertilizers. The importance of Chemicals and Petrochemicals in day to day life needs no elaboration. The share of this sector is quite significant in manufacturing and, therefore, its contribution is very important for developing Indian economy. I am glad to see that the Department is striving hard to provide more conducive atmosphere to the Industry for achieving higher and sustainable growth. The efforts of the Department will definitely pave way for realization of our dream 'Skill India' and 'Atmanirbhar Bharat' for better tomorrow.

2. I am very happy to know that Statistical Publication 'Chemical & Petrochemical Statistics at a Glance-2019' is being brought out by the Department this year even in the hard time of the current pandemic situation due to COVID-19. I hope this publication would be found very useful by all the data users and organizations associated for the development of chemical sector in the country.

3. I wish to record my appreciation for the excellent work done by the Department under the able guidance of Shri R. K. Chaturvedi, the Secretary of the department.

(D. V. Sadananda Gowda)

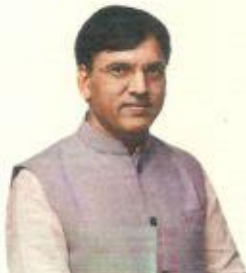
August, 2020



राज्य मंत्री
पोत परिवहन (स्वतंत्र प्रभार),
रसायन एवं उर्वरक
भारत सरकार



Minister of State
Shipping (Independent Charge),
Chemicals and Fertilizers
Government of India



मनसुख मांडविया
MANSUKH MANDAVIYA

30th July, 2020

MESSAGE

Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers is dedicated to the service of the nation and activity contributing towards promotion of the Chemicals and Petrochemicals Sector. The share of this sector in manufacturing is quite significant, therefore, contribution of the sector to the country's economy is very important.

I am pleased to note that the Department of Chemicals & Petrochemicals is bringing out this Annual Publication "**Chemicals & Petrochemicals Statistics at a Glance-2019**" this year with added new features making it more informative.

I acknowledge the excellent work done by the officers of the Department of Chemicals & Petrochemicals under the guidance of Secretary (C&PC) in bringing out this publication.

My best wishes to all concerned.

(Mansukh Mandaviya)

आर. के. चतुर्वेदी
सचिव
R. K. Chaturvedi
Secretary



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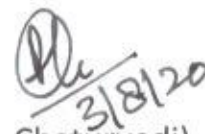
Foreword

The chemical industry continues to be impacted by the globalization and integration of the world economy. Department of Chemicals and Petrochemicals is endeavoring to address issues and concerns faced by the Chemical Industry to ensure more conducive and hassle-free environment. The Department is implementing various policies and programmes for achieving sustainable growth in the development of the chemical sector.

2. I am pleased to know that Statistical Publication 'Chemical & Petrochemical Statistics at a Glance-2019' is being brought out by the Statistics and Monitoring Division this year including statistical analysis on various key indicators such as Installed Capacity, Consumption, Production, Import and Export of Chemicals and Petrochemicals in the country.

3. I would wish to commend the excellent work done by the Statistics and Monitoring Division in the Department under the able leadership of Shri N K Santoshi, Deputy Director General, Department of Chemicals & Petrochemicals.

Congratulations to all.


(R. K. Chaturvedi)

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सत्यमेव जयते

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P R E F A C E

I am very happy to bring out the Statistical Publication '**Chemicals & Petrochemicals Statistics at a Glance-2019** compiled by Statistics & Monitoring Division under the Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers. S&M Division besides compiling Statistics on Selected Major Chemicals and Petrochemicals for internal use in perspective planning, also caters to the requirement of data for All India Index of Industrial Production (IIP) brought out on monthly basis by Central Statistics Office, Ministry of Statistics & Programme Implementation. The Statistics presented in this publication includes inter alia Production, Installed Capacity, Consumption, Import and Export in respect of Selected Chemicals and Petrochemicals.

2. I sincerely acknowledge and express my gratitude to Ministries / Departments / Organizations viz. M/o Statistics & PI , M/o Commerce & Industry, M/o PNG , DGFT , DGCIS and DIPP, etc. for providing valuable input for this publication through their websites. I express my sincere thanks to various Divisions of this Department for providing valuable inputs and cooperation towards compilation of this publication.

3. I would like to place on record my appreciation for the efforts put in by the officers of S&M Division of the Department namely; Shri Ram Sajeewan, Deputy Director, Shri Rajat, Research Officer and Shri Rakesh Kumar, Junior Statistical Officer. I hope this publication would be useful for data users in government, research institutions and other stakeholders associated with chemical industry.

4. I hope this publication will be useful to planner, policy makers, academicians and researchers. Suggestions/ Comments from users of this publication are most welcome for future improvement.

July, 2020
New Delhi

(N K Santoshi)
Deputy Director General

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Introduction

Chemical and Petrochemical sector is one of the pioneering sectors having bearing on day to day needs of the society. Presence of Chemicals and Petrochemicals can be seen in everyday life of the people at large scale. Chemical Industry contribute significantly for the economic development and growth of various key sectors in the country such as automotive, construction, electronics, health care, textiles and fast moving consumer goods (FMCG). Government initiatives such as Make in India, Skill India, Digital India etc to become Atam Nirbhar Bharat. The government is in the process to reform the old Petroleum, Chemicals and Petrochemicals Investment Regions (PCPIR) policy notified to attract mega investments which suitable incentives in these large investment regions to transform India into global chemical manufacturing hub. This will help to realize India's vision of becoming US \$ 5 trillion economy and provide substantial employment to the youth. The share of Gross Value Added (GVA) in the Manufacturing Sector during 2017-18 is about 9.06%. GVA of Chemical Sector has grown with CAGR of 12.47% during the period 2012-13 to 2017-18.

2. The Statistics and Monitoring (S&M) Division of the Department compiles statistics on monthly production data and on 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. The data in respect of Export and Import of Chemicals and Petrochemical items is being maintained by DCPC from the data supplied by DGCIS under the 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 2014-15 to 2018-19.

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) & Whole Sale Price Index (WPI). Chapter-7 provides graphical presentation of trends for the period 2014-15 to 2018-19 in Production, Installed Capacity, Import and Export for various groups under Major Chemical and Major Petrochemical along with brief analysis. At the end in the Appendices Section, Statistical tables presenting information inter-alia on Production, Installed Capacity, Capacity Utilization, Imports / Exports along with their growth rates during 2011-12 to 2018-19 have also been provided. Detailed table on Foreign Trade, FDI, IIP, WPI etc. related to Chemical and Petrochemical Sector have also been included in the Appendices Section.

4. The production of Selected Major Chemicals (Group-wise) and selected Major Petrochemicals (Group-wise) is generally found to be growing consistently over the years. The annual growth of production during 2018-19 over preceding year was 4.70% with CAGR of 3.02% over a period of 8 years, in case of Major Chemicals. The annual growth of Basic Major Petrochemicals was 3.82% over preceding year with CAGR of 3.54% during the same period.

5. Installed Capacity utilization in case of basic Major Chemicals was 82% in 2018-19 as against 79% in 2017-18 while it was around 87% as against 84% over the last year, in case of Basic Major Petrochemicals. The utilization of installed capacity was floated around 82% - 85% for the Alkali and Inorganic

Chemicals, whereas it was in the range of 67- 78% in case of Organic Chemicals, Pesticides (Technical Grade) and Dyes and Pigments (2018-19).

6. Among Selected Major Chemicals (Group-wise), for Inorganic Chemicals and Organic Chemicals there was a substantial import into the country. Amongst Inorganic Chemicals, two products, namely, Carbon Black (Rs.2,494/- crore) and Calcium Carbonate (Rs.869/-crore) have imports of more than Rs.3,000/- crores. (**Table 17**). Amongst Organic Chemicals, five products, namely, Acetic Acid (Rs.4,224/- crore), Acetone (Rs.521/- crore), Phenol (Rs.2,177/- crore), Methanol (Rs.5,195/- crore), Maleic Anhydride (Rs.617/- crore) and Aniline (Rs.815/- crore) have more than Rs.13,000/- crore of imports into the country (**Table 17**).

7. Amongst Selected Basic Major Petrochemicals (Group-wise) for Polymers, Synthetic Rubber and Synthetic Detergent Intermediate, there was a substantial import into the country. Amongst Polymers, three products, namely, High Density Polyethylene (Rs.8,727/-crore), Polypropylene (Rs.8,370/-crore) and Poly Vinyl Chloride (Rs.13,541/-crore) have import of more than Rs.30,000/-crore (**Table 25**). Amongst Synthetic Rubber, four products, namely, Styrene Butadiene Rubber (SBR) (Rs.1,570/-crore), Poly Butadiene Rubber (Rs.1,383/-crore), Ethyl Vinyl Acetate (Rs.2,029/-crore) and Butyl Rubber (Rs.2,002/-crore) which have import of more than Rs.6,000/-crore into the country (**Table 25**). Amongst Synthetic Detergent Intermediates, one product, namely, Linear Alkyl Benzene (Rs.2,100/-crore) has import of more than Rs.2,000/- crore in the country (**Table 25**). Amongst Selected Basic Major Petrochemicals (Group – wise), in case of Performance Plastics, major portion of domestic production is exported (about 68% of domestic production) (Table 6). Amongst Performance Plastics, there is one product, namely, PET chips (Polyester Chips) (Rs.8,897/-crore) has an export of more than Rs.8,000/- crore (**Table 24**).

8. The trade deficit during 2018-19 (i.e. net import) in Chemicals and Petrochemicals Sector (comprising chapters 28, 29, 32, 38, 39, 40, 42, 54 and 55 of HS code) was Rs.1,11,548/-crore as per figures available on DGCIS portal (as on 12.12.2019 (**Table 12 A**)). The trade deficit in respect of selected Major Chemicals and Petrochemical Products, being monitored by DCPC & which are basically intermediate in nature, was around Rs.21,228/-crore as per figures received from DGCIS, Kolkata. (**Tables 15 & 23**).

9. In respect of Major Chemicals at group level, it is observed that Alkali Chemicals, Organic Chemicals and Inorganic Chemicals were in trade deficit, whereas Pesticides (Technical Grade and formulation both); and Dyes & Pigments were trade surplus, during 2018-19 (**Table 18**). However, in respect of Major Petrochemicals at group level Polymers, Fiber Intermediates, Synthetic rubber, Synthetic Detergent Intermediates and Other Petro-based Chemicals were in trade deficit, whereas Synthetic Fibre, Performance Plastics, 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 resulting in to 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
CSO	Central Statistics Office
CPI	Consumer Price Index
DGCI&S	Directorate General of Commercial Intelligence & Statistics
DIPP	Department of Industrial Policy and Promotion
DMT	Dimethyl Terephthalate
EO	Ethylene Oxide
EPDM	Ethyl Propylene Dimers
EVA	Ethyl Vinyl Acetate
EX-PS	Expandable Polystyrene
FDI	Foreign Direct Investment
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 Tonnes 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 Standard Cubic Meters
MOSPI	Ministry of Statistics and Programme Implementation
MT	Metric Tonne
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	Polyisobutylene
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	Polystyrene
PSF	Polyester Staple Fibre
PSFF	Polyester Staple Fibrefil
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

COVERAGE

Major Chemicals			
Sl. 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	Chloro Methanes
		ONCB	PNCB
		MEK	Acetaldehyde
		Ethanolamines	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
		Endosulphan	Fenvalerate
		Cypermethrin	Anilophos
		Acephate	Chlorpyrifos
		Phosalone	Metasystox
		Abate	Fenthion
		Triazophos	Lindane
		Temephos	Deltamethrin
		Alphamethrin	Profenofos Technical
		Pretilachlor Technical	Lambda Cyhalothrin
		Phenthoate	Permethrin Tech
		Imidacaloprid Tech	Captan & Captafol
		Ziram(Thio Barbamate)	Carbendzim (Bavistin)
		Calixin	Mancozab
		Copper-Oxychloride	Hexaconazole
		Metconazole	2, 4-D
		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	Azo Dyes	Acid Direct Dyes

			(other than AZO)
		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
		Napthols	Other Dyes

Major Petrochemicals			
A. Basic Major Petrochemicals			
Sl.No.	Group	Products	
I	Synthetic Fibres	Acrylic Fibre	Polyester Staple Fibrefill
		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 Polythylene
		Polystyrene	Polypropylene (Inc. Co-Polymer)
		Expandable Polystyrene	Poly Vinyl Chloride
		Linear Low Density Polythylene	PVC Compound
III	Synthetic Rubber (Elastomers)	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)
V	Performance Plastics	Acrylonitrile Butadiene Styrene (ABS) Resin	Nylon-6
		Nylon 6,6	Polymethyl Methacrylate (PMMA)
		Styrene Acrylonitrile (SAN)	Polytetrafluoroethylene(PTFE)

		Resin	
		Polyester Chips/PET Chips	
B. Intermediates			
I.	Fibre Intermediates	Acrylonitrile	Caprolactum
		Mono Ehylene Glycol (MEG)	Dimethyl Terephthalate (DMT)
		Purified Terephthalic Acid (PTA)	
II. Building Blocks			
i.	Olefins	Ethylene	Propylene
		Butadiene	
ii.	Aromatics	Benzene	Toluene
		Orthoxylene	Paraxylene
		Mixed Xylene	
C. Other Petro-based Chemicals			
Diethylene Glycol		Diacetone Alcohol	Ethylene Dichloride
Butanol		Oxo Alcohol	2-Ethyl Hexanol
Vinyl Chloride Monomer		Epichlorhydrine	Iso Butylene
Metaxylene		Methyl Isobutyl Ketone	PBT
PET		PIB	Polycarbonate
Propylene Oxide		Propylene Glycol	Polyvinyl Acetate Resin
Unsaturated Polyester Resin		Methyl Methacrylate	Iso-Butanol
Ethyl Benzene		C4-Raffinate	Cellulose Acetate Butyrate
Cellulose Acetate Sheet		Cellulose Nitrate Sheet	Melamine Moulding Powder
Polyacetal Resin		Phthalic Anhydride	Styrene
Vinyl Actate Monomer		Isopropanol	Polyol

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 directly by the Department of Chemicals & Petrochemicals from the manufacturers under large and medium scale.
(ii) Imports & Exports	Directorate General of Commercial Intelligence & Statistics, Ministry of Commerce & Industry, Kolkata.
(iii) FDI	Ministry of Commerce & Industry, Department of Industrial Policy & Promotion.
(iv) Index of Industrial Production	Ministry of Statistics & Programme Implementation, Central Statistics Office (CSO), New Delhi.
(v) Wholesale Price Index	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, manmade fibre.
(vii) Chemicals and Petrochemicals (Narrow definition)	The Chemicals and Petrochemical products that are 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

An Overview of Chemical and Petrochemical Sector

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 of all industrial sectors covering thousands of commercial products. Petrochemicals constitute a very important segment of world chemicals market, with a share of nearly 40 per cent. 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 that deal in a variety of downstream products. Also, the industry offers alternatives, which serve as substitutes for natural products and hence, 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 is permissible under the automatic route, through the RBI. Manufacture of most chemical products, inter-alia, covering organic / inorganic, dyestuffs & pesticides is de-licenced. 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. Only the following items are covered in the compulsory licencing list because of their hazardous nature as required by international conventions.

- Hydrocyanic acid & its derivatives
- Phosgene & its derivatives
- Isocyanates & di-isocyanates of hydrocarbons.

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

i. Basic Chemicals

Chemicals, such as organic and inorganic chemicals, bulk petrochemicals, other chemical intermediates, plastic resins, synthetic rubber, man-made fibres, 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. Indian exports of agrochemicals have shown an impressive growth over the last five years. There are many pesticide formulators spread over the country and India is the 4th largest producer of agrochemicals after USA, Japan and China. This industry is net export earning & contributes significantly to the foreign exchange basket of the country.

4. Based on composition, building blocks for petrochemicals are divided into two sub-groups:-

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.
- 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, in-organics, dyestuffs, pesticides, paints, soaps and petrochemicals etc. Research and Development 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 in 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 285.21 million MT in 2018-19. 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 anesthetic 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 7.3 million tonne in 2011-12 to 10.04 million tonne in 2018-19 (CAGR of 4.76%) while its consumption has increased from 8.52 million tonne to 12.58 million tonne (CAGR of 5.73%) during the same period.

11. Chemicals from petroleum may range from basic petrochemicals such as ethylene, propylene, benzene, xylenes to finished end-products like plastics, rubbers, fibers, 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.¹

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

¹ Dr. G.N.Sarkar, Advanced Petrochemicals, First Edition, Khanna Publishers, New Delhi

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 9464 thousand tonne in 2013-14 to 10602 thousand tonne in 2018-19. Off take of natural gas for petrochemical sector has increased from 2405 million standard cubic meter to 3386 million standard cubic meters during the same period.

13. Olefins and Fibre Intermediates (Acrylonitrile, Caprolactum, Mono Ethylene 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, Silica, Manganese ore, etc) and Basic metals (Copper, Zinc, Titanium, Aluminium, Iron, Chromium, Tin, Nickel, etc) form the basis of *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. There are two naphtha, two gas based and seven dual feed cracker complexes in the country with a combined annual ethylene capacity of 7.27 million MT.

15. 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.

16. According to the National Sample Survey Office (NSSO)'s latest survey (July 2015-June 2016 NSS 73rd round), 3.72 lakh persons were engaged in Unincorporated Chemicals and Chemical Products Sector (Industry Division 20) while 3.6 crore persons engaged in Unincorporated Manufacturing sector. There is around 1.73 lakh Unincorporated Enterprises in Chemicals and Chemical Products Sector (Industry Division 20) industries while 1.97 crore Unincorporated Enterprises in Manufacturing sector.

Chapter 2

Global Scenario

As per the European Chemical Industry Council Report-2020 (Cefic- 2020) world chemicals (excluding pharmaceuticals) sales in 2018 are valued at 3347 Euro billion. India ranks 4th in Asia and 6th in world with chemicals sales valued at 89 Euro billion in 2018. India's Capital spending in World Chemicals (excluding pharmaceuticals) is valued at 4.6 Euro billion in 2018, as compared to 3.6 Euro billion in 2008. India's chemical R&D spending is valued at 1.4 Euro billion in 2018, as compared to 0.7 Euro billion in 2008. Top ten countries in World Chemical sales during 2018 are as under:

Rank	Country	Sales in 2018 (in Euro Billion)
1	China	1198
2	European Union (EU)	565
3	USA	468
4	Japan	180
5	South Korea	127
6	India	89
7	Taiwan	76
8	Russia	76
9	Brazil	69
10.	Saudi Arabia	53

Source: cefic report 2020

2. As per UN Comtrade Database for 2018, India ranks 14th in the world exports of chemicals (excluding pharmaceutical products) and ranks 6th in the world imports of chemicals (excluding pharmaceutical products). India's exports of chemicals (excluding pharmaceutical products) was 39.75 US\$ billion in 2018. India's share in World exports of chemicals (excluding pharmaceutical products) was 2.37% in 2018. India's imports of chemicals (excluding pharmaceutical products) was 62.08 US\$ billion in 2018. India's share in World imports of chemicals (excluding pharmaceutical products) was 3.65% in 2018.

3. The top five Chemical Products (in terms of value) exported to different countries during 2018-19 were Other Herbicides-Anti Sprouting Products (Rs.4,042/-Cr.), Other Insecticides (Rs.3,035/-Cr.), Reactive Dyes (Rs.2,616/-Cr.), Menthol (Rs.2,152/- Cr.) and

Pigment Emulsion (Rs.1,871/-Cr.). Other Herbicides-Anti Sprouting Products were exported mainly to the countries of USA, Brazil, France, Argentina & Israel; Other insecticides products exported to Brazil, USA, Bangladesh, Iran & Mexico; Reactive Dyes exported to Bangladesh, Turkey, Pakistan, Singapore & Honduras and Menthol exported to China, USA, Singapore, Japan & France and Pigment Emulsion exported to USA, Netherlands, China, Japan and Korea.

During 2018-19, top five Chemical products (in terms of value) imported from different countries were Methanol (Rs.5,005/-Cr.), Acetic Acid (Rs.3,968/-Cr.), Carbon Black (Rs.1,923/- Cr.), Phenol (Rs.1,897/- Cr.) and Other Insecticides (Rs.1,789/- Cr.). Methanol mainly imported from Iran, Saudi Arab, Qatar, UAE and USA. Acetic Acid imported from Singapore, China, Malaysia, USA and Saudi Arab. Carbon Black imported from China, Korea, Russia, Egypt and UAE. Phenol imported from Thailand, USA, Saudi Arab, Korea RP and South Africa and Other Insecticides imported from China, USA, Taiwan, Israel and Korea.

Export of top five Petrochemical Products (in terms of value) to different countries during 2018-19 were Paraxylene (Rs.18,083/- Cr), Benzene (Rs.6,243/- Cr.), Polyester Filament Yarn (Rs.4,874/- Cr.), Polyester Chips/Pet Chips (Rs.3,539/- Cr) and Polypropylene (Inc. Co-Polymer) (Rs.3,503/- Cr.). Paraxylene was mainly exported to China, Malaysia, Indonesia, Pakistan and Thailand. Benzene was exported to Saudi Arab, China, USA, Spain & Belgium; Polyester was exported to Brazil, Turkey, Bangladesh, Egypt and Korea. Polyester Chips/Pet Chips was exported to Italy, UAE, Japan, Bangladesh & Egypt and Poly Propylene is exported to China, Turkey, Pakistan, Italy and Vietnam.

Top five Petrochemical products (in terms of value) imported from different countries during 2018-19 were Poly vinyl Chloride (Rs.9,295/- Cr.), Styrene (Rs.6,824/- Cr.), High Density Polyethylene (Rs.6,516/-Cr.), Poly Propylene (Inc. Co-Polymer) (Rs.6,405/- Cr.) and Paraxylene (Rs.6,405/-Cr.). Poly vinyl Chloride mainly imported from Korea, Taiwan, Japan, China and USA. Styrene imported from Singapore, Kuwait, Saudi Arab, Korea & USA. High Density Polyethylene imported from UAE, Singapore, Qatar, Saudi Arab & USA. Poly Propylene (Inc. Co-Polymer) imported from UAE, Singapore, Saudi Arab, Thailand & Korea. and Para Xylene imported from Japan, Singapore, Kuwait, Saudi Arab & Korea RP.

Chapter 3

Important Economic Indicators

According to the National Accounts Statistics 2019, brought out by the Central Statistics Office (CSO), Chemical and Chemical products sector, excluding pharmaceuticals (Industry Division 20 of NIC 2008), accounted for 1.49% of the GVA for All Economic Activity in 2017-18. The share of Gross Value Added (GVA) in the Manufacturing Sector during 2017-18 is about 9.06%. GVA of Chemical Sector has grown with CAGR of 12.47% during the period 2012-13 to 2017-18. The average Indices of Industrial Production (IIP) for the Chemical and Chemical products (Industry Division 20 of NIC 2008) for the year 2018-19 stood at 119.0, which is 2.5% higher 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 year 2017-18 was Rs.7,47,737/- crores and it is 7.5% 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 year 2017-18 was Rs.11,17,622/- crores and it is 11.20% of the Total Value of Output of Manufacturing sector. As per the data of six years, i.e. between 2012-13 to 2017-18, real growth rate in Output of Chemical Industry excluding Pharmaceuticals Industry (i.e. Industry Division 20) is 7.7% while it is 9.1% for Chemical Industry including Pharmaceutical Industry {i.e. Industry Division 20 & 21}. Growth in Value of Output for Manufacturing Sector during the same period is 6.8%.

2. The exports and imports data of 2018-19 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 fibers (Chapter 55 HS code), Man-Made Filaments (Chapter 54 HS code) and Tanning or Dyeing (Chapter 32 HS code). Pharmaceuticals products accounted Rs.88,659/- crore, Man-made staple fibres accounted Rs.6,800/- crore, Man-Made Filaments accounted Rs.9,175/- crore and Tanning or Dyeing accounted Rs.7,664/- crore in **net exports** while Fertilizers (chapter 31 HS code) accounted Rs.45,419/- crore, Plastic and Articles thereof (Chapter 39 HS code) accounted Rs.50,512/- crore, Organic Chemicals (Chapter 29 HS code) accounted Rs.28,985/- crore, Inorganic Chemicals (Chapter 28 HS code) accounted Rs.39,181/- crore, Miscellaneous Chemical Products (Chapter 38 HS

code) accounted Rs.9,352/- crore and Synthetic Rubber and Factice (4002 HS code) accounted Rs.7,157/- crores in the **net imports** during 2018-19. {**Table No. 12A**}

3. As per Annual Survey of Industries (Factory Sector), 2016-17, top seven States, namely, Gujarat (31.1%), Maharashtra (16.8%), Uttarakhand (5.9%), Tamil Nadu (4.7%), Himachal Pradesh (4.3%), West Bengal (4.3%) and Uttar Pradesh (3.8%), contributed around 71% in the Gross Value Added (GVA) for the Chemical & Chemical products Sector (Industry Division 20 of NIC 2008) and seven States, namely, Gujarat (33.2%), Maharashtra (16.4%), Tamil Nadu (5.0%), West Bengal (5.0%), Uttar Pradesh (4.9%), Rajasthan (4.8%) and Andhra Pradesh (3.7%), contributed around 73% in the Value of Output. {**Table 50**}

4. The exports of chemicals & petrochemicals (excluding pharmaceutical products and fertilizers) has increased from Rs.1,35,330/- crores in 2011-12 to Rs.2,83,287/-crore in 2018-19. The percentage share of the exports of chemicals & petrochemicals (excluding pharmaceutical products and fertilizers) in the total national exports increased from 9.2% to 12.3% during the same period {**Table 11, 16 & 24**}.

At the product level, the following products accounted more than Rupees One Thousand crore in the exports during 2018-19:

Product	Export (Rs. crore)	Product	Export (Rs. crore)
Paraxylene	19253	Other Pesticides	2333
Polyester Chips/Pet Chips	8897	Azo Dyes	2252
Polyester Filament Yarn	8396	Polyester Staple Fibre	2250
Benzene	8221	Mono Ethylene Glycol	1753
Polypropylene (Inc. Co-Polymer)	5966	Ethylene	1407
Other Herbicides-Anti Sprouting Products	5951	Low Density Polyethylene	1328
Other Insecticides	5803	Ortho-Xylene	1227
Reactive Dyes	5114	Butadiene	1139
Pigment Emulsion	4946	Cypermethrin	1124
Other Fungicide Nes	4135	Disperse Dyes	1076

Linear Low Density Polythylene	3808	Food Colours	1073
High Density Polythylene	3652	Carbon Black	1036
Menthol	2532		

5. The imports of Chemicals & Petrochemicals (excluding Pharmaceutical products and fertilizers) has increased from Rs.1,76,419/- crores in 2011-12 to Rs.3,94,834/- crores in 2018-19. The percentage share of the imports of Chemicals & Petrochemicals (excluding Pharmaceutical products and fertilizers) in the total national imports increased from 7.5% to 11.0% during the same period { **Table 11, 17 & 25** }.

At the product level, the following products accounted for more than Rupees One Thousand crores in the imports in 2018-19:

Product	Import (Rs. crore)	Product	Import (Rs. crore)
Poly Vinyl Chloride	13541	Linear Low Density Polythylene	2287
High Density Polythylene	8727	Phenol	2177
Polypropylene (Inc. Co-Polymer)	8370	Linear Alkyl Benzene	2100
Styrene	7441	Ethyl Vinyl Acetate	2029
Paraxylene	6460	Butyl Rubber	2002
Methanol	5195	Polyester Chips/Pet Chips	1991
Nylon-6	4303	Abs Resin	1736
Acetic Acid	4224	Other Pesticides	1638
Mono Ehylene Glycol	3716	Styrene Butadiene Rubber	1570
Polycarbonate	3693	Soda Ash	1449
Polyol	3507	Ethylene Dichloride	1414
Purified Terephthalic Acid	3408	Poly Butadiene Rubber	1383
Low Density Polyethylene	3104	Vinyl Actate Monomer	1359
Vinyl Chloride Monomer	2529	Other Herbicides-Anti Sprouting Products	1222
Carbon Black	2494	Polyester Filament Yarn	1180

Acrylonitrile	2440	Phthalic Anhydride	1075
Other Insecticides	2400	Elastomeric/Spandex Filament Yarn Yarn	1002
Toluene	2355		

6. The net imports of Chemicals & Petrochemicals (excluding Pharmaceutical products and fertilizers) has increased from Rs.41,089/-crores in 2011-12 to Rs.1,11,548/-crore in 2018-19. The percentage share of the net imports of Chemicals & Petrochemicals (excluding Pharmaceutical products and fertilizers) in the total national net imports increased from 4.7% to 8.7% during the same period. At the product level, the following products accounted more than Rs. thousand crore in the net imports in 2018-19. {**Table 12(a), 18 & 26**}

Product	Net Import (Rs. crore)	Product	Net Import (Rs. crore)
Poly Vinyl Chloride	13523	Linear Alkyl Benzene	2096
Styrene	7374	Phenol	2060
Methanol	5157	Ethyl Vinyl Acetate	2016
High Density Polyethylene	5075	Butyl Rubber	1989
Acetic Acid	4119	Mono Ethylene Glycol	1963
Nylon-6	3913	Low Density Polyethylene	1777
Polycarbonate	3647	Abs Resin	1730
Polyol	3075	Carbon Black	1457
Vinyl Chloride Monomer	2529	Ethylene Dichloride	1370
Purified Terephthalic Acid	2434	Soda Ash	1297
Acrylonitrile	2410	Vinyl Actate Monomer	1292
Polypropylene (Inc. Co- Polymer)	2404	Poly Butadiene Rubber	1230
Toluene	2260	Styrene Butadiene Rubber	1134

The following products accounted more than Rupees One Thousand crore in the total net exports in 2018-19: -

Product	Net Export (Rs. crore)	Product	Net Export (Rs. crore)
Paraxylene	12793	Menthol	2405
Benzene	8092	Azo Dyes	2210
Polyester Filament Yarn	7215	Linear Low Density Polyethylene	1521
Polyester Chips/Pet Chips	6906	Polyester Staple Fibre	1354
Reactive Dyes	4850	Butadiene	1125
Other Herbicides-Anti Sprouting Products	4729	Cypermethrin	1123
Pigment Emulsion	4373	Ortho-Xylene	1073
Other Insecticides	3402	Food Colours	1006
Other Fungicide Nes	3161		

7. Chemical Sector (including Pharmaceutical) in India is mainly in the Organised Sector {i.e. 99.5% GVA of Chemical Sector (including Pharmaceutical) comes 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 year 2015-16 and 2016-17 are given in the table below:

Class	Description	Total Output (Rs. Crore)	
		2015-16	2016-17
2011	Manufacture of basic chemicals	126784	126624
2012	Manufacture of fertilizers and nitrogen compounds	124352	107653
2013	Manufacture of plastics and synthetic rubber in primary forms	101482	100540
2021	Manufacture of pesticides and other agrochemical products	44970	47503
2022	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	42338	41880

2023	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	85910	75071
2029	Manufacture of other chemical products n.e.c.	67363	64239
2030	Manufacture of man-made fibres	16017	19498
Total		609216	583008

Source: - *Annual Survey of Industries, 2015-16 and 2016-17 (Factory sector), Ministry of Statistics & Programme Implementation*

Chapter 4

INDIAN TRADE CLASSIFICATION (HARMONISED SYSTEM)

[ITC (HS)] 2017- An abstract

Indian Trade Classification (Harmonized System), 2017 has been 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 whereas 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	Description	Section
Chapter 28	Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes	SECTION VI
Chapter 29	Organic chemicals	
Chapter 38	Miscellaneous chemical products	
Chapter 39	Plastics and articles thereof	SECTION VII.
Chapter 40	Rubber and articles thereof	
EXIM Code 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	
Chapter 54	Man-made filaments	

Chapter 55	Man-made staple fibres	SECTION XI.
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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

Illustration of 8 digits Product Code:

**Source: website of Directorate General Foreign trade (DGFT), Ministry of Commerce and Industry, Government of India. <http://dgft.gov.in/exim/2000/itchs2017/ITCHS2017.html> may be followed for further details.*

Chapter 5

National Industrial Classification (NIC) - A Digest

The Central Statistics Office under the 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 fibres

Class	2011	Manufacture of Basic Chemicals
	2030	Manufacture of man-made fibres
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 tow

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_17apr09.pdf may be followed for further details.*

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 2004-05 to 2011-12 to not only reflect the changes in the industrial sector but to also align it with the base year of other macroeconomic indicators like the Gross Domestic Product (GDP), Wholesale Price Index (WPI).
2. IIP in the revised series will continue 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 providing production data for Index of Industrial Production (IIP) base year 2011-12.

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

Sl 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 Fertilisers	1.06
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 which had 620 items(397 item groups)in the manufacturing sector. The sectoral composition of the IIP is as follows:

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 has been decided to include data on electricity generation figures from these sources in the new series. This inclusion is being 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 will now be 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 this Ministry.
- e. The number of source agencies reporting data for compilation of IIP in the new series will be 14 as compared to 15 in the current series. This is on account of the fact that data on ‘Iodised Salt’ in the new series will be provided by the

Department of Industrial Policy and Promotion (DIPP) as O/o Salt Commissioner is 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 has undergone a change on account of the MCDR Amendment Rules, 2016 resulting in 27 non-metallic minerals being designated as minor minerals and which are 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 Govt. 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 center 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 2001=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 the following month) for each of the selected 78 centers 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.

**The base of the index is being revised to 2015=100 to replace the existing base of the index.*

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 is the seventh revision.

New Features of WPI

- In the new 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 new WPI conceptually closer to 'Producer Price Index'.

- A new “WPI Food Index” will be 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 new 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 has been 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

Glimpses of Important Trends during 2014-15 to 2018-19

This Chapter has been included in this publication to highlight important trends of the sector during the last five years i.e. 2014-15 to 2018-19, through graphical presentation with brief analysis. The graphical presentation containing tables alongside displays trend during the said period in respect of Production, Installed Capacity, Export, Import and Net Export / Net Import relating to various groups under Major Chemicals and Major Petrochemicals along with compound annual growth rate (CAGR) during the period from 2014-15 to 2018-19. 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 during 2018-19.

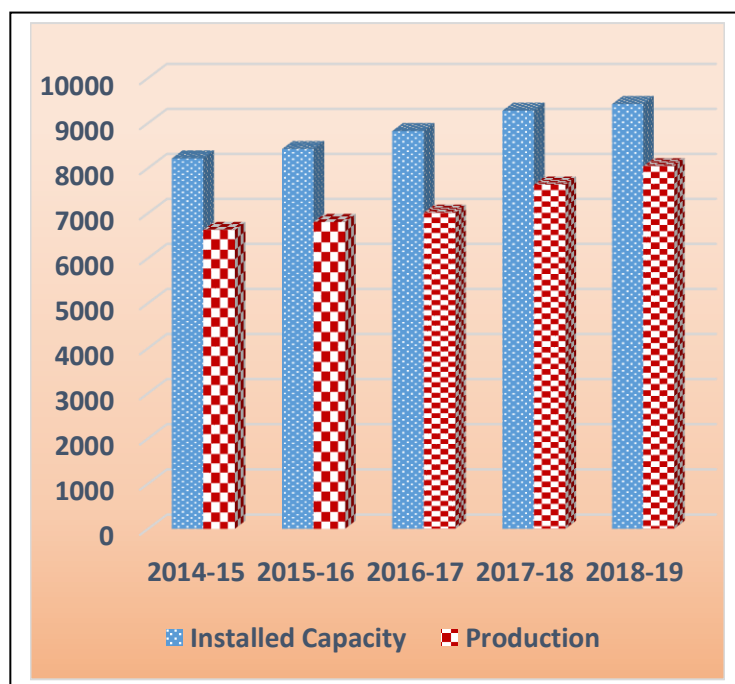
2. This Publication contains detailed tables in Appendices Section showing group-wise, product-wise, year-wise information pertaining to Selected Major Chemicals and Petrochemicals along with top five import and export destinations. The information relating to exchange rates of Indian rupees' vis-a-vis US\$, World export of Chemicals by top ten countries -2018, 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 period 2011-12 to 2018-19. CAGR in these tables has also been reflected over the period of 8 years.

Alkali Chemicals

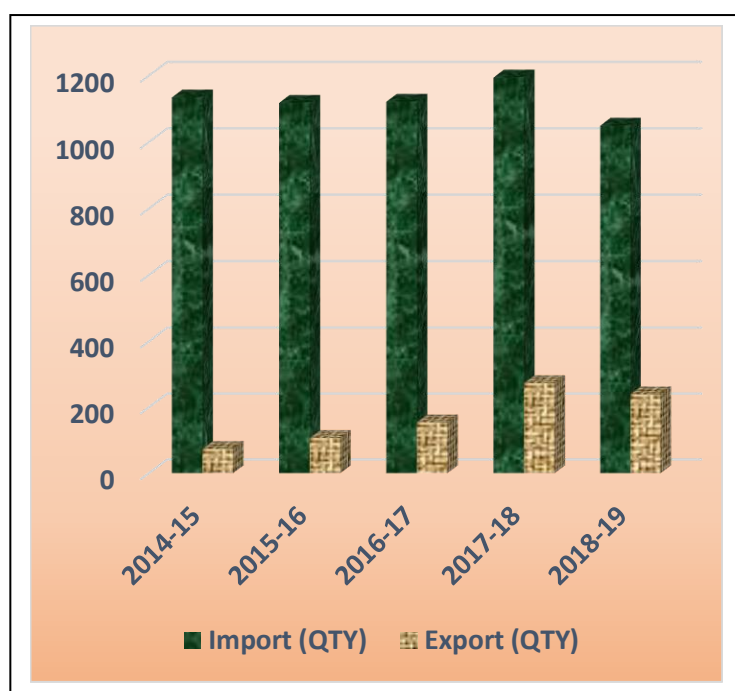
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	8214	6625
2015-16	8422	6802
2016-17	8822	7009
2017-18	9274	7631
2018-19	9422	8043
CAGR (%)	3.5	5.0



Quantity Imported-Quantity Exported

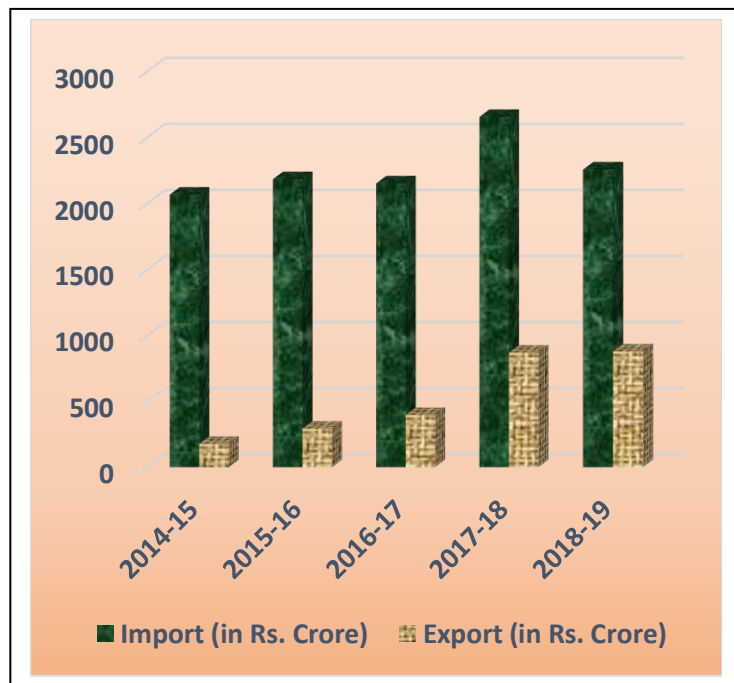
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	1134	74
2015-16	1118	107
2016-17	1121	154
2017-18	1194	273
2018-19	1049	239
CAGR (%)	-1.9	34.3



Alkali Chemicals

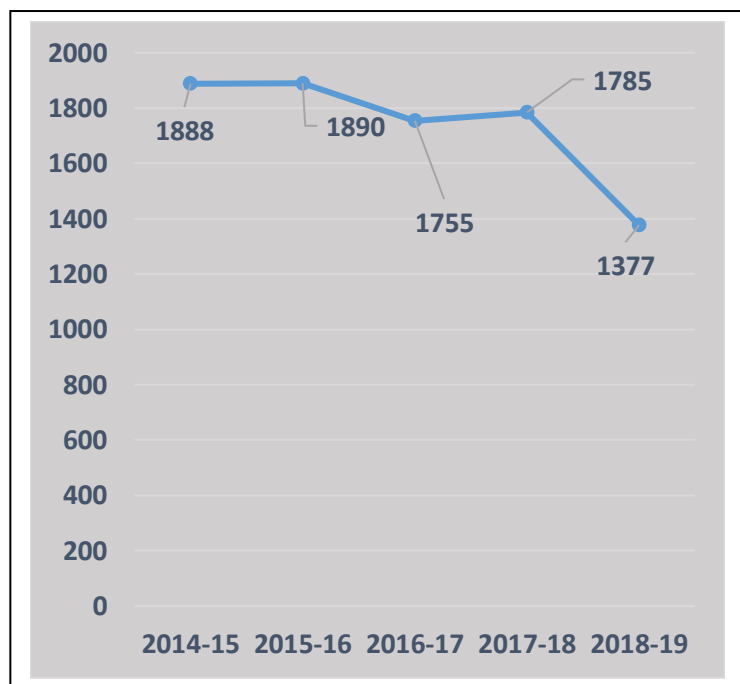
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	2065	177
2015-16	2182	292
2016-17	2151	396
2017-18	2653	869
2018-19	2255	878
CAGR (%)	2.2	49.3



Net Import

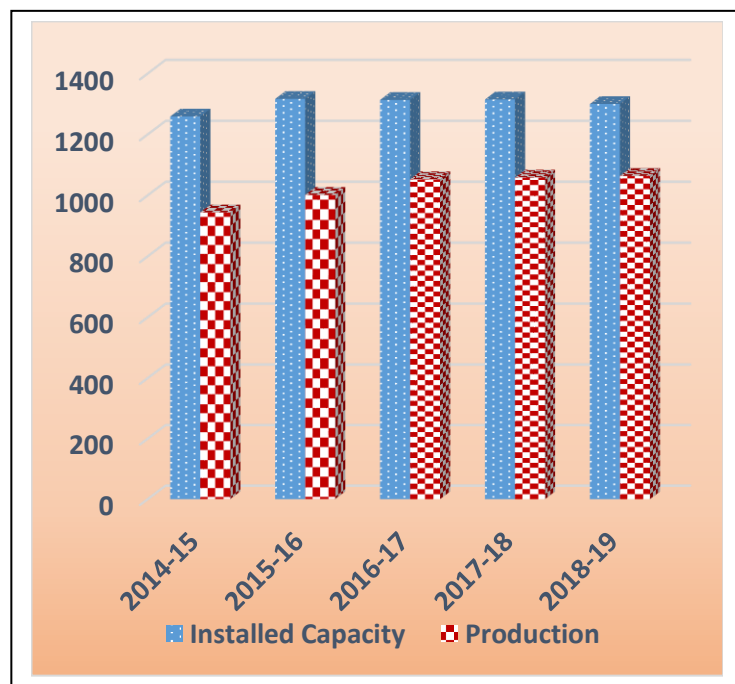
Year	Net Import (Rs. in Crore)
2014-15	1888
2015-16	1890
2016-17	1755
2017-18	1785
2018-19	1377
CAGR (%)	-7.6



Inorganic Chemicals

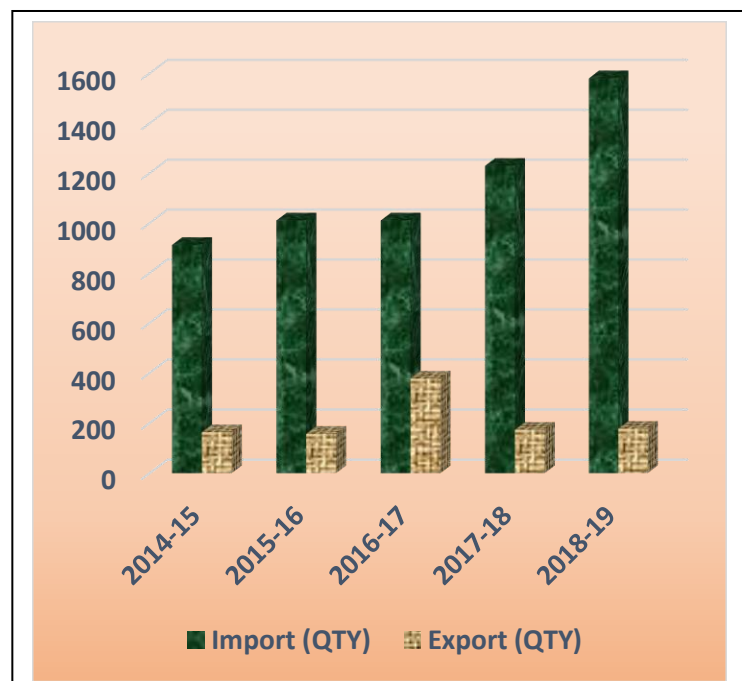
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	1259	944
2015-16	1316	1002
2016-17	1313	1053
2017-18	1315	1058
2018-19	1300	1064
CAGR (%)	0.8	3.0



Quantity Imported-Quantity Exported

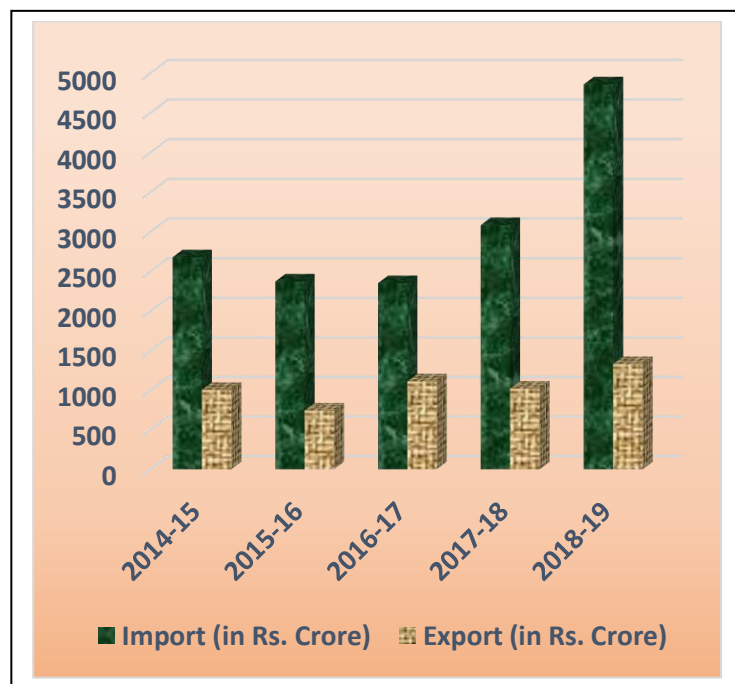
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	912	164
2015-16	1010	157
2016-17	1010	378
2017-18	1229	173
2018-19	1580	177
CAGR (%)	14.7	2.0



Inorganic Chemicals

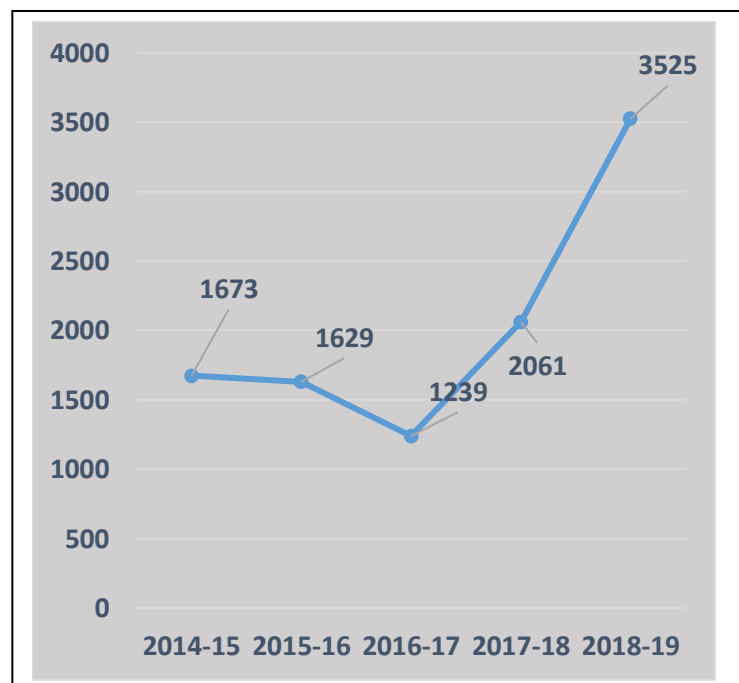
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	2679	1006
2015-16	2374	745
2016-17	2352	1113
2017-18	3084	1023
2018-19	4858	1332
CAGR (%)	16.0	7.3



Net Import

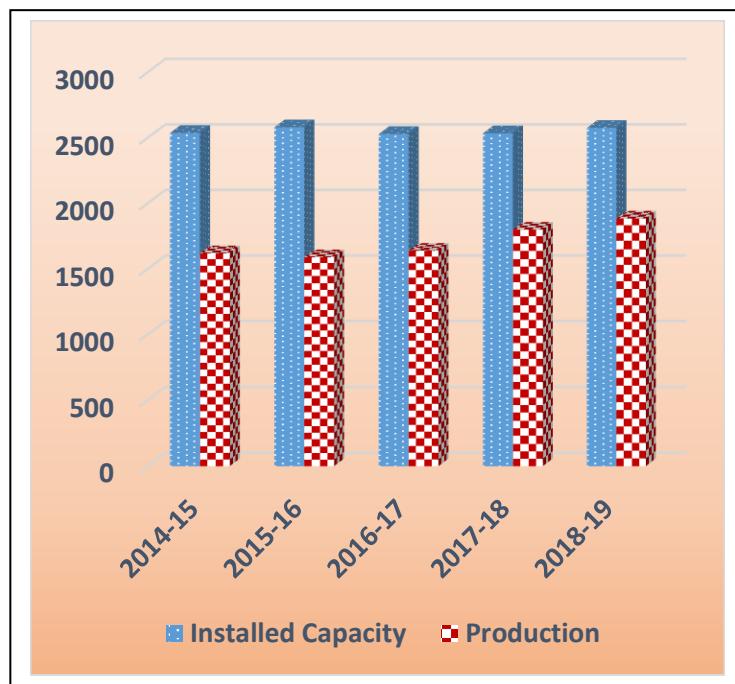
Year	Net Import (Rs. in Crore)
2014-15	1673
2015-16	1629
2016-17	1239
2017-18	2061
2018-19	3525
CAGR (%)	20.5



Organic Chemicals

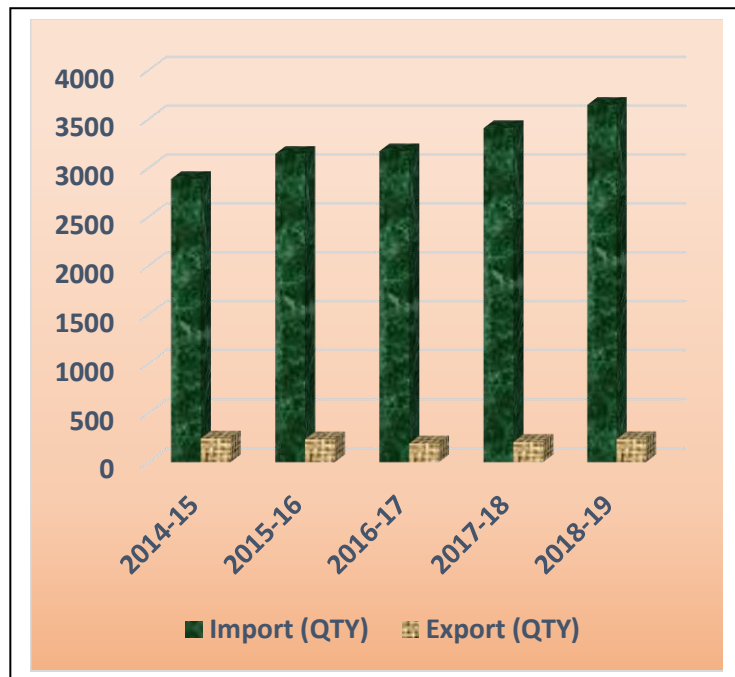
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	2537	1619
2015-16	2580	1589
2016-17	2529	1638
2017-18	2535	1799
2018-19	2575	1884
CAGR (%)	0.4	3.9



Quantity Imported-Quantity Exported

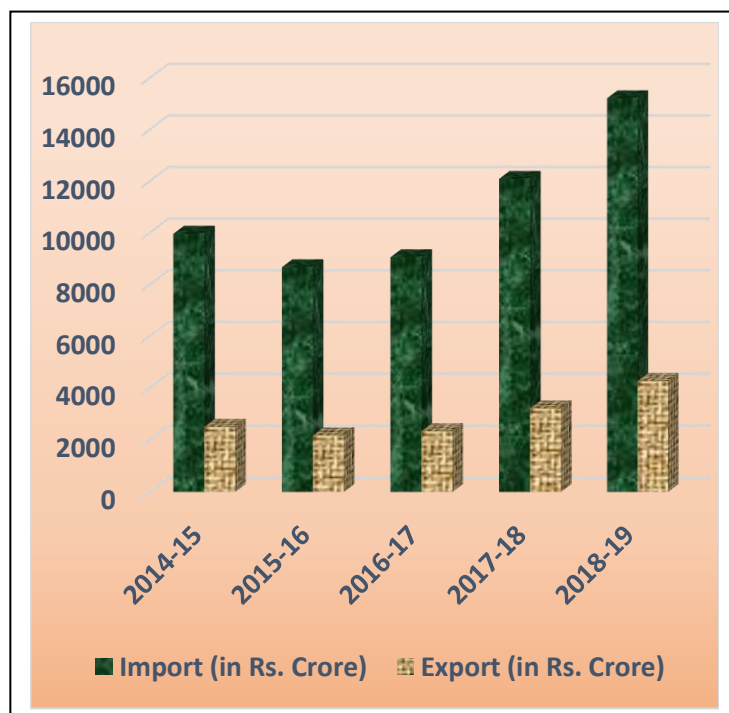
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	2886	241
2015-16	3143	232
2016-17	3170	190
2017-18	3407	205
2018-19	3645	233
CAGR (%)	6.0	-0.8



Organic Chemicals

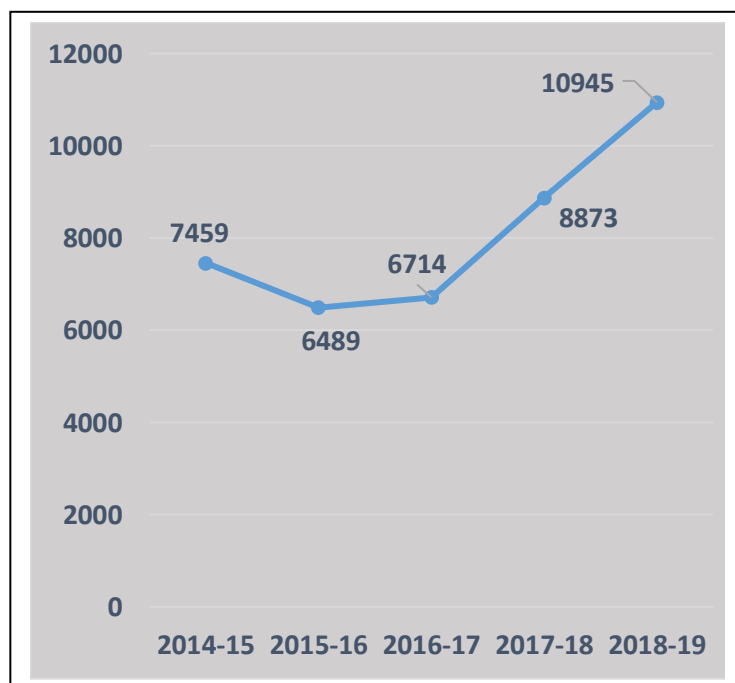
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	9954	2495
2015-16	8657	2168
2016-17	9044	2329
2017-18	12077	3205
2018-19	15203	4257
CAGR (%)	11.2	14.3



Net Import

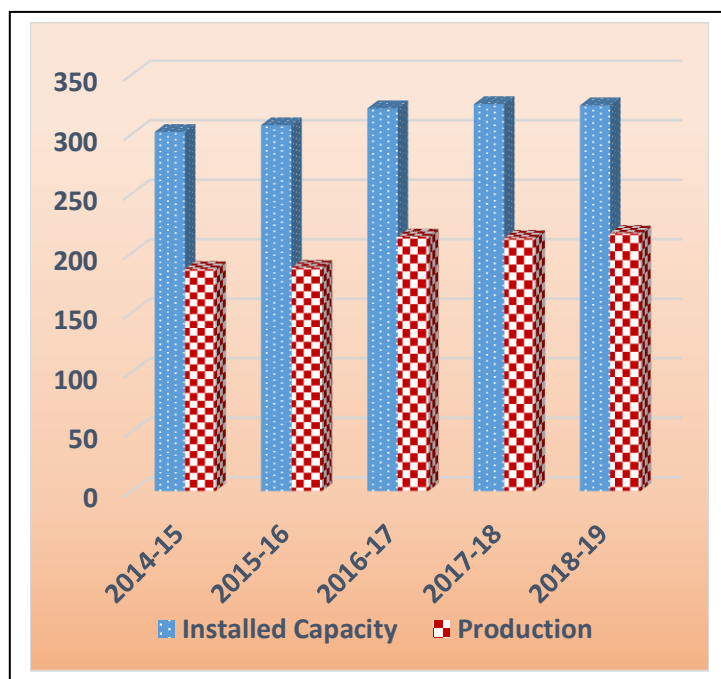
Year	Net Import (Rs. in Crore)
2014-15	7459
2015-16	6489
2016-17	6714
2017-18	8873
2018-19	10945
CAGR (%)	10.1



Pesticides

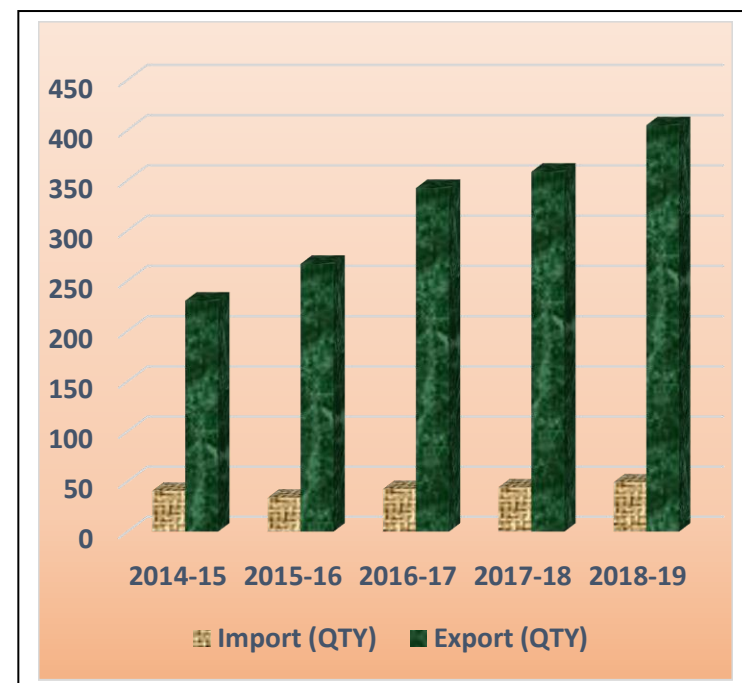
Installed Capacity-Production (Technical Grade)

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	302	186
2015-16	307	188
2016-17	322	214
2017-18	325	213
2018-19	324	217
CAGR (%)	1.8	3.8



Quantity Imported-Quantity Exported (Technical Grades & Formulations)

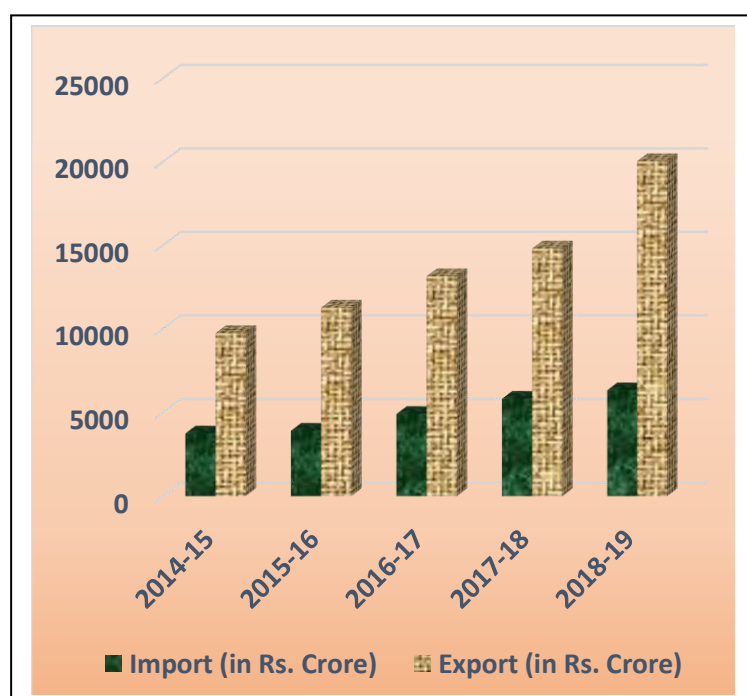
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	41	230
2015-16	34	267
2016-17	43	342
2017-18	44	358
2018-19	49	405
CAGR (%)	4.9	15.2



Pesticides

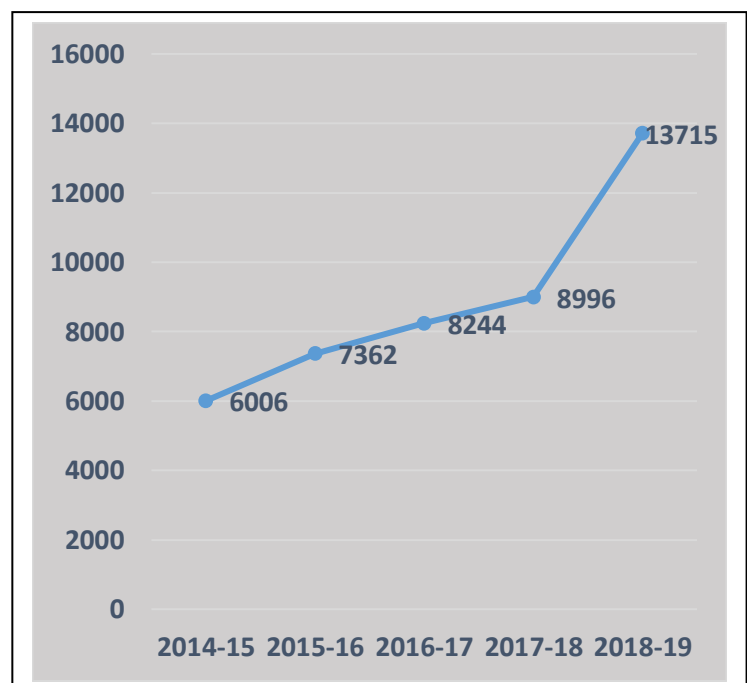
Value of Import- Value of Export (Technical Grades & Formulations)

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	3741	9747
2015-16	3907	11269
2016-17	4906	13150
2017-18	5814	14810
2018-19	6326	20041
CAGR (%)	14.0	19.7



Net Export (Technical Grades & Formulations)

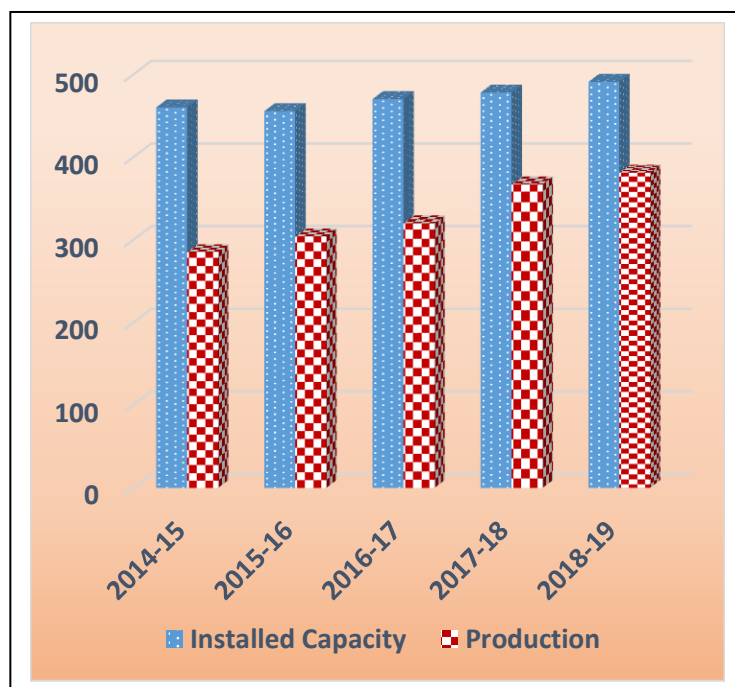
Year	Net Export (Rs. in Crore)
2014-15	6006
2015-16	7362
2016-17	8244
2017-18	8996
2018-19	13715
CAGR (%)	22.9



Dyes and Pigments

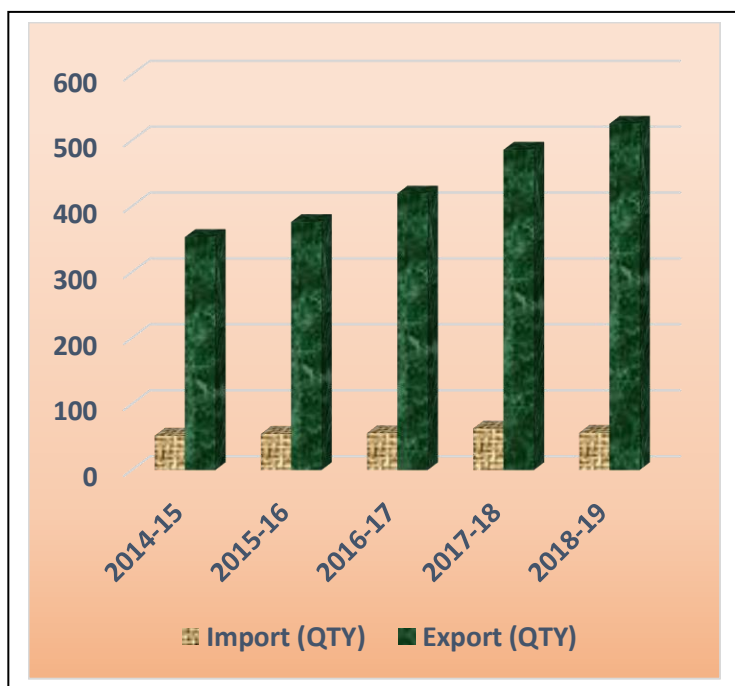
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	460	285
2015-16	456	304
2016-17	471	320
2017-18	478	367
2018-19	492	382
CAGR (%)	1.6	7.5



Quantity Imported-Quantity Exported

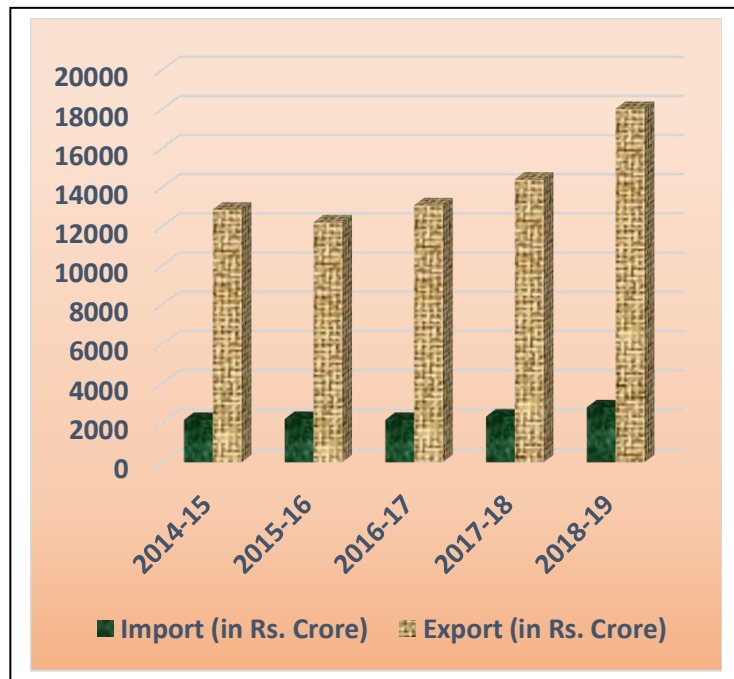
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	52	353
2015-16	55	376
2016-17	56	419
2017-18	63	486
2018-19	56	525
CAGR (%)	2.1	10.4



Dyes and Pigments

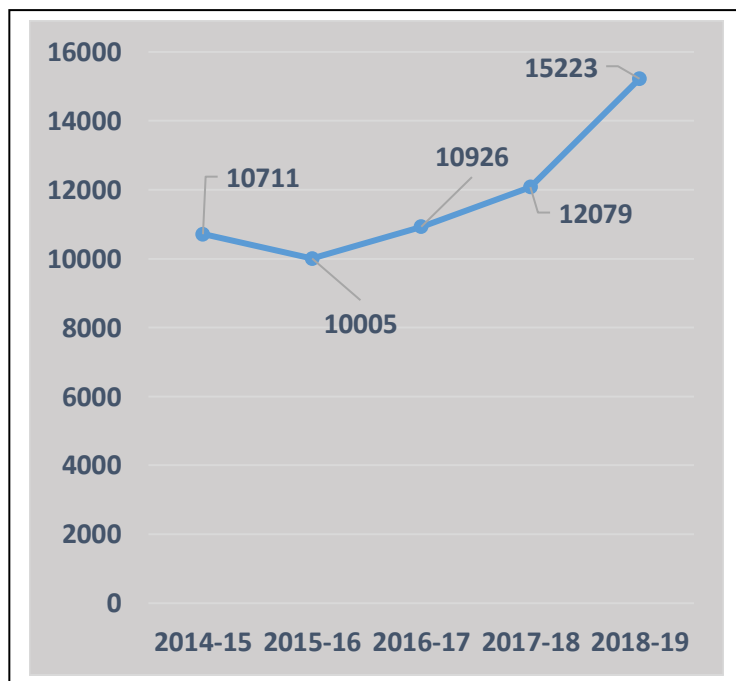
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	2147	12858
2015-16	2193	12198
2016-17	2149	13075
2017-18	2314	14393
2018-19	2784	18007
CAGR (%)	6.7	8.8



Net Export

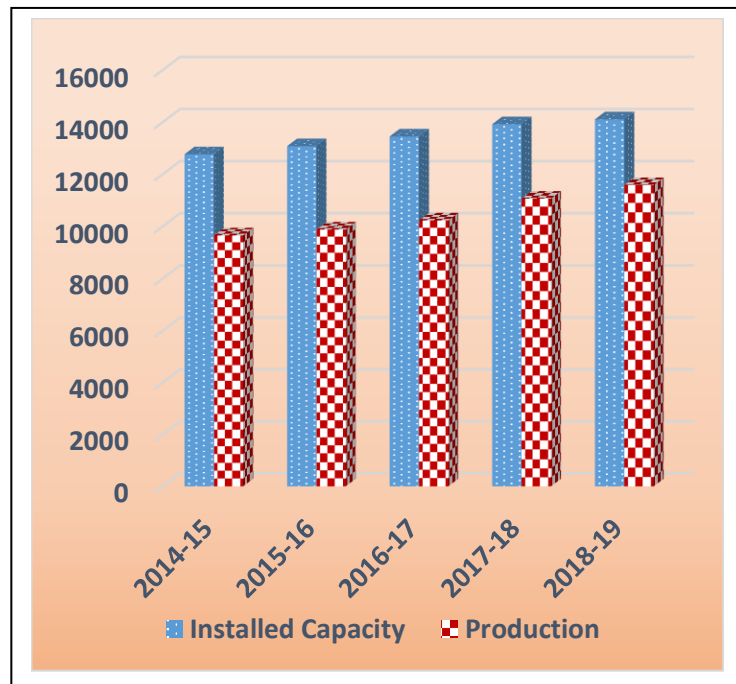
Year	Net Export (Rs. in Crore)
2014-15	10711
2015-16	10005
2016-17	10926
2017-18	12079
2018-19	15223
CAGR (%)	9.2



Total Major Chemicals

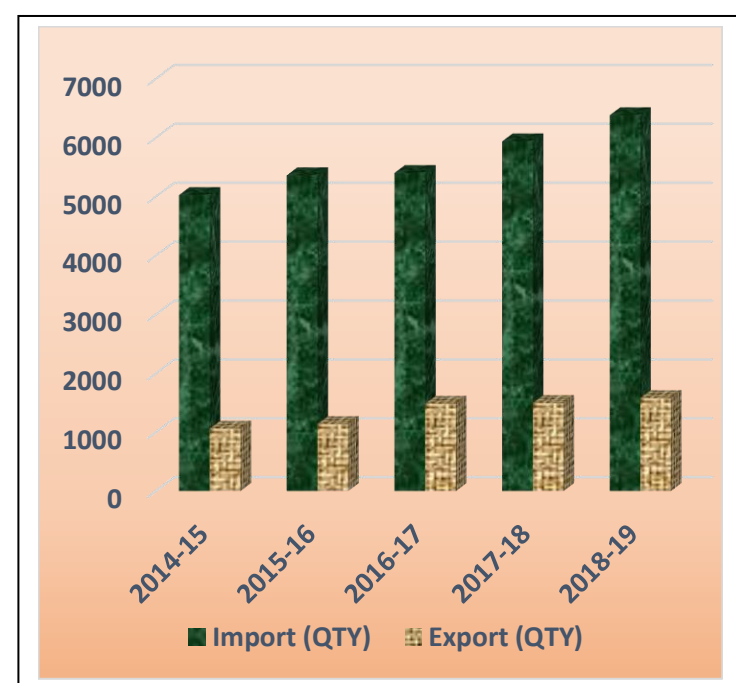
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	12772	9660
2015-16	13082	9884
2016-17	13456	10234
2017-18	13927	11069
2018-19	14112	11589
CAGR (%)	2.5	4.7



Quantity Imported-Quantity Exported

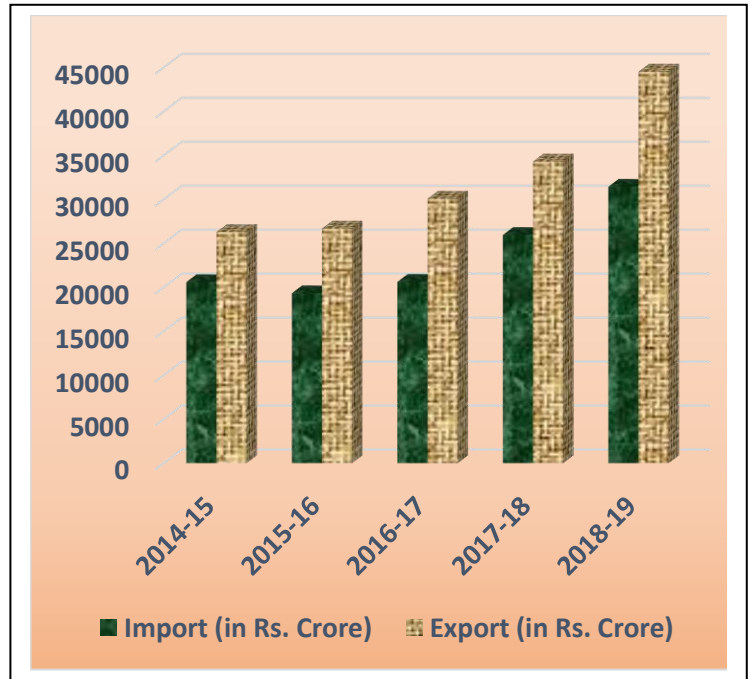
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	5025	1061
2015-16	5360	1138
2016-17	5400	1484
2017-18	5937	1496
2018-19	6379	1579
CAGR (%)	6.1	10.5



Total Major Chemicals

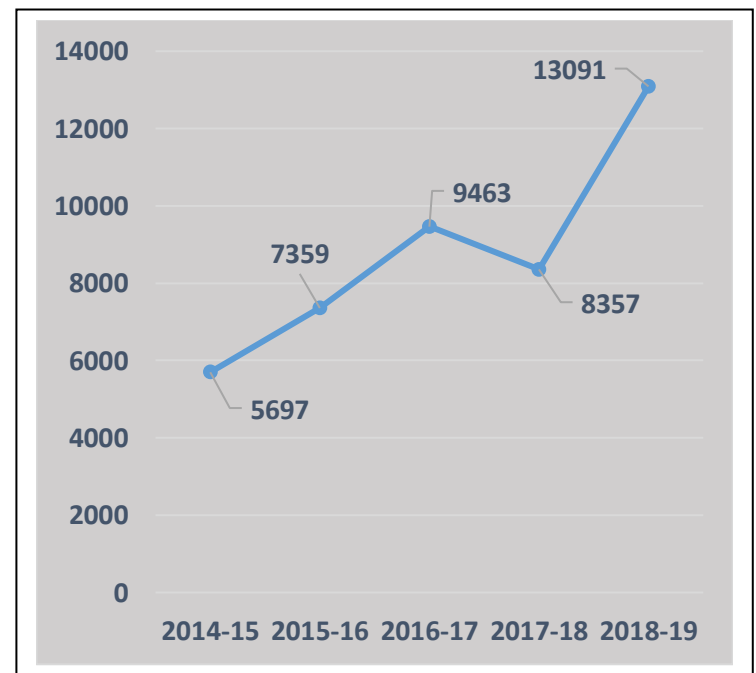
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	20585	26282
2015-16	19313	26671
2016-17	20601	30064
2017-18	25942	34300
2018-19	31426	44516
CAGR (%)	11.2	14.1

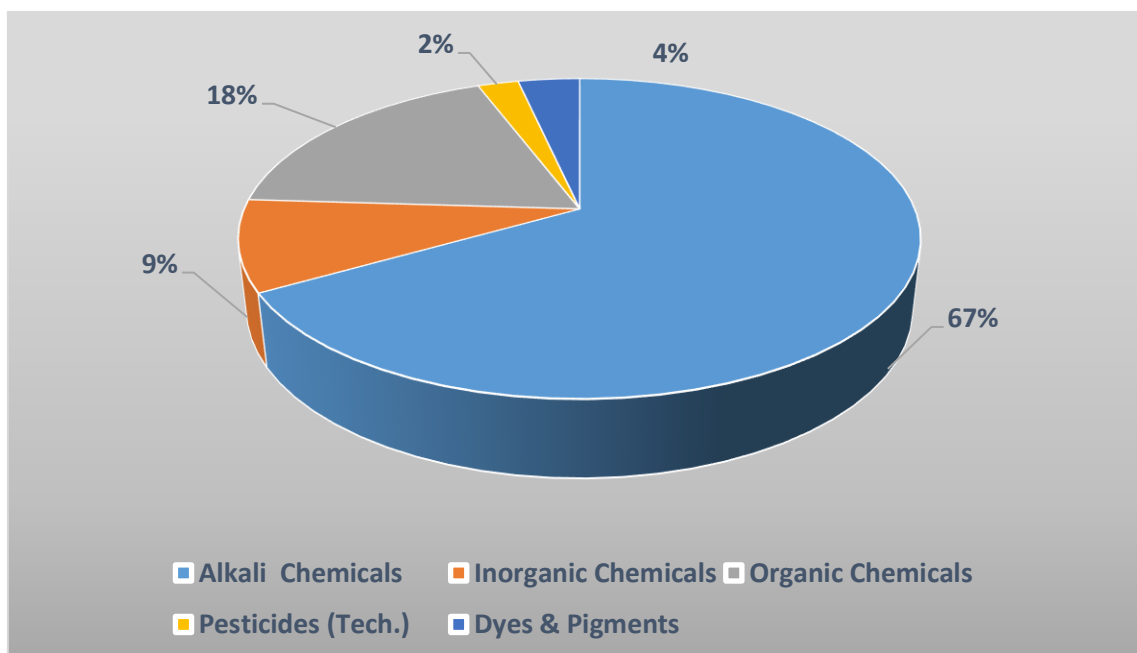


Net Export

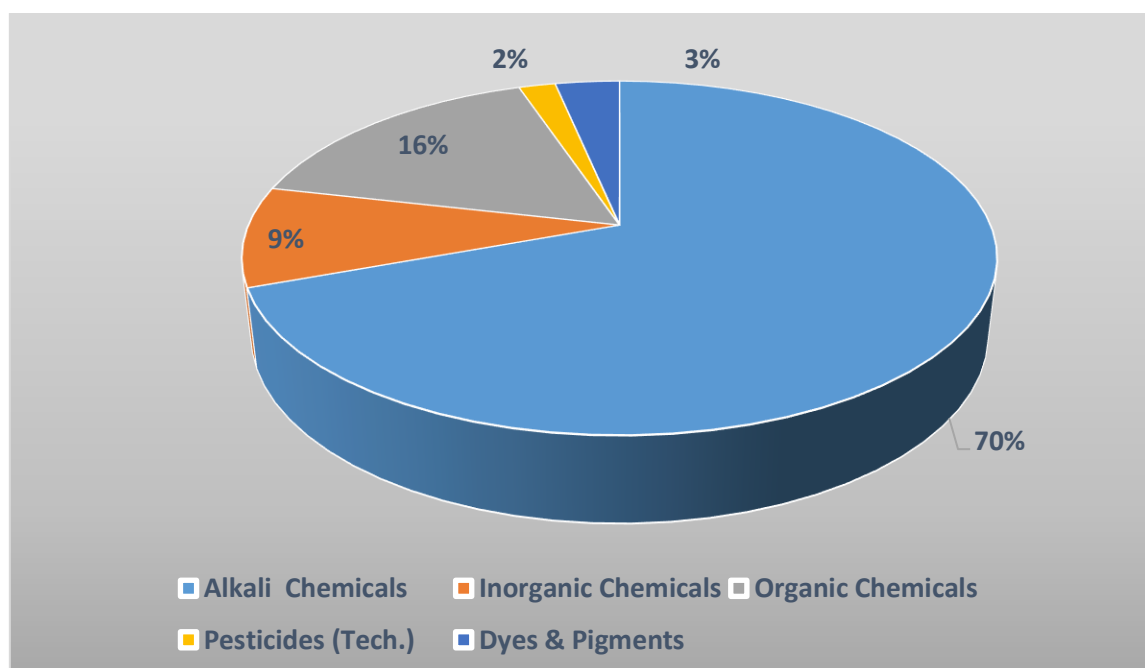
Year	Net Export (Rs. in Crore)
2014-15	5697
2015-16	7359
2016-17	9463
2017-18	8357
2018-19	13091
CAGR (%)	23.1



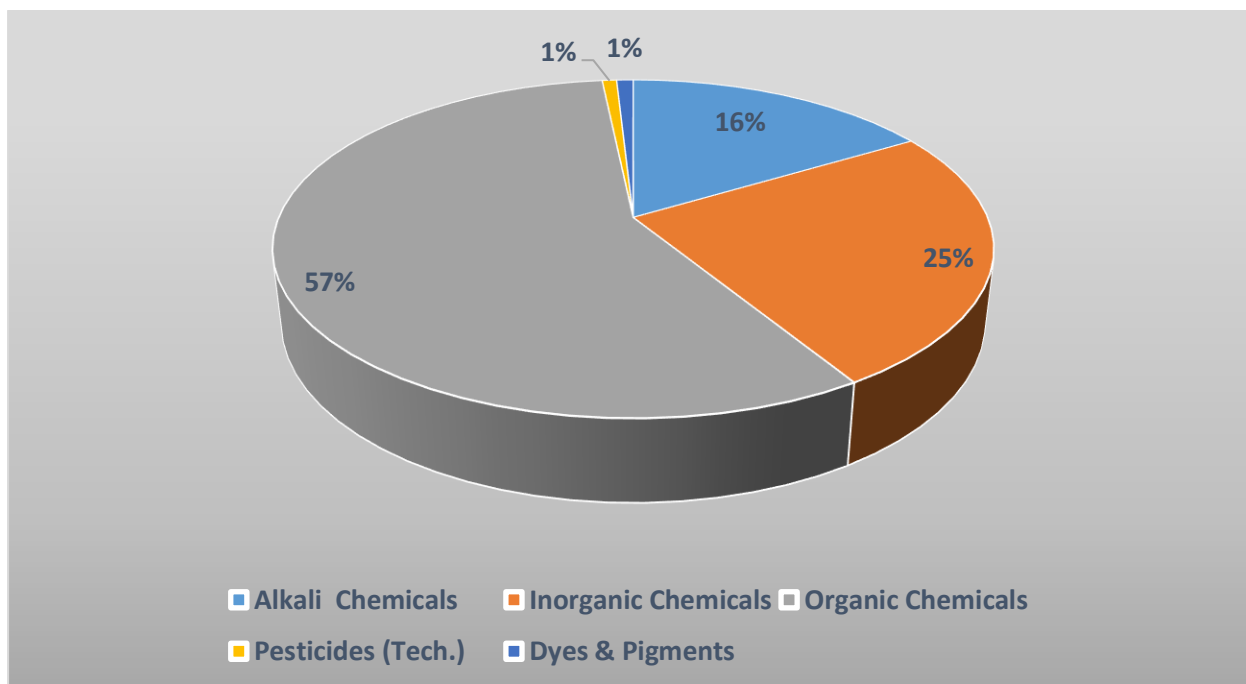
Share of Installed Capacity of Major Chemical Groups during year 2018-19



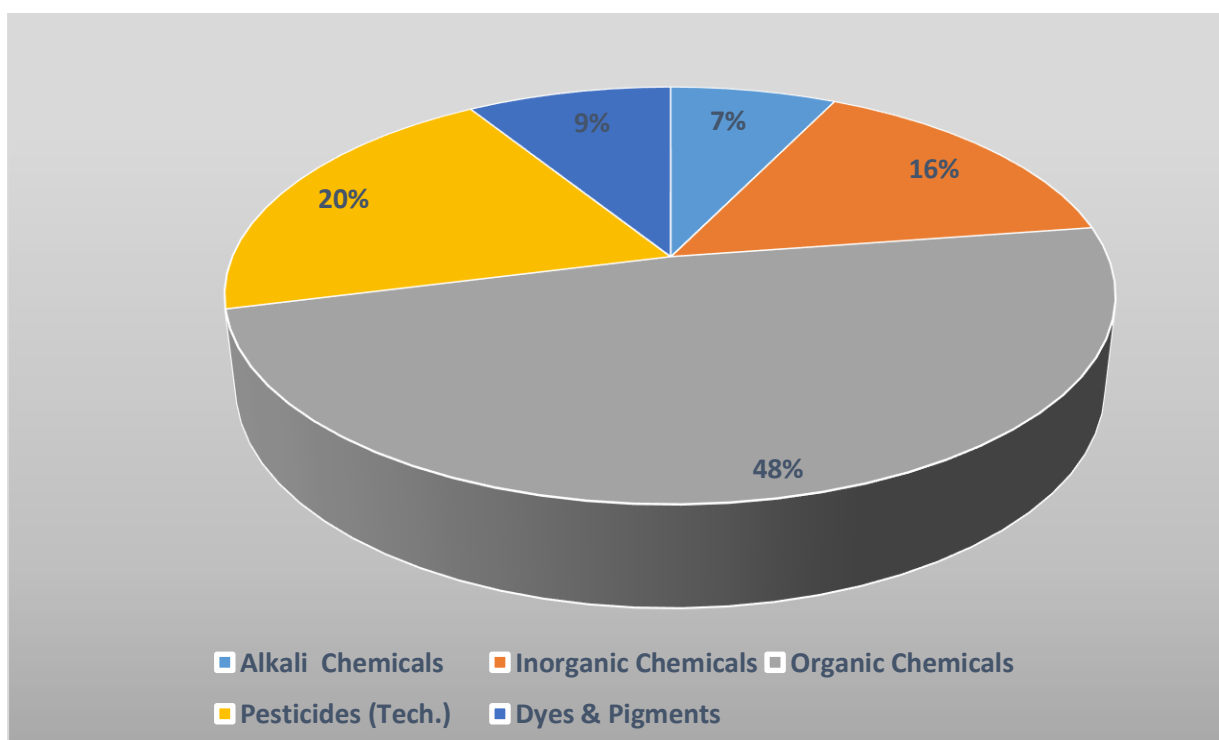
Share of Production of Major Chemical Groups during year 2018-19



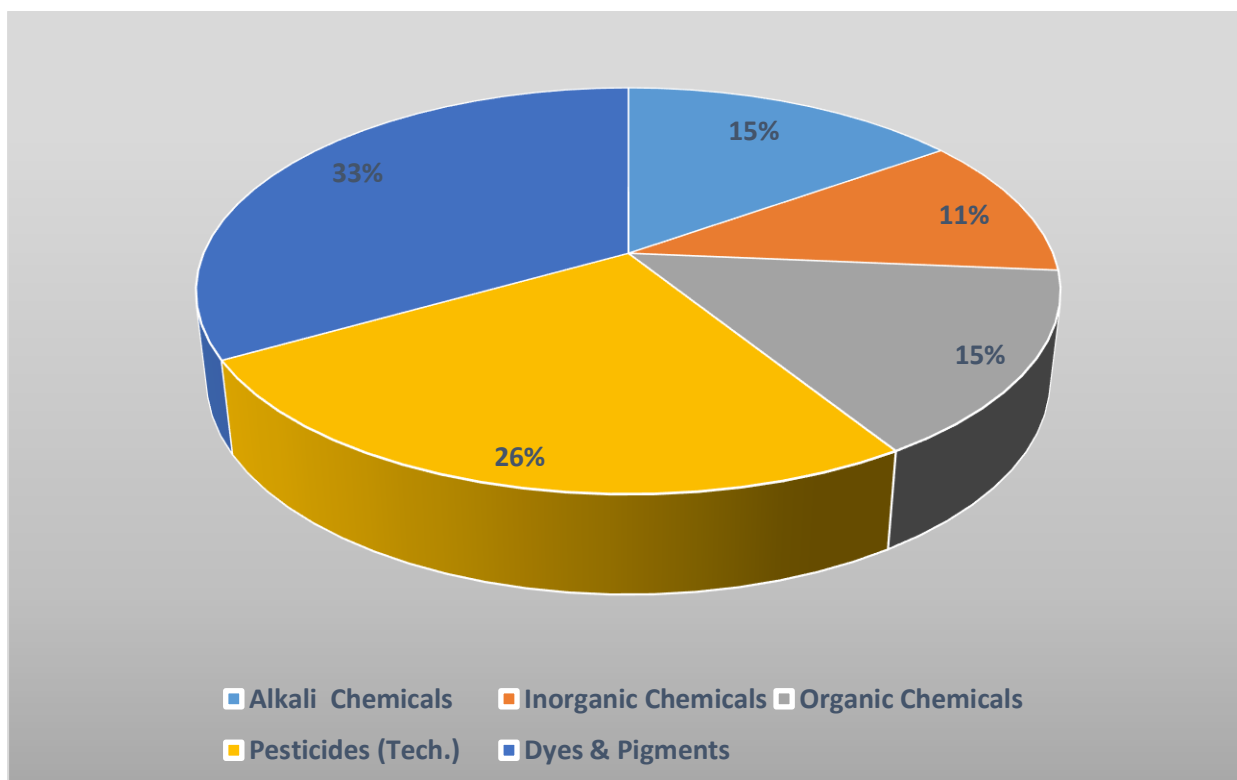
Share of groups under total Import (Qty.) of Major Chemicals during 2018-19



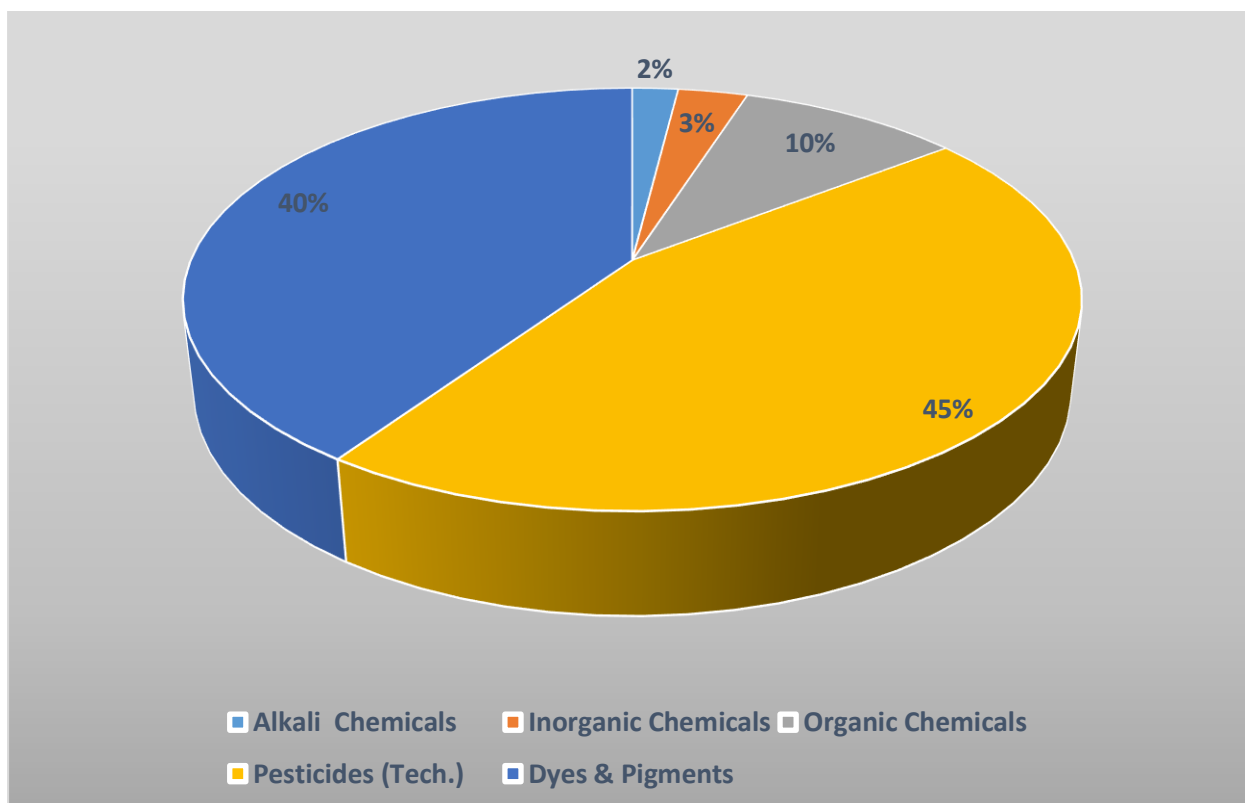
Share of groups under total Import (Value) of Major Chemicals during 2018-19



Share of groups under total Export (Qty.) of Major Chemicals during 2018-19



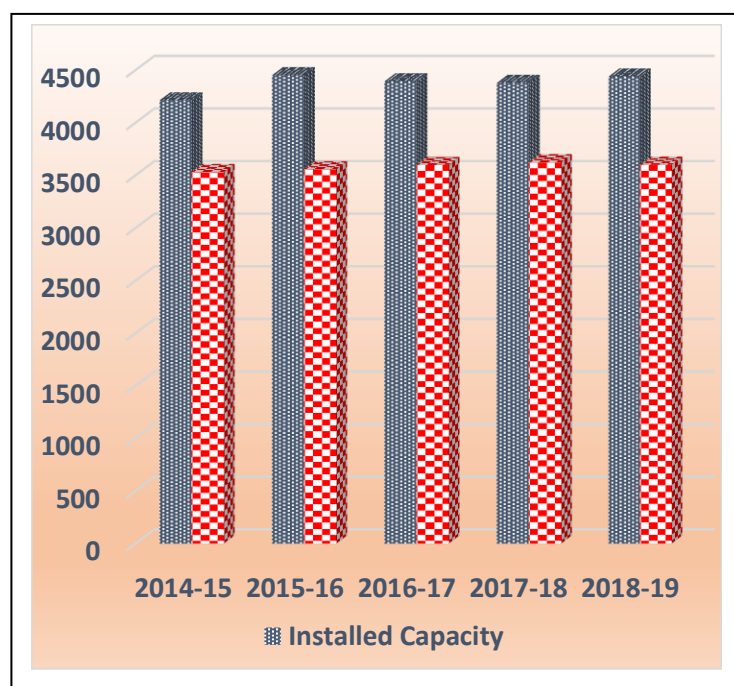
Share of groups under total Export (Value) of Major Chemicals during 2018-19



Synthetic Fibres/Yarn

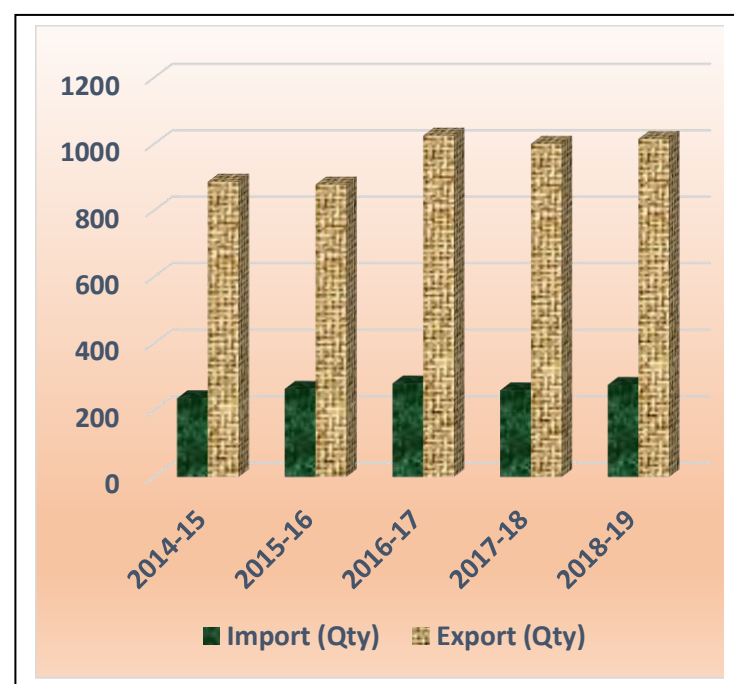
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	4213	3532
2015-16	4452	3558
2016-17	4393	3599
2017-18	4379	3625
2018-19	4440	3601
CAGR (%)	1.3	0.5



Quantity Imported-Quantity Exported

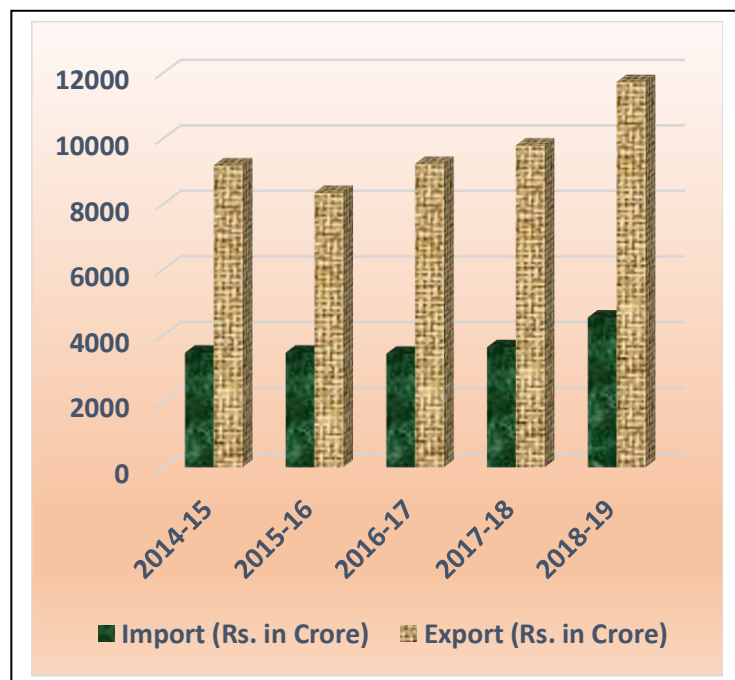
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	236	887
2015-16	264	878
2016-17	280	1026
2017-18	260	1001
2018-19	276	1016
CAGR (%)	4.0	3.4



Synthetic Fibres/Yarn

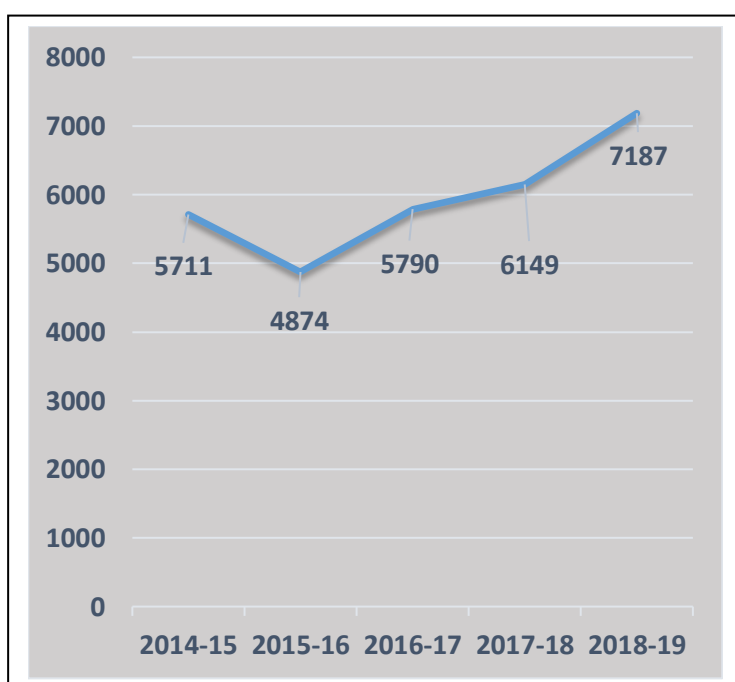
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	3462	9173
2015-16	3464	8338
2016-17	3430	9220
2017-18	3631	9780
2018-19	4534	11720
CAGR (%)	7.0	6.3



Net Export

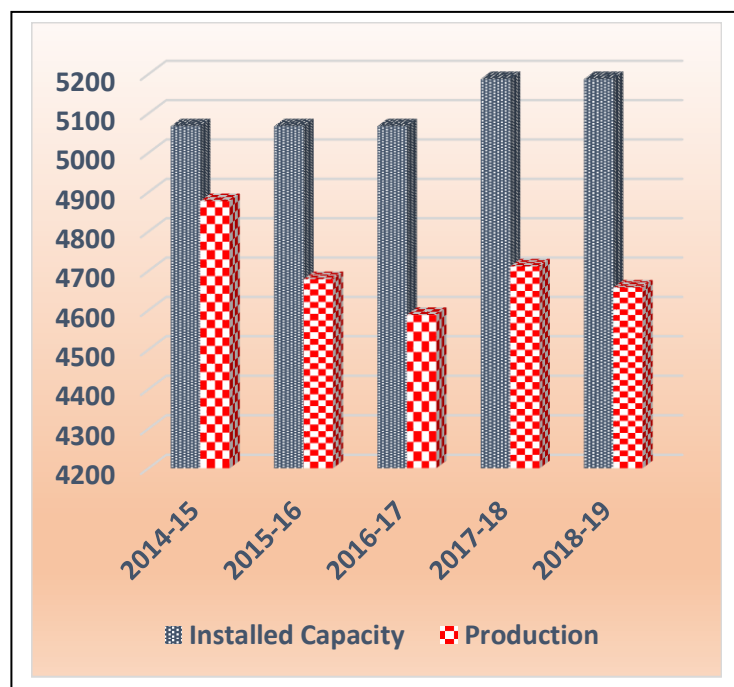
Year	Net Export (Rs. in Crore)
2014-15	5711
2015-16	4874
2016-17	5790
2017-18	6149
2018-19	7187
CAGR (%)	5.9



Fibre Intermediates

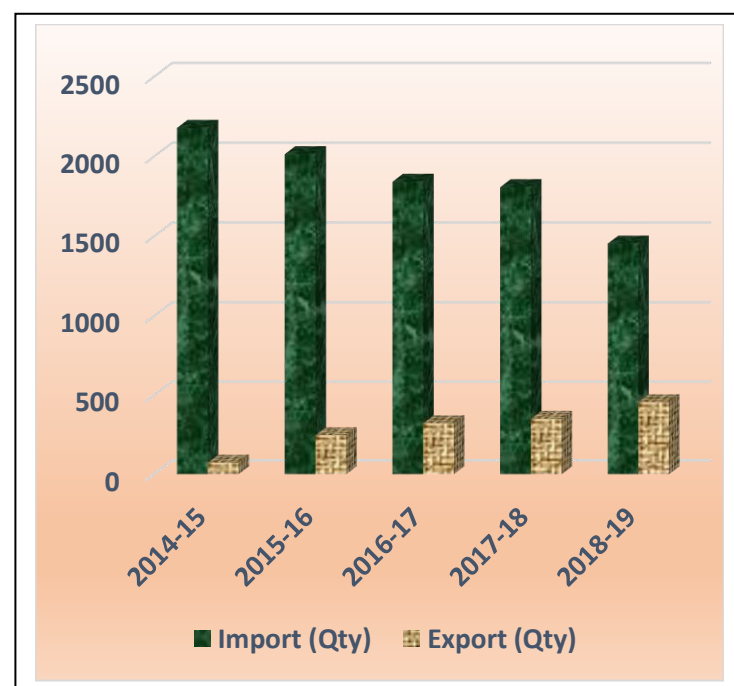
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	5067	4877
2015-16	5067	4679
2016-17	5067	4588
2017-18	5187	4711
2018-19	5187	4657
CAGR (%)	0.6	-1.1



Quantity Imported-Quantity Exported

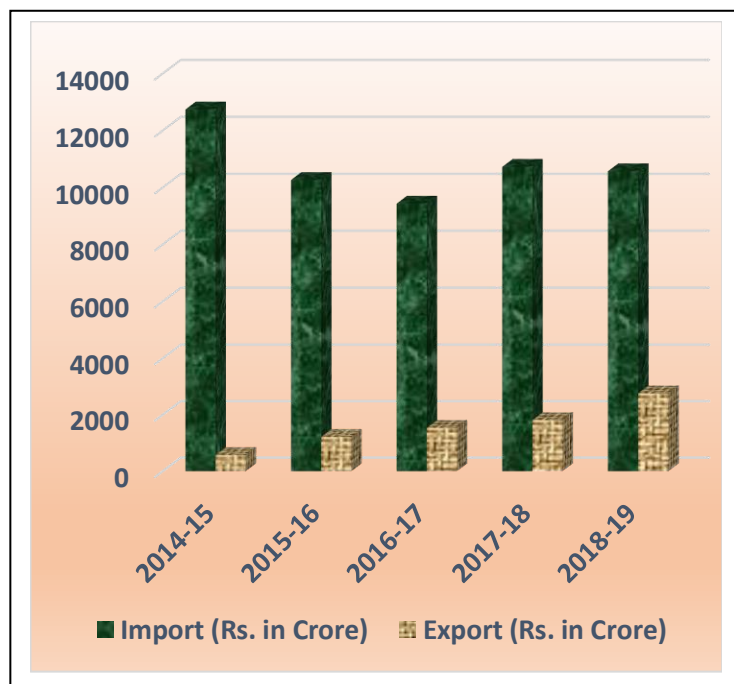
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	2180	73
2015-16	2015	248
2016-17	1842	323
2017-18	1808	351
2018-19	1455	457
CAGR (%)	-9.6	58.0



Fibre Intermediates

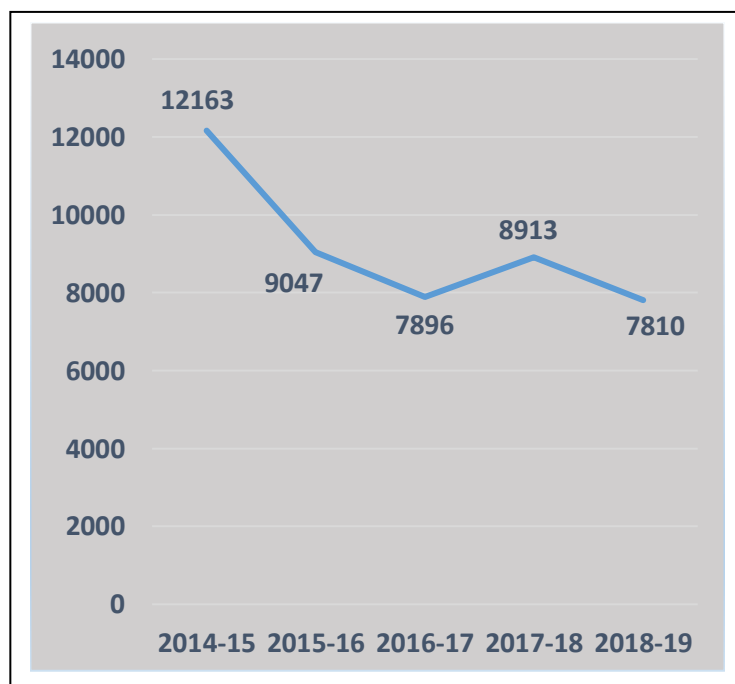
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	12737	573
2015-16	10261	1214
2016-17	9431	1536
2017-18	10723	1811
2018-19	10569	2759
CAGR (%)	-4.6	48.1



Net Import

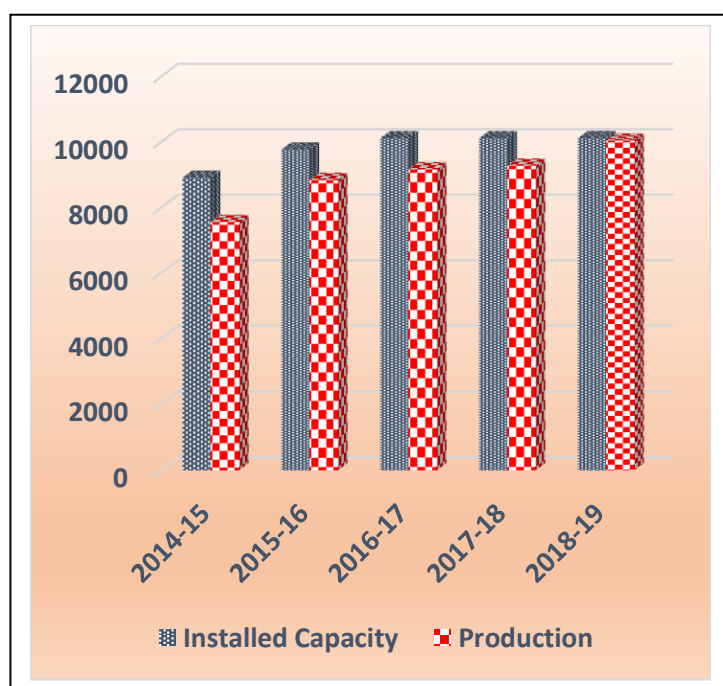
Year	Net Import (Rs. in Crore)
2014-15	12163
2015-16	9047
2016-17	7896
2017-18	8913
2018-19	7810
CAGR (%)	-10.5



Polymers

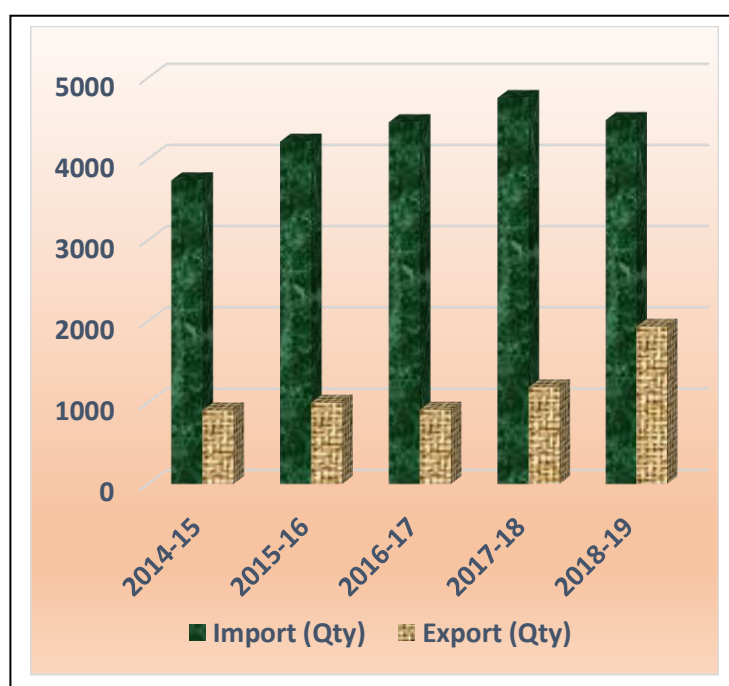
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	8905	7558
2015-16	9768	8839
2016-17	10110	9163
2017-18	10112	9276
2018-19	10115	10040
CAGR (%)	3.2	7.4



Quantity Imported-Quantity Exported

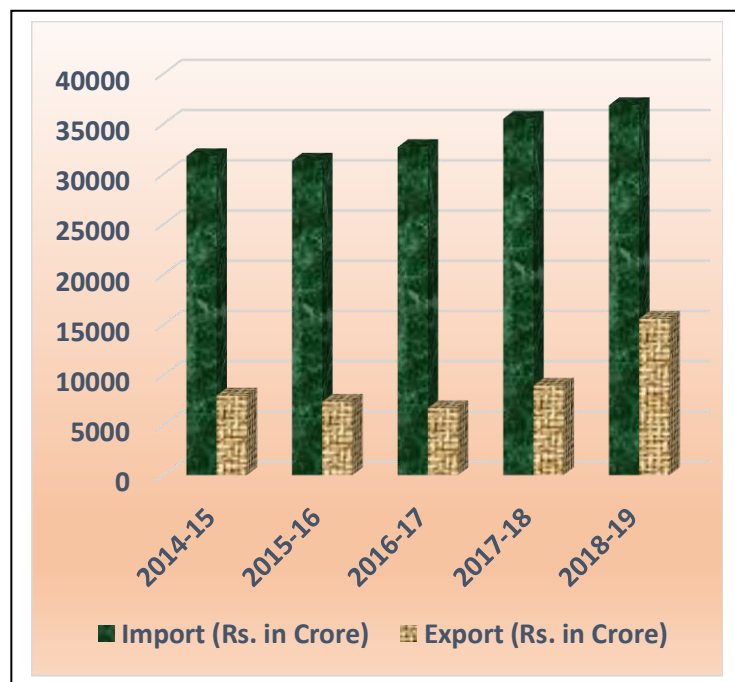
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	3737	903
2015-16	4214	998
2016-17	4452	912
2017-18	4751	1188
2018-19	4479	1934
CAGR (%)	4.6	21.0



Polymers

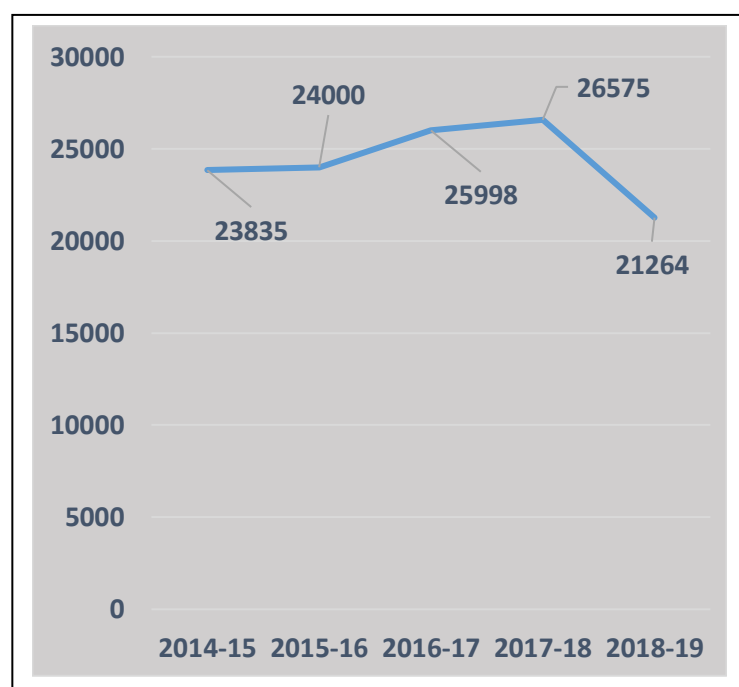
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	31771	7936
2015-16	31325	7325
2016-17	32672	6674
2017-18	35493	8918
2018-19	36848	15584
CAGR (%)	3.8	18.4



Net Import

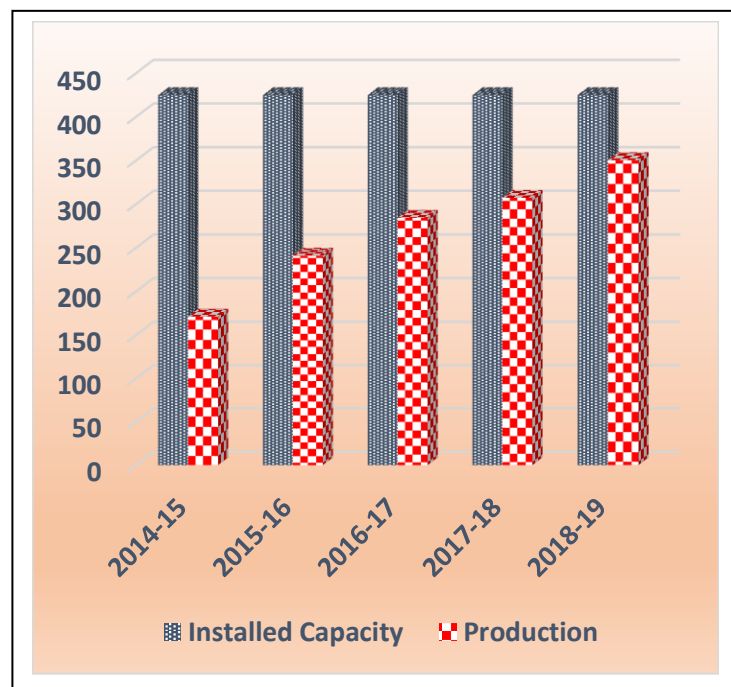
Year	Net Import (Rs. in Crore)
2014-15	23835
2015-16	24000
2016-17	25998
2017-18	26575
2018-19	21264
CAGR (%)	-2.8



Synthetic Rubber

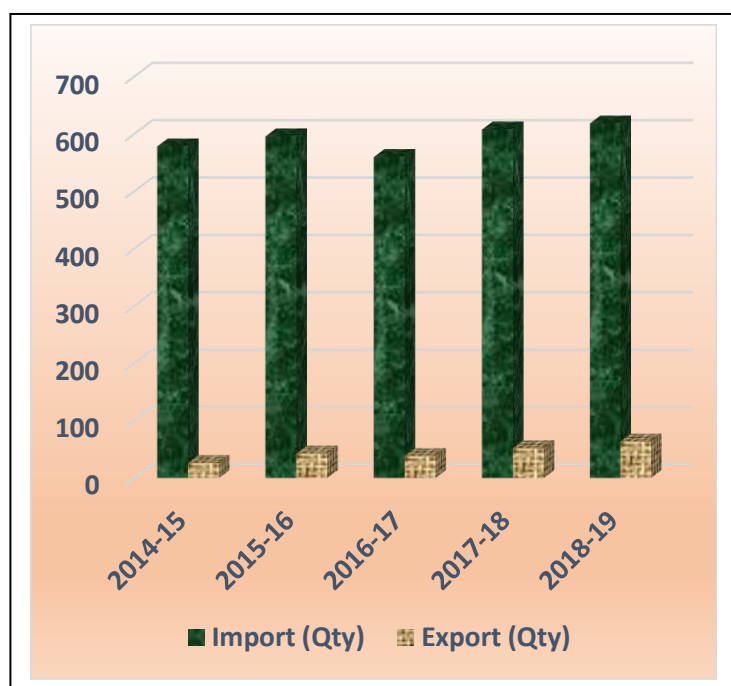
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	425	172
2015-16	425	242
2016-17	425	285
2017-18	425	308
2018-19	425	351
CAGR (%)	0.0	19.6



Quantity Imported-Quantity Exported

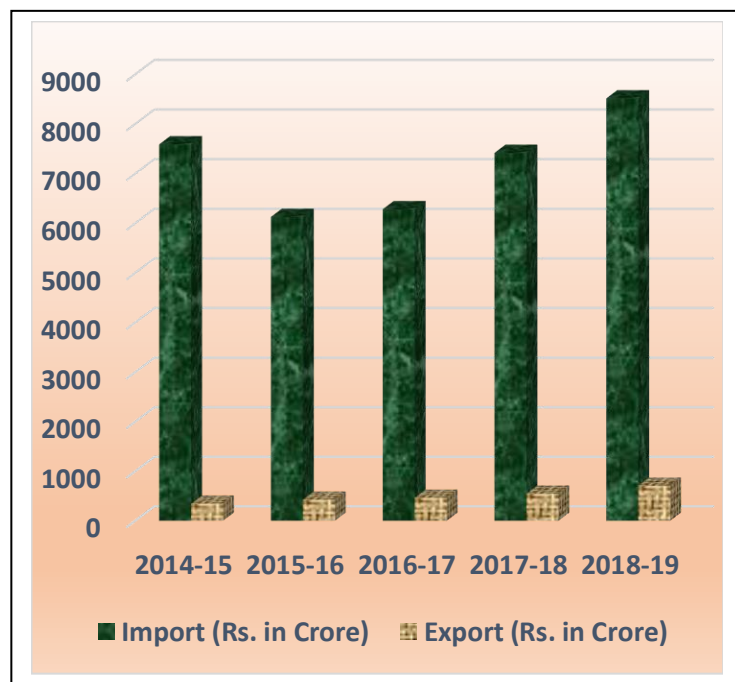
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	578	26
2015-16	596	43
2016-17	560	38
2017-18	608	52
2018-19	619	64
CAGR (%)	1.7	25.0



Synthetic Rubber

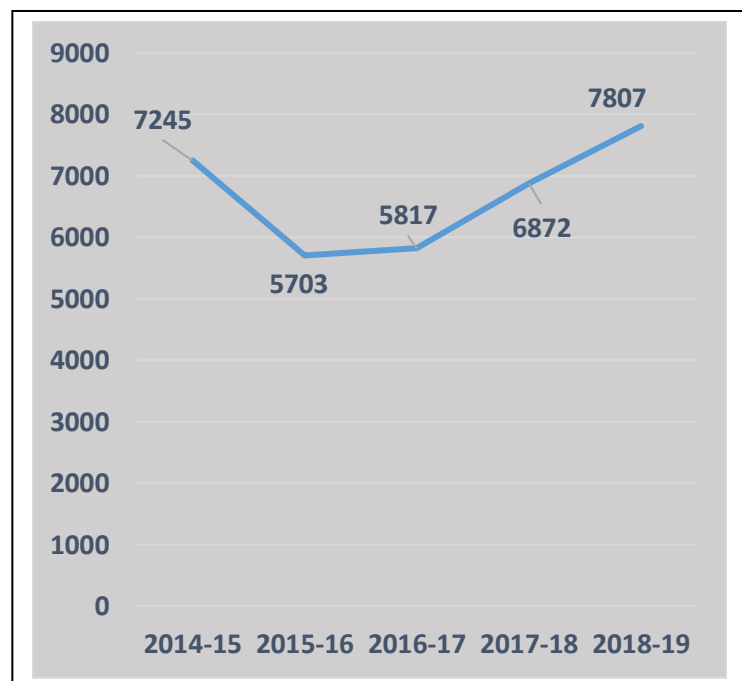
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	7589	345
2015-16	6127	424
2016-17	6280	464
2017-18	7418	546
2018-19	8514	707
CAGR (%)	2.9	19.7



Net Import

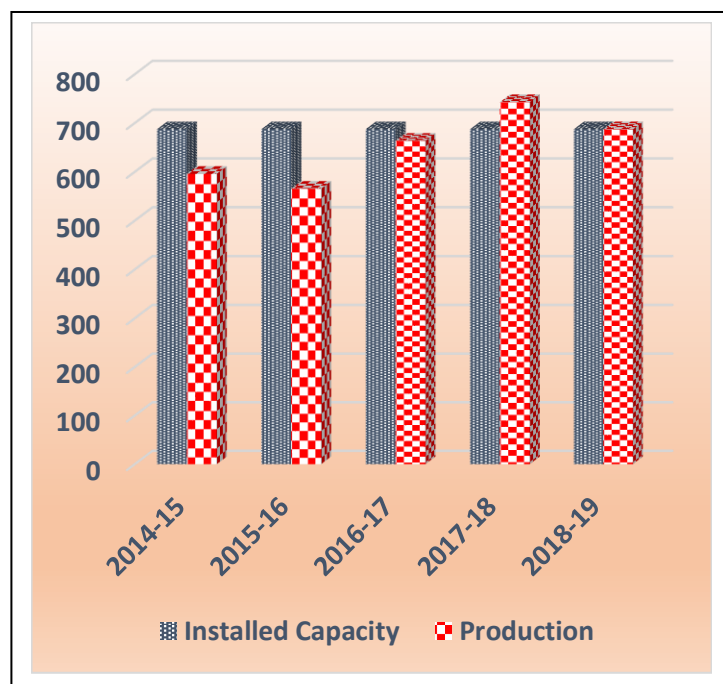
Year	Net Import (Rs. in Crore)
2014-15	7245
2015-16	5703
2016-17	5817
2017-18	6872
2018-19	7807
CAGR (%)	1.9



Synthetic Detergent Intermediates

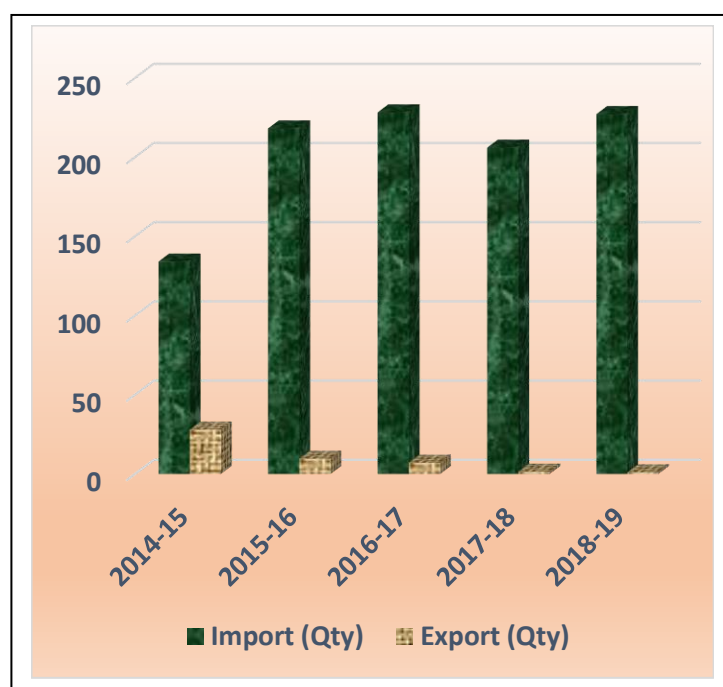
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	687	596
2015-16	687	566
2016-17	687	664
2017-18	687	743
2018-19	687	687
CAGR (%)	0.0	3.6



Quantity Imported-Quantity Exported

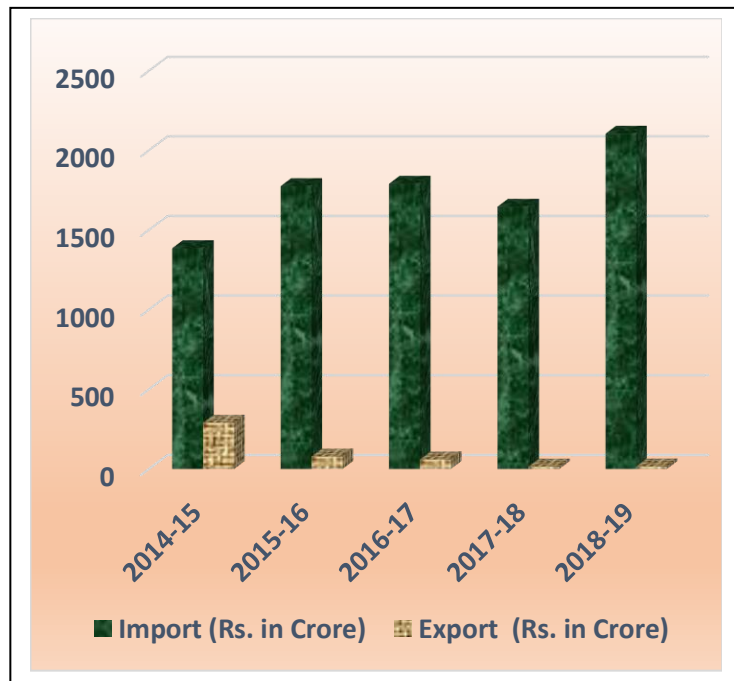
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	134	28
2015-16	218	10
2016-17	228	7
2017-18	206	1
2018-19	227	1
CAGR (%)	14.1	-56.0



Synthetic Detergent Intermediates

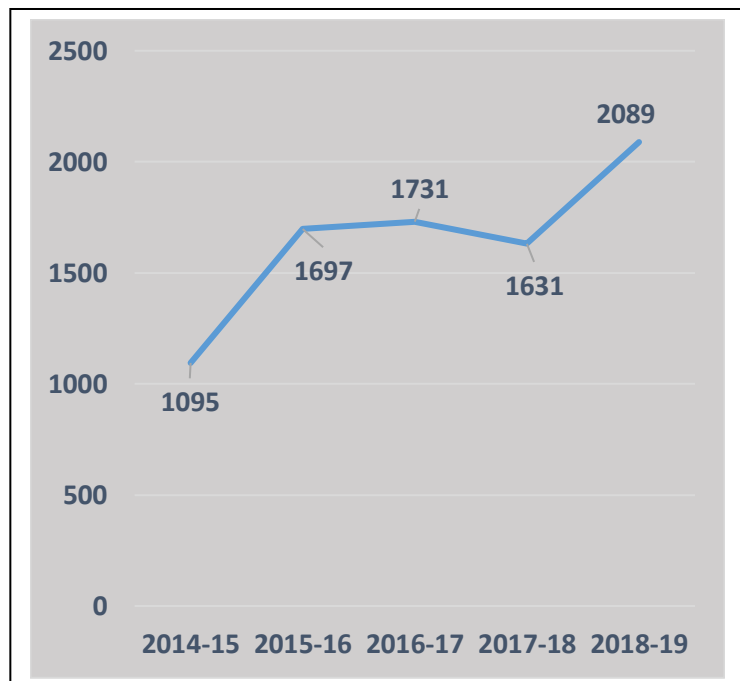
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	1385	290
2015-16	1775	78
2016-17	1790	59
2017-18	1645	15
2018-19	2104	15
CAGR (%)	11.0	-52.0



Net Import

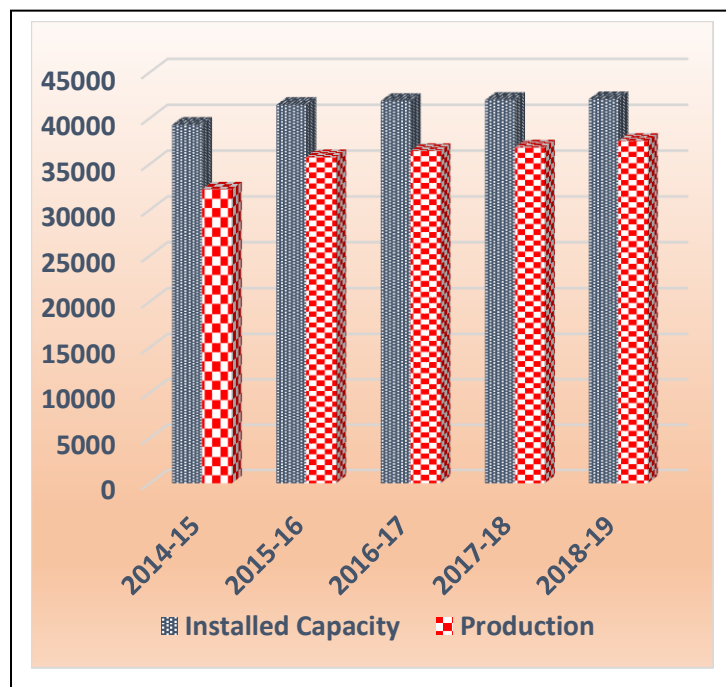
Year	Net Import (Rs. in Crore)
2014-15	1095
2015-16	1697
2016-17	1731
2017-18	1631
2018-19	2089
CAGR (%)	17.5



Performance Plastic

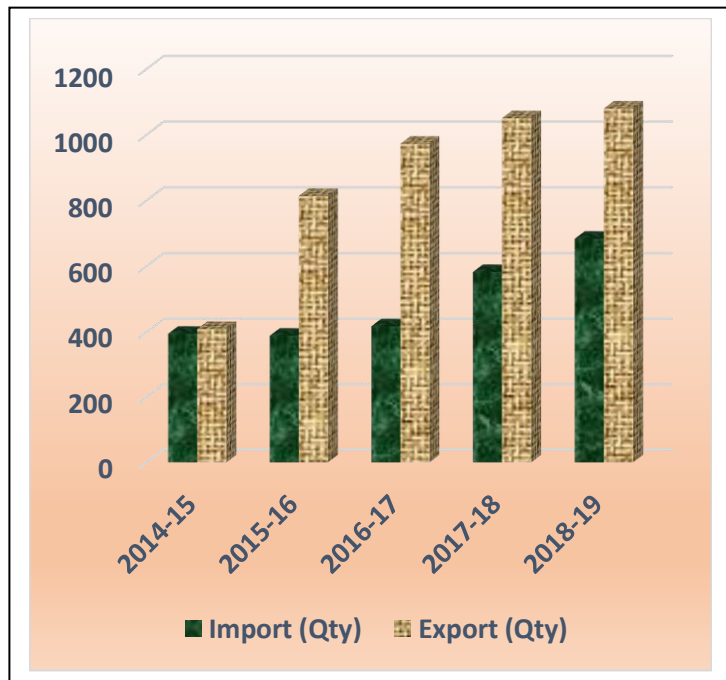
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	2983	1591
2015-16	3018	1700
2016-17	2945	1799
2017-18	2947	1719
2018-19	2963	1589
CAGR (%)	-0.17	-0.04



Quantity Imported-Quantity Exported

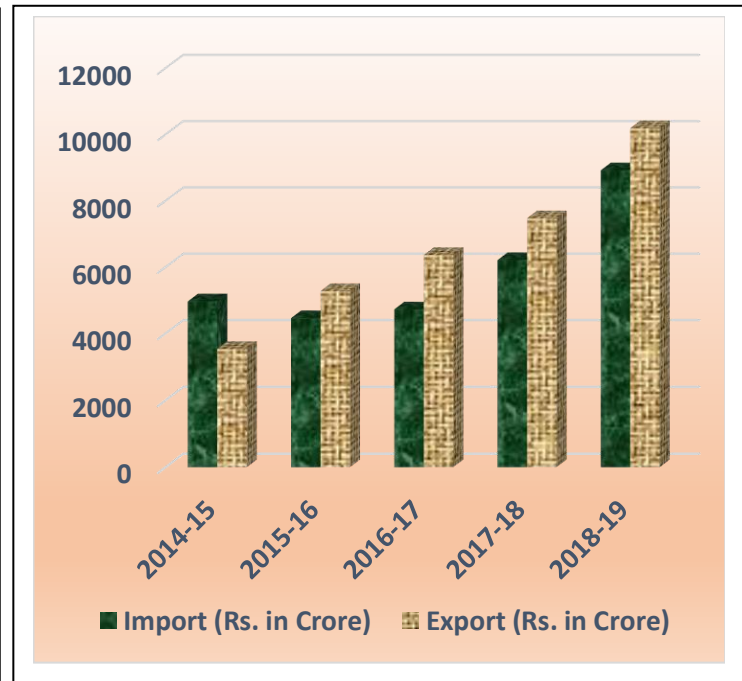
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	395	409
2015-16	389	814
2016-17	417	973
2017-18	583	1051
2018-19	684	1080
CAGR (%)	14.7	27.5



Performance Plastic

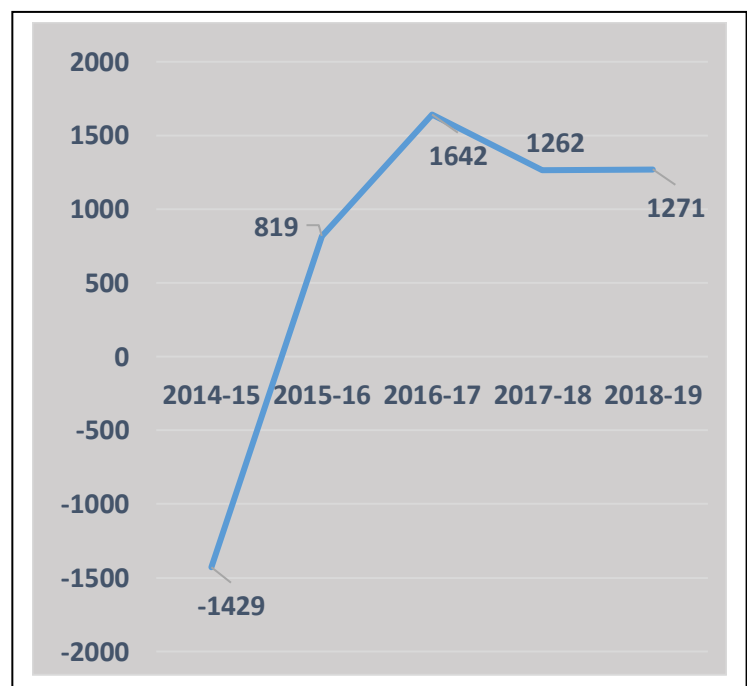
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	4964	3535
2015-16	4458	5277
2016-17	4723	6365
2017-18	6210	7473
2018-19	8917	10188
CAGR (%)	15.8	30.3



Net Export

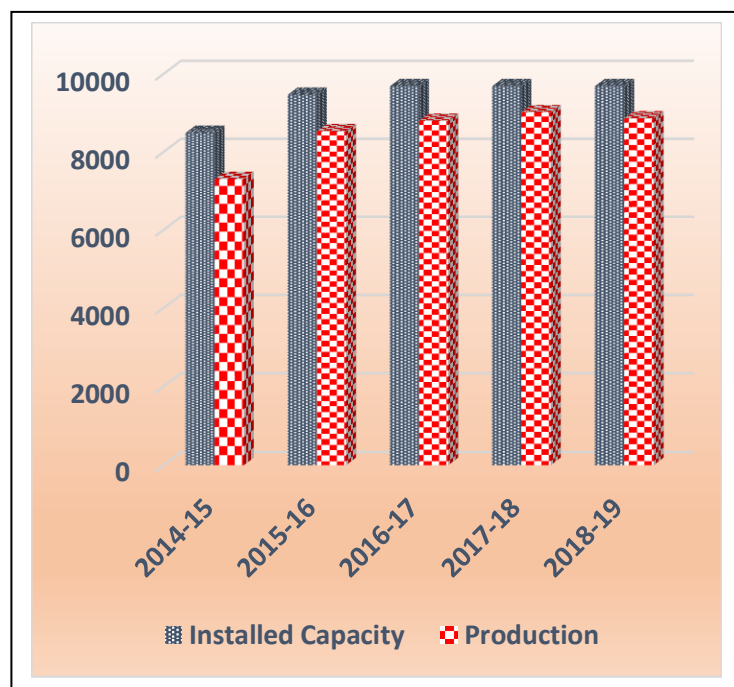
Year	Net Export (Rs. in Crore)
2014-15	-1429
2015-16	819
2016-17	1642
2017-18	1262
2018-19	1271



Olefins

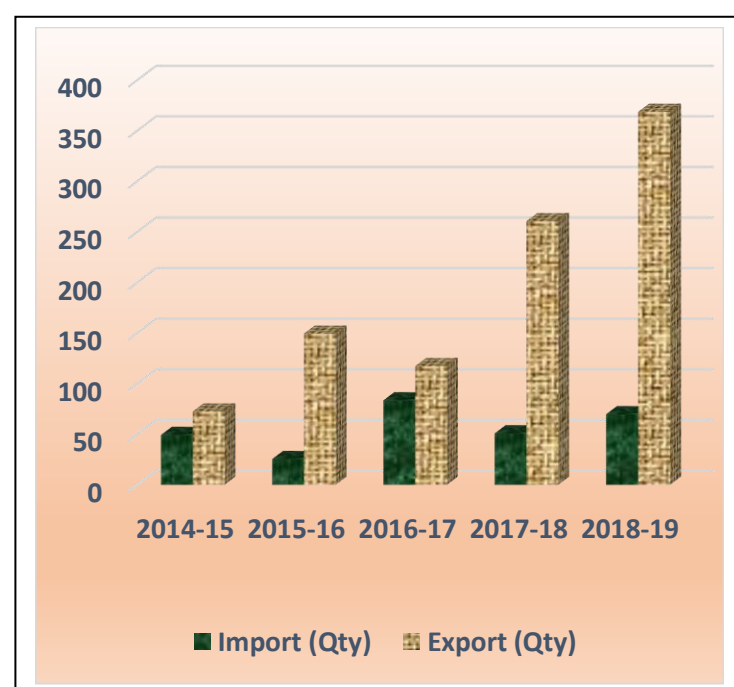
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	8484	7301
2015-16	9462	8528
2016-17	9683	8794
2017-18	9683	9013
2018-19	9683	8857
CAGR (%)	3.4	4.9



Quantity Imported-Quantity Exported

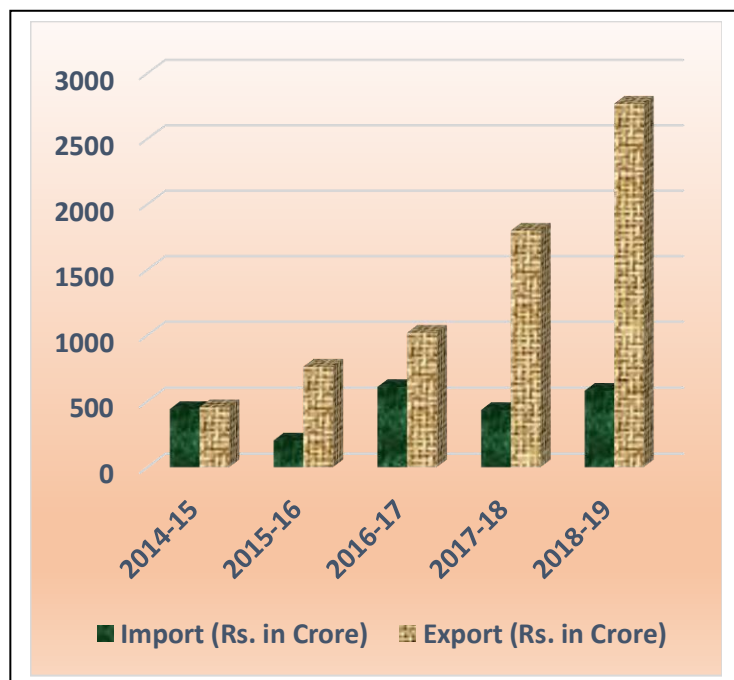
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	49	72
2015-16	25	149
2016-17	83	117
2017-18	51	261
2018-19	70	369
CAGR (%)	9.1	50.2



Olefins

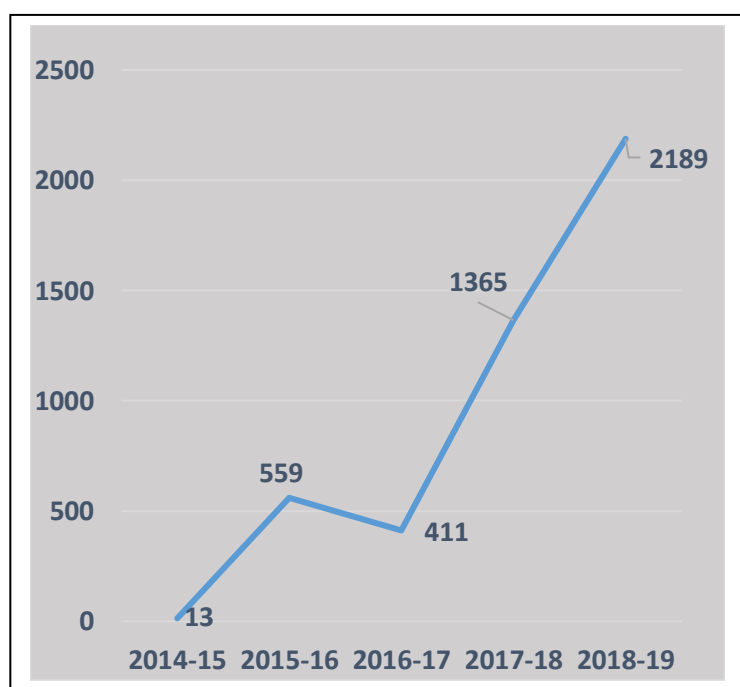
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	440	453
2015-16	202	761
2016-17	607	1017
2017-18	433	1798
2018-19	578	2767
CAGR (%)	7.1	57.2



Net Export

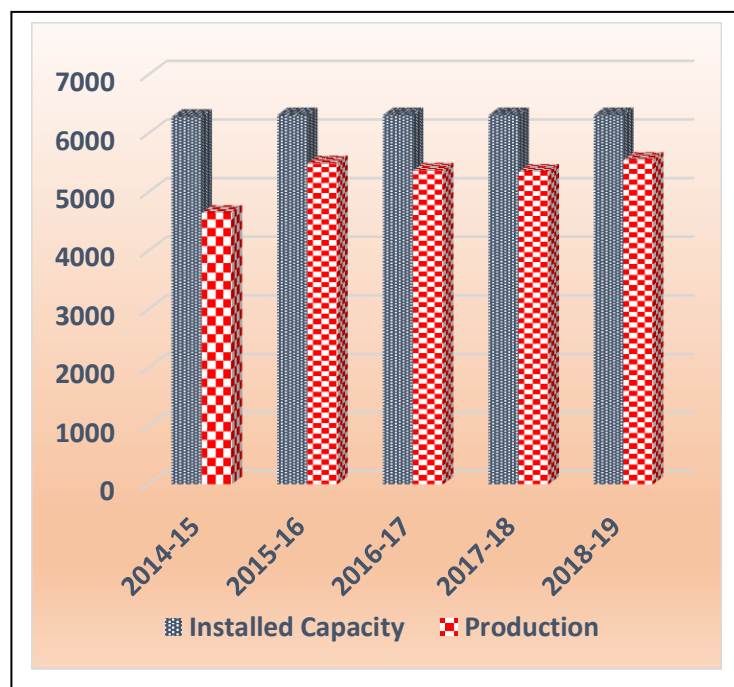
Year	Net Export (Rs. in Crore)
2014-15	13
2015-16	559
2016-17	411
2017-18	1365
2018-19	2189
CAGR (%)	258.8



Aromatics

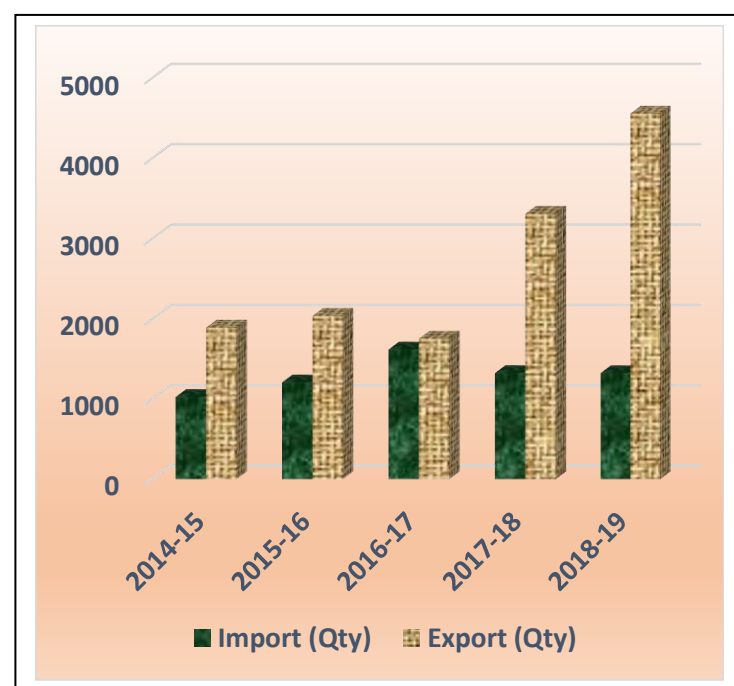
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	6274	4638
2015-16	6304	5484
2016-17	6305	5361
2017-18	6305	5339
2018-19	6305	5543
CAGR (%)	0.1	4.6



Quantity Imported-Quantity Exported

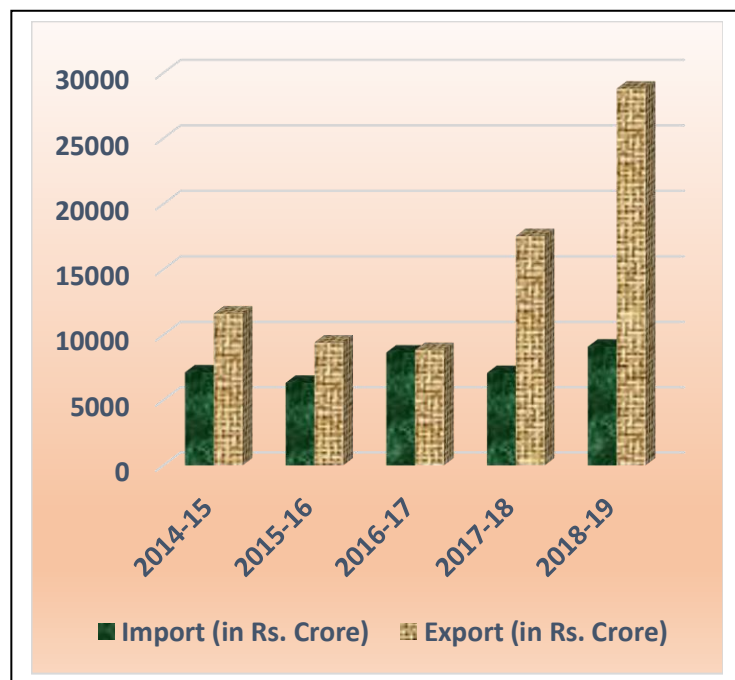
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	1023	1888
2015-16	1204	2033
2016-17	1615	1749
2017-18	1321	3303
2018-19	1320	4551
CAGR (%)	6.6	24.6



Aromatics

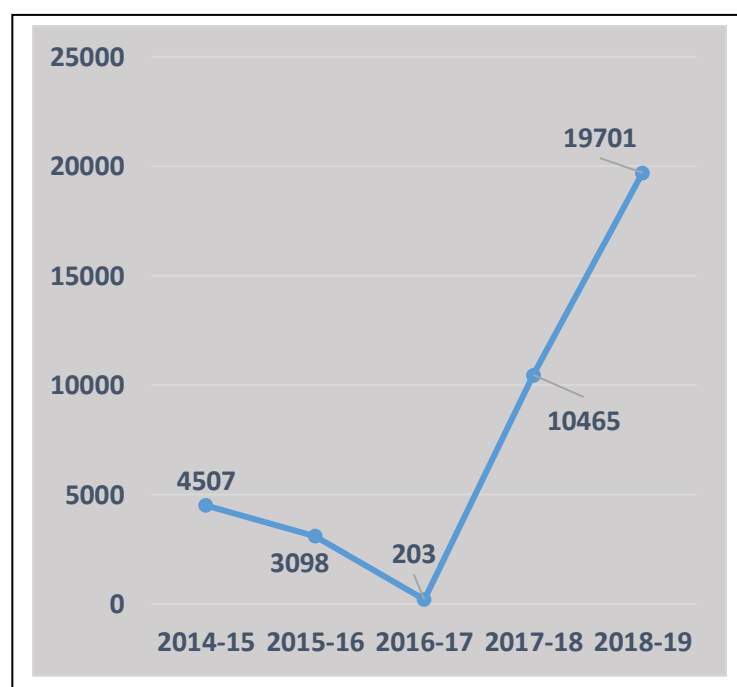
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	7126	11633
2015-16	6330	9428
2016-17	8648	8851
2017-18	7085	17550
2018-19	9102	28803
CAGR (%)	6.3	25.4



Net Export

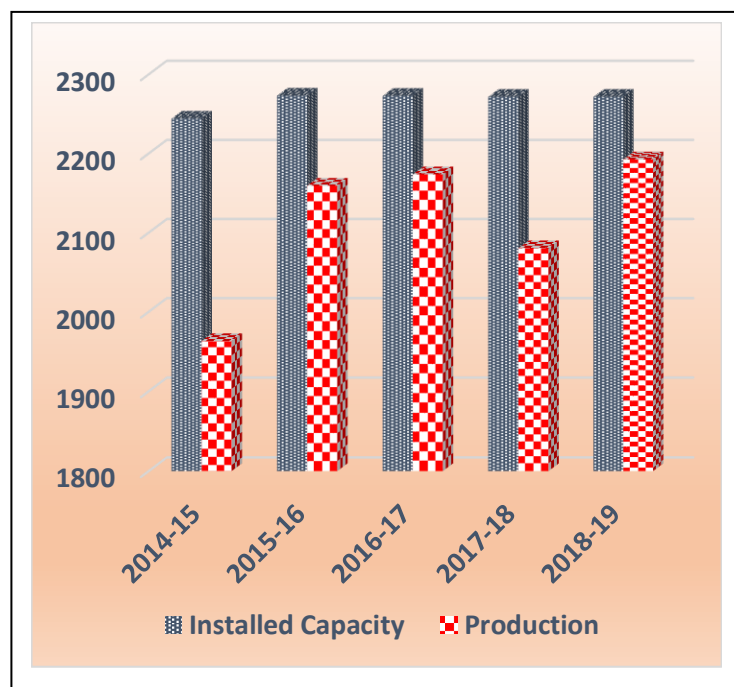
Year	Net Export (Rs. in Crore)
2014-15	4507
2015-16	3098
2016-17	203
2017-18	10465
2018-19	19701
CAGR (%)	44.6



Other Petro-based Chemicals

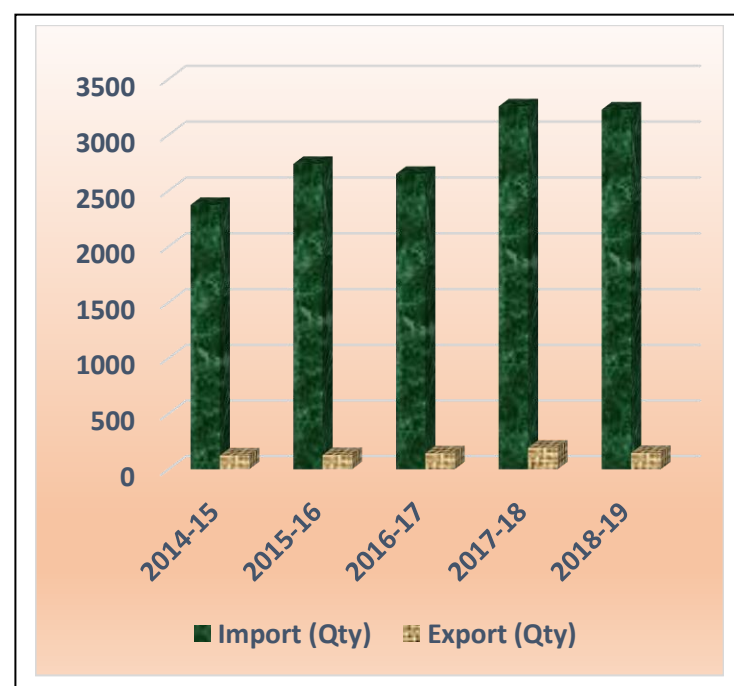
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	2244	1963
2015-16	2272	2159
2016-17	2273	2174
2017-18	2271	2080
2018-19	2271	2192
CAGR (%)	0.3	2.8



Quantity Imported-Quantity Exported

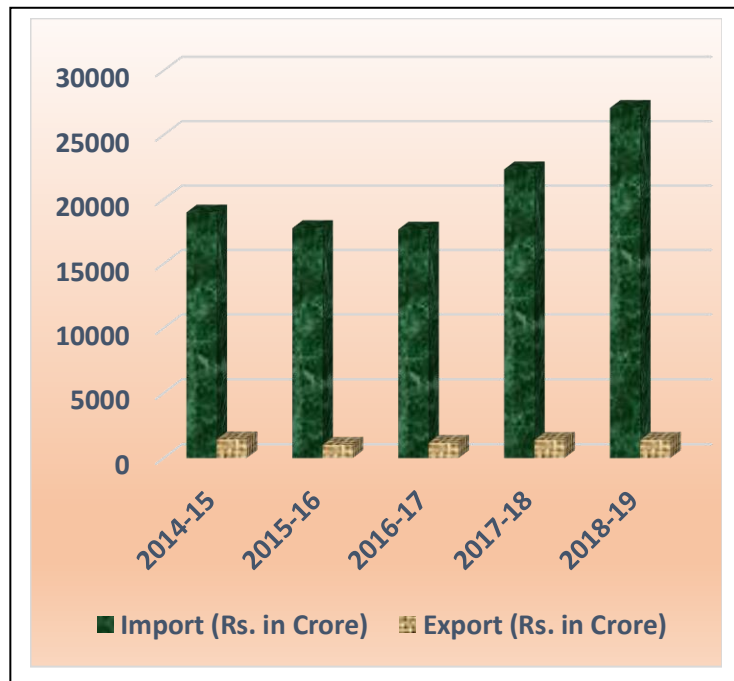
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	2373	124
2015-16	2740	129
2016-17	2651	144
2017-18	3255	193
2018-19	3227	147
CAGR (%)	8.0	4.4



Other Petro-based Chemicals

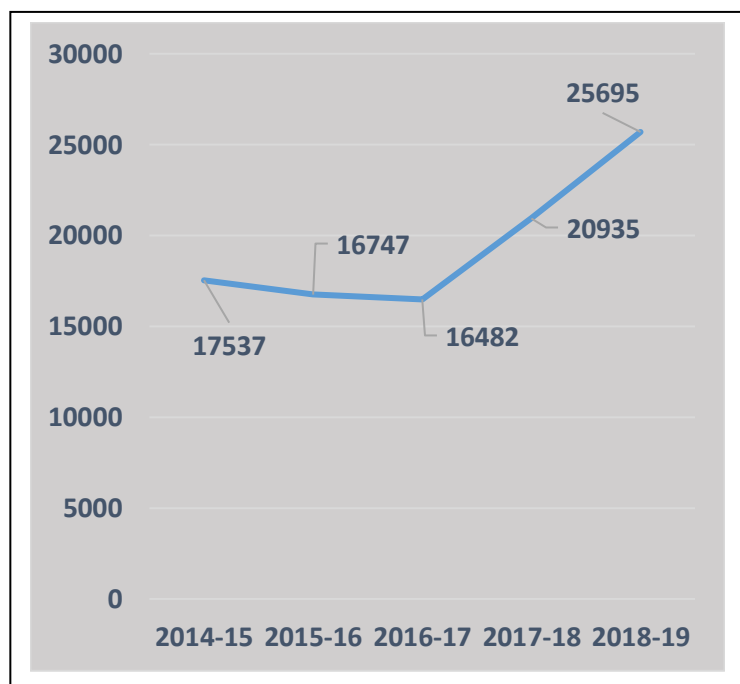
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	18973	1436
2015-16	17760	1013
2016-17	17649	1168
2017-18	22321	1386
2018-19	27092	1398
CAGR (%)	9.3	-0.7



Net Import

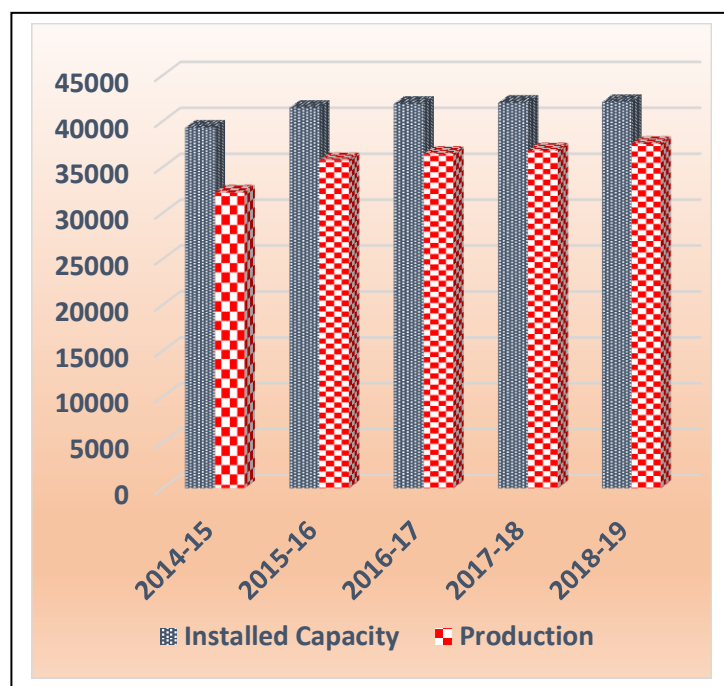
Year	Net Import (Rs. in Crore)
2014-15	17537
2015-16	16747
2016-17	16482
2017-18	20935
2018-19	25695
CAGR (%)	10.0



Total Major Petrochemicals

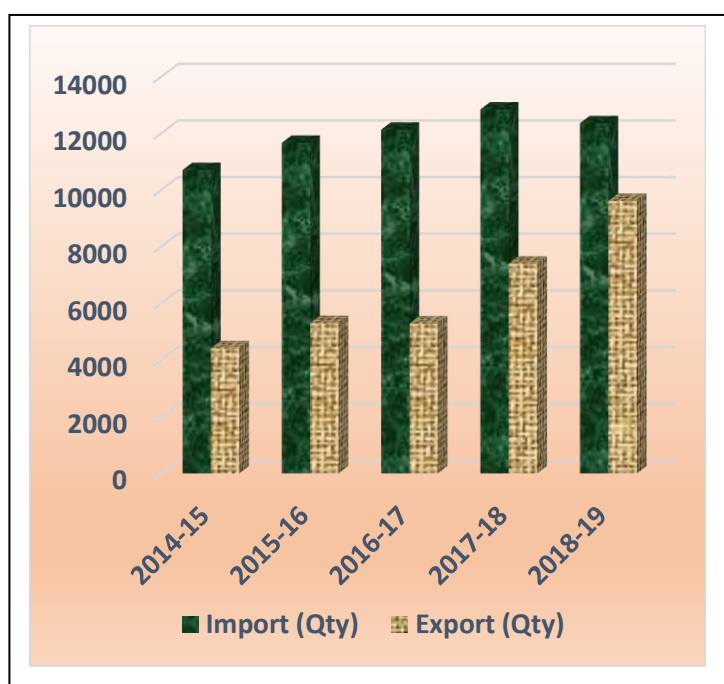
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	39283	32227
2015-16	41457	35754
2016-17	41888	36427
2017-18	41998	36813
2018-19	42077	37519
CAGR (%)	1.7	3.9



Quantity Imported-Quantity Exported

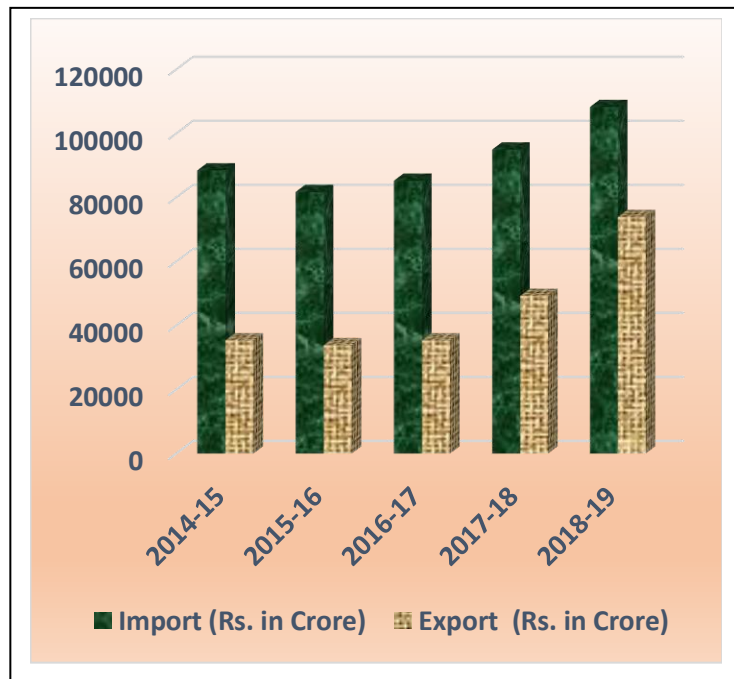
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	10705	4412
2015-16	11666	5302
2016-17	12129	5290
2017-18	12843	7401
2018-19	12356	9619
CAGR (%)	3.7	21.5



Total Major Petrochemicals

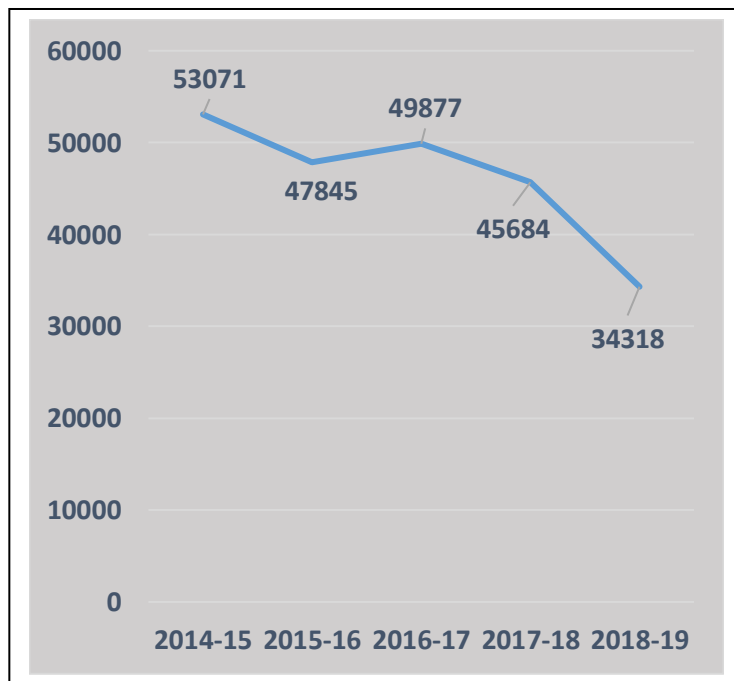
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	88446	35375
2015-16	81702	33857
2016-17	85231	35355
2017-18	94960	49276
2018-19	108259	73941
CAGR (%)	5.2	20.2

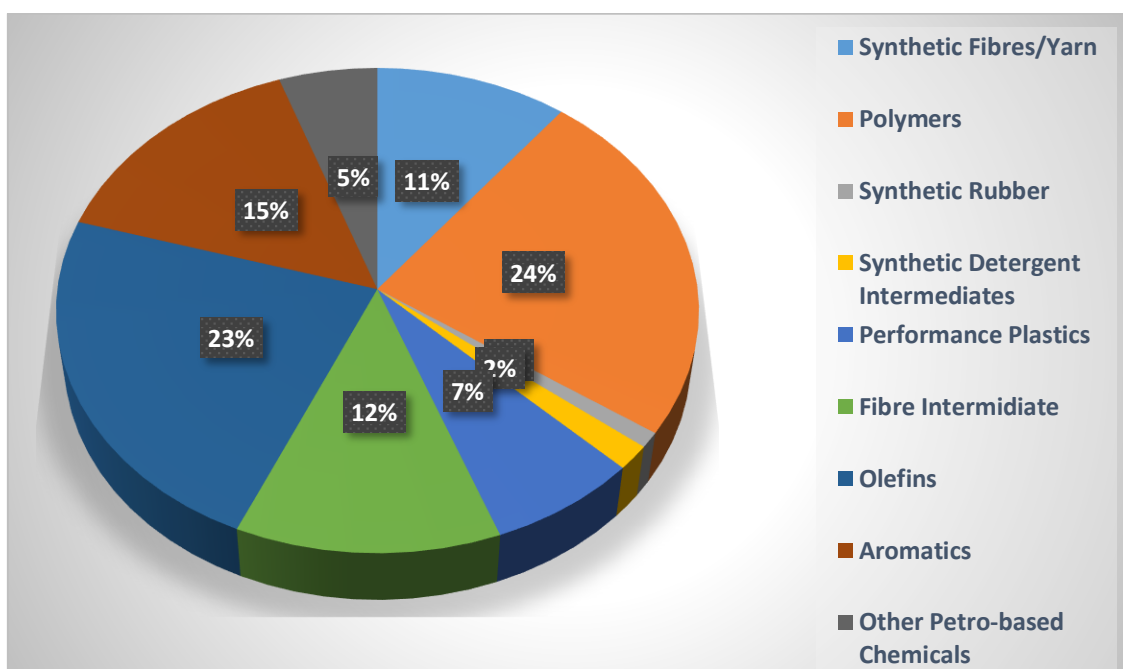


Net Import

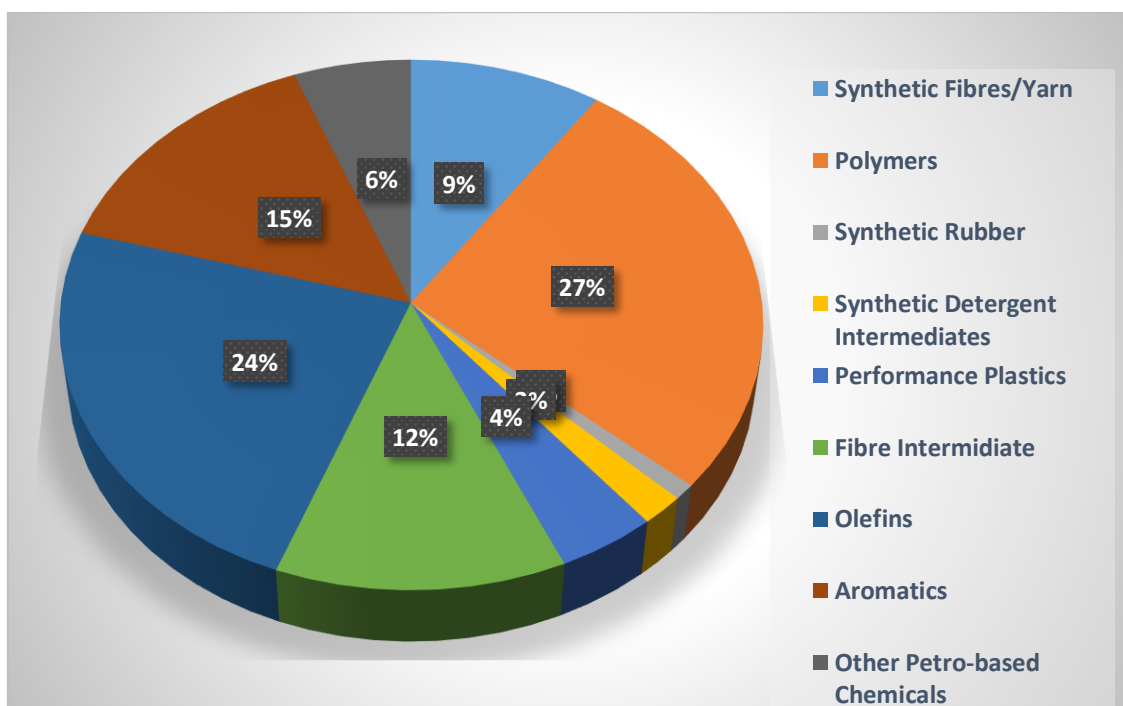
Year	Net Import (Rs. in Crore)
2014-15	53071
2015-16	47845
2016-17	49877
2017-18	45684
2018-19	34318
CAGR (%)	-10.3



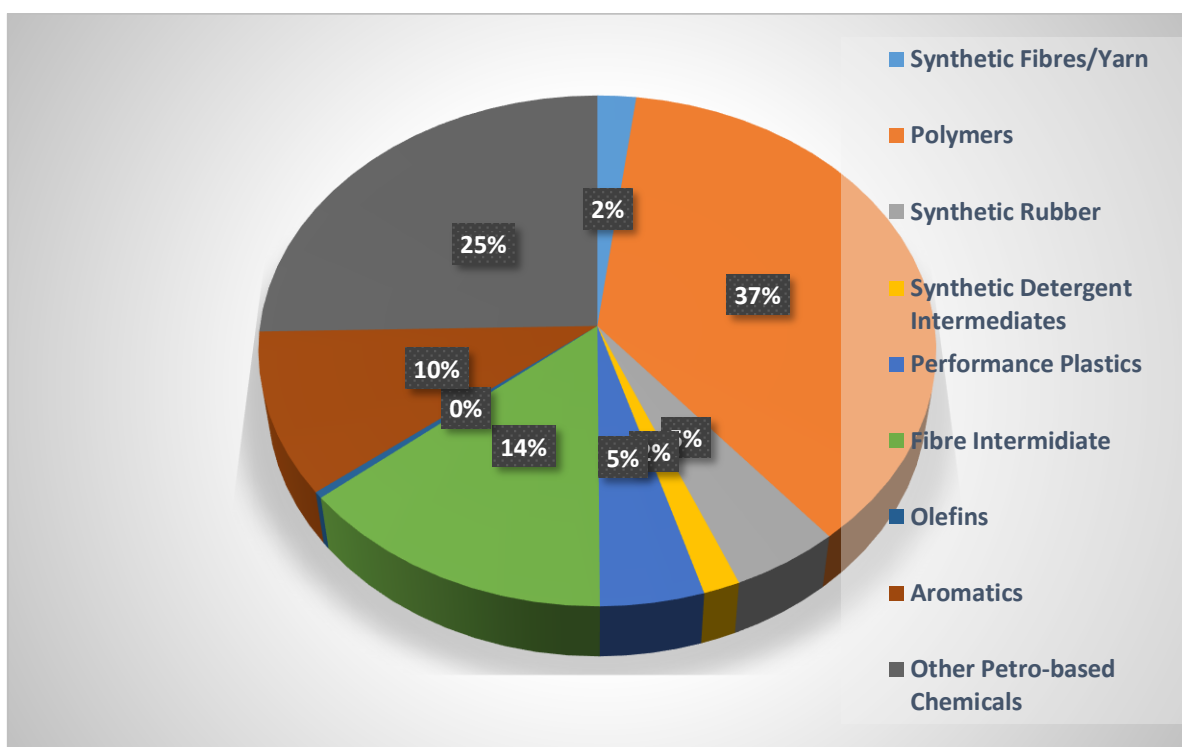
Share of Installed Capacity of Major Petrochemical Groups during year 2018-19



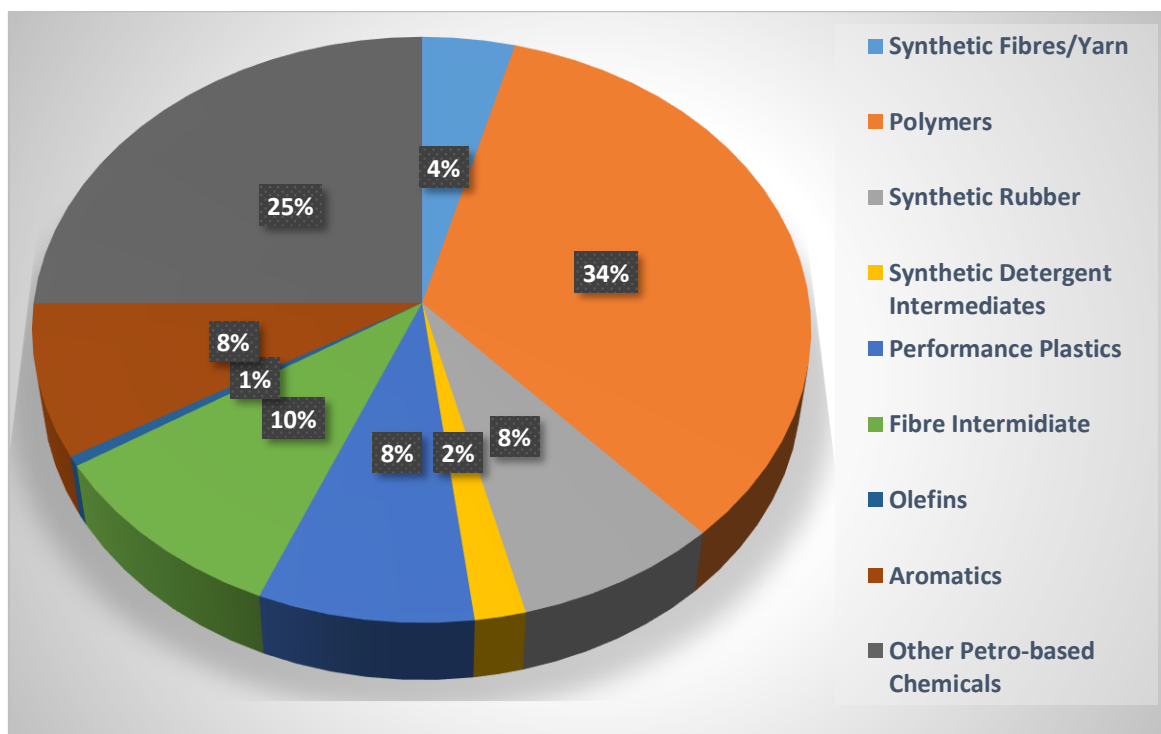
Share of Production of Major Petrochemical Groups during year 2018-19



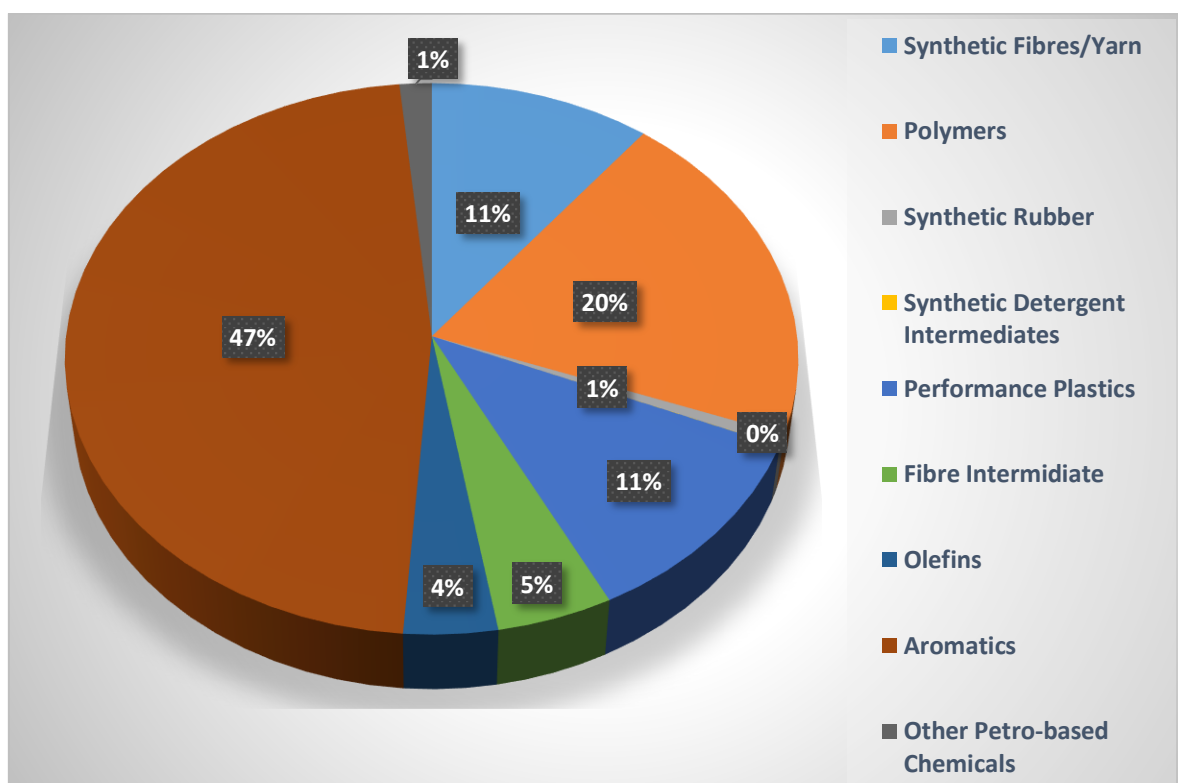
Share of groups under total Import (Qty.) of Major Petrochemicals during 2018-19



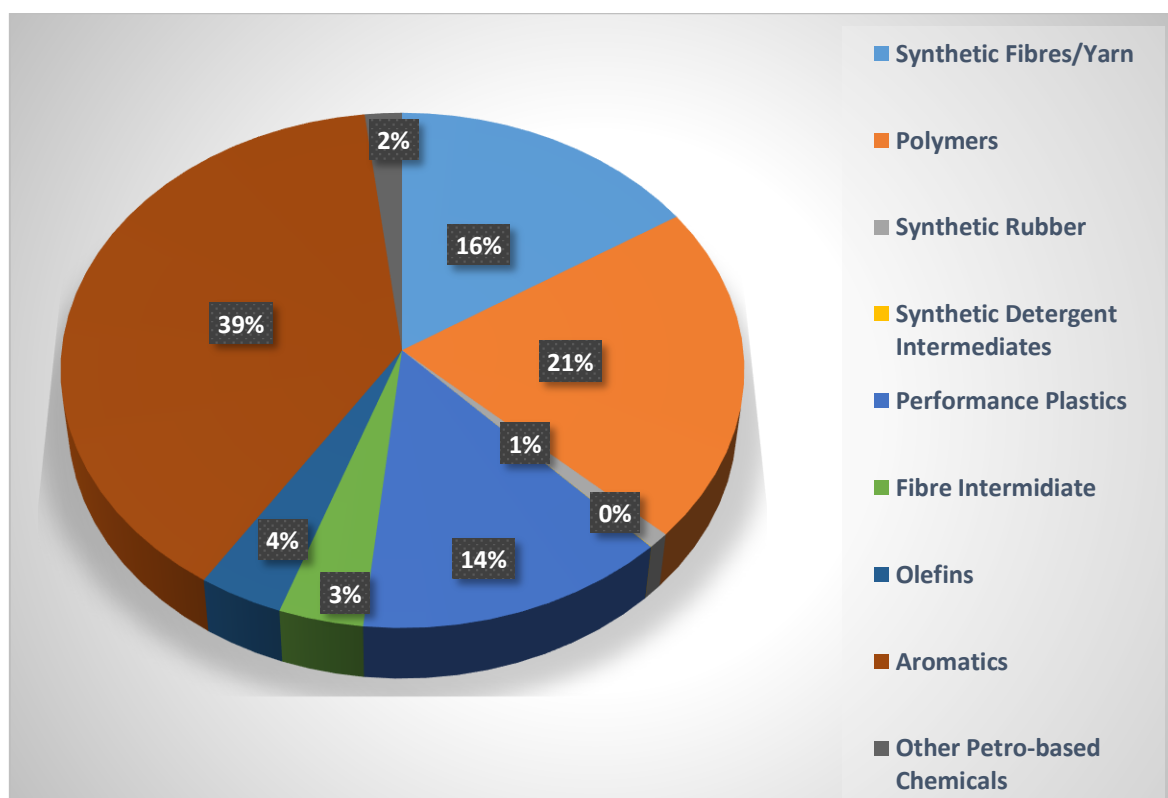
Share of groups under total Import (Value) of Major Petrochemicals during 2018-19



Share of groups under total Export (Qty.) of Major Petrochemicals during 2018-19



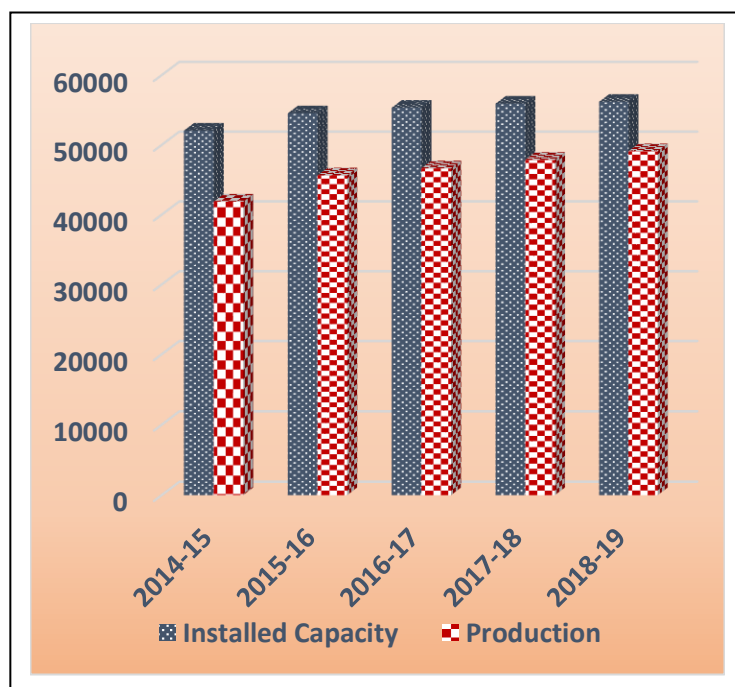
Share of groups under total Export (Value) of Major Petrochemicals during 2018-19



Total Major Chemicals & Major Petrochemicals

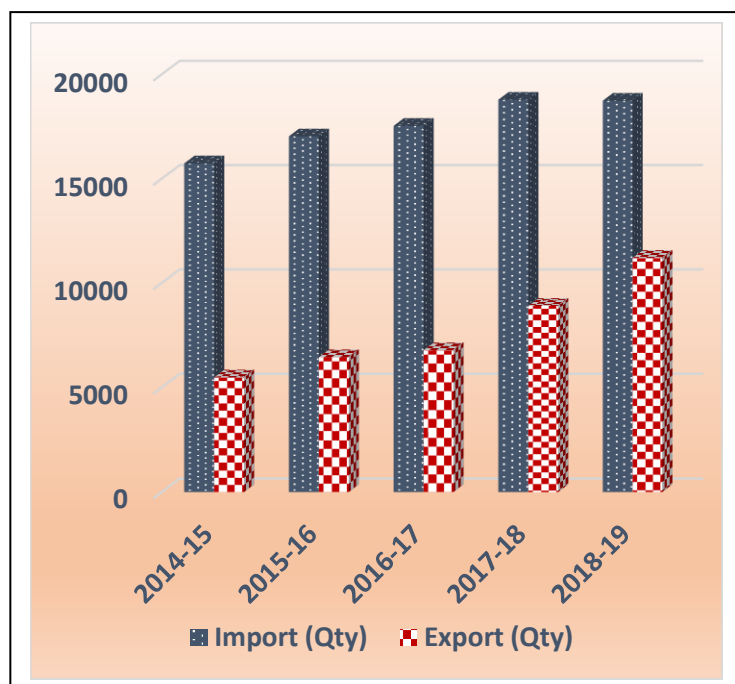
Installed Capacity-Production

Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2014-15	52055	41887
2015-16	54539	45638
2016-17	55344	46661
2017-18	55925	47882
2018-19	56189	49108
CAGR (%)	1.9	4.1



Quantity Imported-Quantity Exported

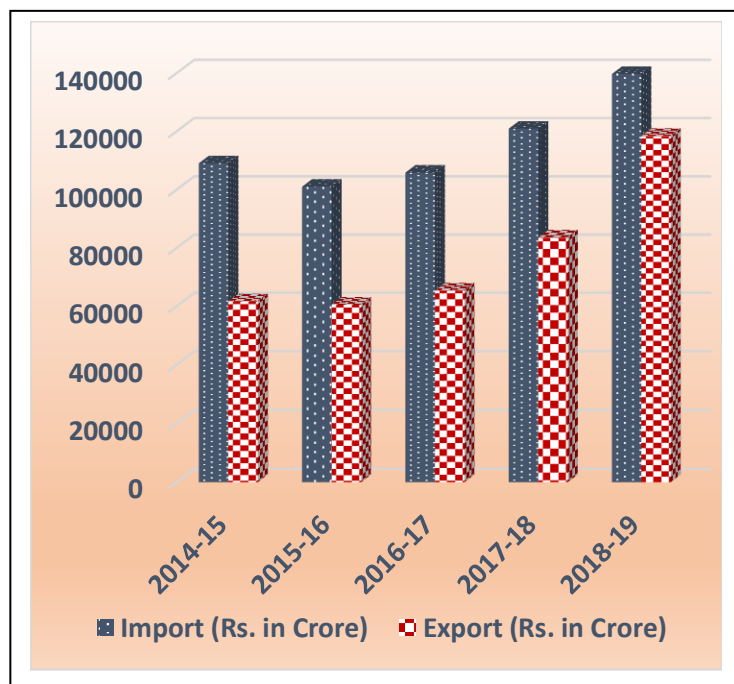
Year	Import (In Thousand MT)	Export (In Thousand MT)
2014-15	15729	5473
2015-16	17025	6440
2016-17	17529	6773
2017-18	18780	8897
2018-19	18735	11198
CAGR (%)	4.5	19.6



Total Major Chemicals & Major Petrochemicals

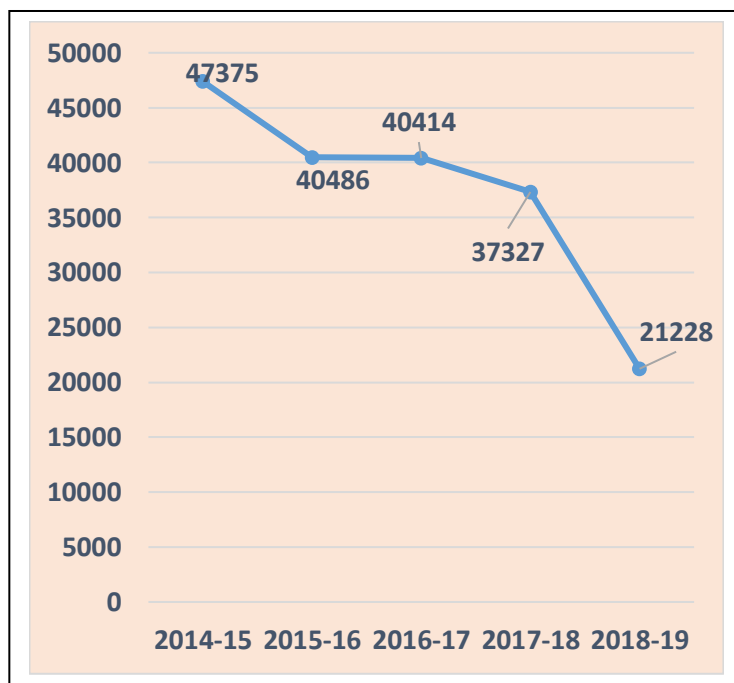
Value of Import- Value of Export

Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2014-15	109031	61656
2015-16	101015	60528
2016-17	105833	65419
2017-18	120902	83575
2018-19	139685	118457
CAGR (%)	6.4	17.7



Net Import

Year	Net Import (Rs. in Crore)
2014-15	47375
2015-16	40486
2016-17	40414
2017-18	37327
2018-19	21228
CAGR (%)	-18.2



Section – I

Chemical Sector

Table 1:- Performance of Selected Major Chemicals (Group-Wise) during 2011-12 to 2018-19 at a Glance

(Figures in 000'MT)

GROUP	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR (%)
1	2	3	4	5	6	7	8	9	10
1. Alkali Chemicals									
Capacity	8160	8075	8075	8214	8422	8822	9274	9422	2.07
Production	6478	6487	6481	6625	6802	7009	7631	8043	3.14
Capacity Utilisation (%)	79	80	80	81	81	79	82	85	
Imports	658	995	874	1134	1118	1121	1194	1049	6.88
Exports	345	145	164	74	107	154	273	239	-5.07
2. Inorganic Chemicals									
Capacity	1235	1238	1228	1259	1316	1313	1315	1300	0.74
Production	895	891	906	944	1002	1053	1058	1064	2.50
Capacity Utilisation (%)	72	72	74	75	76	80	81	82	
Imports	479	689	874	912	1010	1010	1229	1580	18.60
Exports	327	163	167	164	157	378	173	177	-8.41
3. Organic Chemicals									
Capacity	2513	2409	2463	2537	2580	2529	2535	2575	0.35
Production	1640	1686	1792	1619	1589	1638	1799	1884	2.00
Capacity Utilisation (%)	65	70	73	64	62	65	71	73	
Imports	2182	2487	2496	2886	3143	3170	3407	3645	7.60
Exports	315	407	335	241	232	190	205	233	-4.23
4. Pesticides (Tech.)									
Capacity	301	283	297	302	307	322	325	324	1.05
Production	156	155	179	186	188	214	213	217	4.79
Capacity Utilisation (%)	52	55	60	62	61	66	65	67	
Imports\$	30	30	37	41	34	43	44	49	7.20
Exports\$	154	180	207	230	267	342	358	405	14.86
5. Dyes & Pigments									
Capacity	412	422	434	460	456	471	478	492	2.56
Production	241	240	284	285	304	320	367	382	6.79
Capacity Utilisation (%)	58	57	65	62	67	68	77	78	
Imports	48	52	52	52	55	56	63	56	2.48
Exports	288	326	347	353	376	419	486	525	8.94
Total Major Chemicals (1 to 5)									
Capacity	12621	12427	12496	12772	13082	13456	13927	14112	1.61
Production	9409	9459	9643	9660	9884	10234	11069	11589	3.02
Capacity Utilisation (%)	75	76	77	76	76	76	79	82	
Imports	3397	4253	4333	5025	5360	5400	5937	6379	9.42
Exports	1429	1220	1221	1061	1138	1484	1496	1579	1.44

Note : 1. Production and Installed Capacity data based on MPR received from large and medium scale units only.

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

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

Table 1A: Projection of Production, Installed Capacity, Export and Import of Selected Major Chemical (Group-wise) from the year 2019-20 to 2024-25

(Figures in 000'MT)

GROUP	Actual Values								forecast values					
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Alkali Chemicals														
Capacity	8160	8075	8075	8214	8422	8822	9274	9422	9627	9885	10213	10488	10768	11005
Production	6478	6487	6481	6625	6802	7009	7631	8043	8481	8904	9261	9667	10149	10576
Capacity Utilisation (%)	79	80	80	81	81	79	82	85	88	90	91	92	94	96
Imports	658	995	874	1134	1118	1121	1194	1049	1201	1268	1221	1272	1303	1334
Exports	345	145	164	74	107	154	273	239	240	271	300	343	366	381
2. Inorganic Chemicals														
Capacity	1235	1238	1228	1259	1316	1313	1315	1300	1344	1359	1373	1380	1391	1407
Production	895	891	906	944	1002	1053	1058	1064	1096	1141	1170	1199	1216	1243
Capacity Utilisation (%)	72	72	74	75	76	80	81	82	82	84	85	87	87	88
Imports	479	689	874	912	1010	1010	1229	1580	1520	1669	1801	1971	2145	2274
Exports	327	163	167	164	157	378	173	177	264	259	263	248	305	301
3. Organic Chemicals														
Capacity	2513	2409	2463	2537	2580	2529	2535	2575	2591	2613	2624	2632	2646	2669
Production	1640	1686	1792	1619	1589	1638	1799	1884	1809	1846	1874	1968	2010	2050
Capacity Utilisation (%)	65	70	73	64	62	65	71	73	70	71	71	75	76	77
Imports	2182	2487	2496	2886	3143	3170	3407	3645	3814	4042	4242	4423	4621	4830
Exports	315	407	335	241	232	190	205	233	160	136	122	110	91	73
4. Pesticides (Tech.)														
Capacity	301	283	297	302	307	322	325	324	332	340	345	351	356	361
Production	156	155	179	186	188	214	213	217	242	245	247	273	274	277
Capacity Utilisation (%)	52	55	60	62	61	66	65	67	73	72	72	78	77	77
Imports\$	30	30	37	41	34	43	44	49	51	52	55	60	63	65
Exports\$	154	180	207	230	267	342	358	405	438	479	524	563	602	640
5. Dyes & Pigments														
Capacity	412	422	434	460	456	471	478	492	499	511	517	531	538	551
Production	241	240	284	285	304	320	367	382	411	422	458	482	514	526
Capacity Utilisation (%)	58	57	65	62	67	68	77	78	82	83	89	91	96	96
Imports	48	52	52	52	55	56	63	56	61	62	65	64	66	65
Exports	288	326	347	353	376	419	486	525	559	595	634	684	726	767
Total Major Chemicals (1 to 5)														
Capacity	12621	12427	12496	12772	13082	13456	13927	14112	14394	14707	15072	15382	15698	15994
Production	9409	9459	9643	9660	9884	10234	11069	11589	12040	12557	13011	13589	14162	14672
Capacity Utilisation (%)	75	76	77	76	76	76	79	82	84	85	86	88	90	92
Imports	3397	4253	4333	5025	5360	5400	5937	6379	6647	7094	7384	7790	8198	8568
Exports	1429	1220	1221	1061	1138	1484	1496	1579	1662	1739	1843	1948	2091	2162

Note : 1. Production and Installed Capacity data based on MPR received from large and medium scale units only.

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

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

Table 2:- Production, Installed Capacity & Growth of Selected Major Chemicals (Group-wise) during 2011-12 to 2018-19

(Figures in 000'MT)

Group	Installed Capacity			Production / Growth Rate								
	2016-17	2017-18	2018-19		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1	2	3	4	5	6	7	8	9	10	11	12	13
Alkali Chemicals	8822	9274	9422	Production	6478	6487	6481	6625	6802	7009	7631	8043
				Growth Rate (%)		0.14	-0.09	2.22	2.67	3.04	8.89	5.39
Inorganic Chemicals	1313	1315	1300	Production	895	891	906	944	1002	1053	1058	1064
				Growth Rate (%)		-0.40	1.70	4.18	6.08	5.13	0.53	0.51
Organic Chemicals	2529	2535	2575	Production	1640	1686	1792	1619	1589	1638	1799	1884
				Growth Rate (%)		2.83	6.28	-9.67	-1.87	3.12	9.79	4.76
Pesticides	322	325	324	Production	156	155	179	186	188	214	213	217
				Growth Rate (%)		-0.48	15.41	3.95	0.57	13.97	-0.48	1.88
Dyes & Pigments	471	478	492	Production	241	240	284	285	304	320	367	382
				Growth Rate (%)		-0.56	18.40	0.58	6.68	5.26	14.67	3.88

Note : 1. Production and Installed Capacity data based on MPRs received from large and medium scale units only.

Table 3:- Production, Capacity Utilization & growth of Major Chemicals (Product-wise) during 2011-12 to 2018-19

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Alkali Chemicals													
SODA ASH	3086.00	3464.00	3489.00	2410.82	2437.79	2392.17	2462.00	2583.01	2613.42	2989.57	3048.19	3.41	87.37
CAUSTIC SODA	3297.22	3335.94	3397.34	2408.73	2375.83	2391.66	2442.89	2503.96	2594.50	2742.31	2925.35	2.81	86.11
LIQUID CHLORINE	2438.51	2474.20	2535.25	1658.08	1673.25	1697.33	1720.10	1714.82	1800.67	1899.41	2069.11	3.21	81.61
Total	8821.73	9274.14	9421.59	6477.63	6486.88	6481.15	6624.99	6801.78	7008.58	7631.30	8042.65	3.14	85.36
Inorganic Chemicals													
ALUMINIUM FLUORIDE	25.60	25.60	25.60	7.31	6.70	5.40	6.73	9.51	8.14	7.51	5.70	-3.49	22.25
CALCIUM CARBIDE	112.00	112.00	112.00	66.39	70.98	78.78	87.18	83.47	85.02	87.30	83.17	3.27	74.26
CARBON BLACK	640.00	640.00	696.00	447.67	404.02	406.41	444.35	469.56	535.27	530.36	546.39	2.89	78.50
POTASSIUM CHLORATE	3.00	4.60	4.60	0.34	0.59	0.68	0.45	0.41	0.01	0.35	0.70	10.75	15.28
TITANIUM DIOXIDE	82.50	82.50	82.50	52.14	50.14	52.78	47.88	58.53	58.46	57.82	57.06	1.30	69.16
RED PHOSPHORUS	1.68	1.68	1.68	0.56	0.69	0.75	0.89	0.84	0.77	0.88	1.03	9.08	61.25
HYDROGEN PEROXIDE	165.85	165.85	145.85	103.07	125.79	128.37	119.75	153.08	148.87	157.02	156.45	6.14	107.27
CALCIUM CARBONATE	282.35	282.35	231.55	217.20	232.18	233.12	236.93	226.13	216.33	217.25	213.33	-0.26	92.13
Total	1312.98	1314.58	1299.78	894.68	891.10	906.27	944.15	1001.53	1052.87	1058.48	1063.83	2.50	81.85

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Organic Chemicals													
ACETIC ACID	177.43	159.62	141.62	160.73	160.56	157.17	159.61	157.91	158.51	157.07	153.80	-0.63	108.60
ACETIC ANHYDRIDE	115.43	115.43	113.33	53.28	87.15	80.85	93.84	92.99	94.82	97.09	95.47	8.69	84.25
ACETONE	47.14	47.14	47.14	42.80	37.05	28.58	25.98	24.96	26.79	32.87	40.74	-0.70	86.42
PHENOL	76.75	76.75	76.75	65.93	59.92	46.39	42.26	40.42	43.57	53.45	65.39	-0.12	85.20
METHANOL	474.30	474.30	474.30	359.93	254.91	307.26	209.83	162.62	176.96	260.49	271.93	-3.93	57.33
FORMALDEHYDE	411.30	411.30	411.30	263.80	275.36	268.29	255.95	242.09	244.19	248.23	226.61	-2.15	55.10
NITROBENZENE	91.80	112.05	112.05	74.46	83.70	76.51	69.72	68.37	69.71	71.41	68.80	-1.12	61.40
MALEIC ANHYDRIDE	6.40	6.40	6.40	2.63	2.48	2.92	3.20	3.54	3.53	3.31	4.56	8.16	71.20
PENTAERYTHRITOL	13.72	13.72	15.76	11.40	11.49	12.18	13.46	13.97	14.01	14.10	14.99	3.98	95.11
ANILINE	54.10	54.10	54.10	40.09	48.23	40.62	34.47	39.40	41.45	41.88	37.85	-0.82	69.97
CHLORO METHANES	221.10	219.92	279.25	188.55	197.74	214.03	220.71	220.18	221.51	222.43	285.53	6.11	102.25
ISOBUTYLBENZENE	13.80	13.80	13.80	1.94	6.63	6.08	4.30	7.24	6.92	8.95	9.70	25.83	70.28
ONCB	30.00	30.00	30.00	13.74	15.41	16.82	16.13	19.26	22.55	24.90	23.70	8.10	78.99
PNCB	30.00	30.00	48.40	22.14	24.40	27.06	26.96	31.27	34.19	37.78	36.07	7.22	74.53
MEK	10.00	10.00	10.00	2.19	2.49	3.72	4.02	5.75	6.54	6.40	7.00	18.04	69.95
ACETALDEHYDE	167.01	163.01	151.01	65.39	76.27	79.66	67.77	58.96	60.46	65.74	61.89	-0.78	40.98
ETHANOLAMINES	17.76	17.76	17.76	8.73	7.05	11.20	13.76	13.25	13.11	13.20	16.70	9.71	94.05
ETHYL ACETATE	520.63	526.63	517.83	235.36	305.26	382.39	327.94	360.40	371.27	411.49	440.56	9.37	85.08

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
MENTHOL	33.65	33.65	33.65	15.80	19.70	18.34	17.45	14.73	14.54	13.68	6.24	-12.43	18.54
ORTHO NITRO TOLUENE	16.40	19.00	20.69	11.14	10.68	12.31	11.74	11.52	13.80	14.39	16.89	6.13	81.63
Total	2528.71	2534.57	2575.12	1640.03	1686.48	1792.34	1619.11	1588.83	1638.44	1798.85	1884.42	2.00	73.18
Pesticides and Insecticides													
D.D.T.	6.34	6.34	3.14	3.64	3.87	2.79	3.63	2.09	2.26	1.27	1.37	-13.06	43.45
MALATHION	3.80	3.80	3.20	2.55	1.71	2.04	2.24	2.04	2.26	3.29	4.39	8.08	137.19
DIMETHOATE	1.45	1.45	1.45	0.73	0.81	1.36	1.43	1.44	1.37	1.18	1.26	8.12	86.69
D.D.V.P.	33.92	33.62	33.62	4.64	4.41	5.52	6.66	7.22	8.13	8.13	9.14	10.16	27.17
QUINALPHOS	2.80	2.20	2.20	1.00	1.35	1.74	1.88	0.84	1.29	1.18	0.89	-1.72	40.23
MONOCROTOPHOS	13.94	13.94	13.84	9.59	8.25	4.27	6.97	5.48	6.58	5.50	5.30	-8.12	38.28
PHOSPHAMIDON	2.00	2.00	2.00	0.06	0.02	0.05	0.13	0.13	0.09	0.11	0.00	-100.00	0.00
PHORATE	12.40	12.40	12.40	7.01	5.75	6.85	6.62	5.92	5.91	7.02	5.85	-2.55	47.15
ETHION	2.20	2.20	2.20	1.33	0.94	1.51	1.60	1.72	2.11	2.38	1.32	-0.15	59.91
ENDOSULPHAN	0.00	0.00	0.00	1.35	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-100.00	
FENVALERATE	3.60	3.60	3.60	0.55	0.48	0.75	0.51	0.56	0.53	0.74	0.70	3.48	19.31
CYPERMETHRIN	24.33	24.43	25.10	10.41	7.78	9.26	8.59	8.53	7.88	8.25	10.95	0.73	43.63
ACEPHATE	19.67	18.97	17.50	17.11	15.76	14.51	17.97	16.58	16.27	18.27	19.63	1.98	112.19
CHLORPYRIPHOS	19.15	18.48	18.08	6.05	7.52	9.54	9.73	6.87	5.87	7.98	7.14	2.41	39.52
TRIAZOPHOS	3.36	3.36	3.36	0.78	0.93	0.99	1.00	1.72	2.37	1.54	0.89	1.76	26.37

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
TEMEPHOS	0.25	0.25	0.25	0.13	0.20	0.25	0.00	0.08	0.08	0.10	0.08	-7.31	30.80
DELTAMETHRIN	0.61	0.62	0.73	0.47	0.52	0.52	0.51	0.38	0.37	0.55	0.68	5.62	93.30
ALPHAMETHRIN	0.50	0.50	0.49	0.57	0.54	0.56	0.75	0.23	0.10	0.32	0.34	-6.94	70.06
PROFENOFOS TECHNICAL	10.50	10.50	10.50	6.41	5.01	7.18	7.58	6.85	10.50	9.95	12.45	9.94	118.59
PRETILACHLOR TECHNICAL	2.58	2.58	4.24	1.65	1.93	2.22	1.88	1.94	2.58	3.60	3.63	11.90	85.52
LAMBDA CYHALOTHRIN	2.40	2.60	2.60	0.29	0.43	0.55	0.47	0.42	0.74	1.14	0.62	11.68	23.92
PHENTHOATE	0.90	0.90	0.90	0.59	0.96	1.24	1.40	1.11	1.14	1.32	1.53	14.60	170.44
PERMETHRIN TECH	1.97	1.67	1.67	1.41	1.04	1.39	1.70	1.30	1.10	1.53	1.86	4.06	111.11
IMIDACALOPRID TECH	1.13	1.13	0.20	0.39	0.23	0.94	0.56	0.20	0.18	0.34	0.10	-17.73	50.00
CAPTAN & CAPTAFOL	3.43	3.43	3.43	0.92	0.56	1.12	2.38	2.12	1.79	1.76	1.93		56.30
ZIRAM(THIO BARBAMATE)	0.70	0.70	0.70	0.73	0.55	0.60	0.58	0.51	0.60	0.72	0.76	0.61	109.47
CARBENDZIM(BAVISTIN)	0.98	0.98	0.98	0.43	0.34	0.31	0.36	0.24	0.13	0.03	0.02	-35.08	2.14
MANCOZAB	77.14	82.39	84.70	43.46	45.30	57.82	61.40	66.38	78.48	70.25	69.33	6.90	81.86
HEXACONAZOLE	1.08	1.08	1.20	0.47	0.44	0.58	0.59	0.62	0.46	0.59	0.50	0.95	41.72
METCONAZOLE	0.75	0.75	0.75	0.50	0.63	0.70	0.61	0.39	0.35	0.40	0.34	-5.52	44.80
2, 4-D	26.00	27.00	27.00	15.03	15.44	17.90	11.62	18.46	23.36	25.83	24.24	7.07	89.76
BUTACHLOR	0.50	0.50	0.50	0.20	0.18	0.04	0.00	0.00	0.00	0.00	0.00	-100.00	0.00
ETHOFUMESATE TECHNICAL	1.65	1.43	1.43	1.14	1.22	1.01	0.62	0.50	1.04	1.29	1.04	-1.23	73.12
THIAMETHOXAM TECHNICAL	3.10	3.10	3.75	1.63	3.12	3.31	1.66	1.92	2.51	3.28	5.57	19.14	148.51

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
PENDIMETHALIN	4.50	4.50	4.70	0.00	1.03	1.71	2.26	2.82	4.04	3.78	2.82		60.04
METRIBUZIN	1.20	1.20	1.35	0.00	0.24	0.74	0.52	0.91	1.12	0.88	1.92		142.15
TRICLOPYR ACID TECH	0.30	0.30	0.30	0.10	0.21	0.20	0.19	0.30	0.28	0.15	0.13	2.95	41.67
ISOPROTURON	6.25	6.25	6.25	2.53	4.05	2.35	2.43	1.95	0.13	0.00	0.00	-100.00	0.00
GLYPHOSATE	13.16	12.92	12.87	5.25	6.12	8.48	9.69	6.96	6.35	6.29	6.68	3.50	51.93
DIURON	3.72	3.72	3.72	0.31	0.14	0.07	0.12	1.26	3.68	3.26	3.62	42.25	97.26
ATRAZIN	0.50	0.50	0.50	0.66	0.65	1.24	1.20	1.21	1.90	2.25	1.48	12.17	295.40
ZINC PHOSPHIDE	1.92	1.92	1.92	0.89	0.60	0.65	1.29	1.50	1.31	1.40	1.26	5.07	65.63
ALUMINIUM PHOSPHIDE	4.74	4.74	4.74	3.14	4.16	4.47	5.05	5.75	6.40	4.77	4.91	6.61	103.65
DICOFOL	0.15	0.15	0.10	0.08	0.05	0.07	0.11	0.09	0.09	0.08	0.05	-6.46	52.00
Total	321.57	325.09	324.16	156.17	155.42	179.38	186.47	187.52	213.72	212.70	216.70	4.79	66.85

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Dyes and Pigments													
AZO DYES	22.62	21.14	21.14	12.10	12.72	13.46	10.59	9.82	9.98	11.04	9.05	-4.06	42.81
ACID DIRECT DYES(OTHER THAN	34.90	34.90	40.90	19.00	17.58	19.00	17.23	20.57	19.86	21.15	24.13	3.47	58.99
DISPERSE DYES	71.01	67.21	67.21	29.44	28.26	29.21	29.56	43.57	41.35	46.72	55.24	9.41	82.19
FAST COLOUR BASES	0.50	0.00	0.00	0.04	0.02	0.01	0.01	0.00	0.00	0.00	0.00	-100.00	
INGRAIN DYES	1.61	1.44	0.00	0.98	0.58	0.51	0.44	0.30	0.00	0.00	0.00	-100.00	
OIL SOLUBLE (SOLVENT DYES)	3.60	3.60	3.60	2.64	2.31	2.26	1.80	2.20	2.23	2.07	2.29	-1.98	63.64
OPTICAL WHITENING AGENTS	40.90	40.80	41.16	14.14	18.17	23.74	22.94	24.70	23.77	23.21	29.30	10.97	71.19
ORGANIC PIGMENT	86.15	87.04	87.04	51.77	44.46	68.67	76.89	61.31	63.74	73.34	73.94	5.22	84.95
PIGMENT EMULSION	5.41	5.41	5.41	5.22	6.48	7.34	9.64	9.67	10.61	10.16	9.78	9.39	180.59
REACTIVE DYES	178.79	186.69	194.69	83.38	87.60	95.42	89.47	106.23	120.96	151.91	151.38	8.89	77.76
SULPHUR DYES (SULPHUR BLACK)	3.00	8.25	8.25	7.02	6.58	7.57	9.38	9.55	10.07	7.32	7.54	1.03	91.44
VAT DYES	2.98	2.86	3.04	1.69	1.38	1.60	1.77	1.44	1.52	1.65	1.78	0.78	58.52
SOLUBILISED VAT DYES	0.13	0.13	0.13	0.03	0.03	0.02	0.03	0.03	0.02	0.02	0.004	-24.65	3.03
FOOD COLOURS	0.00	0.00	0.00	0.36	0.25	0.62	0.66	0.71	0.75	0.78	0.786	11.98	
NAPTHOLS	0.90	0.90	0.90	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	-100.00	0.00
INORGANIC PIGMENTS	18.05	18.05	18.05	13.06	13.14	14.18	14.82	14.19	15.41	17.88	16.29	3.20	90.22
Total	470.55	478.42	491.52	240.88	239.53	283.60	285.23	304.28	320.27	367.25	381.51	6.79	77.62

Note : Production and Installed Capacity data based on MPR received from large and medium scale units only.

Table 4:- Installed Capacities of Selected Chemicals (Group-Wise) from 2011-12 to 2018-19

<i>(Figures in 000'MT)</i>								
GROUP / PRODUCT	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1. Alkali Chemicals	8160	8075	8075	8214	8422	8822	9274	9422
2. Inorganic Chemicals	1235	1238	1228	1259	1316	1313	1315	1300
3. Organic Chemicals	2513	2409	2463	2537	2580	2529	2535	2575
4. Pesticides (Tech.)	301	283	297	302	307	322	325	324
5. Dyes & Pigments	412	422	434	460	456	471	478	492
TOTAL MAJOR CHEMICALS	12621	12427	12496	12772	13082	13456	13927	14112

Note : 1.Production and Installed Capacity data based on MPRs received from large and medium scale units only.

Table 5:- Consumption of Selected Major Chemicals (Product-Wise) during 2011-12 to 2018-19*(Figures in 000'MT)*

PRODUCTS								
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Alkali Chemicals								
SODA ASH	2598.56	3048.51	2877.33	3159.80	3197.66	3244.35	3652.10	3826.32
CAUSTIC SODA	2539.16	2619.10	2620.25	2808.67	2905.94	2935.48	3003.98	2961.45
LIQUID CHLORINE	1653.69	1669.61	1693.52	1717.03	1709.31	1795.64	1895.73	2064.68
Inorganic Chemicals								
ALUMINIUM FLUORIDE	32.39	29.19	26.28	34.02	34.98	54.39	57.07	67.63
CALCIUM CARBIDE	121.62	127.09	142.75	165.10	145.04	140.22	142.48	128.17
CARBON BLACK	294.31	436.79	428.67	469.70	478.95	331.84	594.29	702.09
POTASSIUM CHLORATE	5.80	7.26	6.99	5.96	2.81	-1.55	-1.57	-2.19
SODIUM CHLORATE	25.01	25.04	28.08	21.79	17.29	7.33	7.75	13.43
TITANIUM DIOXIDE	69.77	64.50	60.60	60.30	70.52	64.18	61.96	64.26
RED PHOSPHORUS	0.57	0.52	0.61	0.56	0.35	0.32	0.43	0.45
HYDROGEN PEROXIDE	125.97	157.13	190.35	175.78	196.82	205.66	225.38	240.45
CALCIUM CARBONATE	370.68	570.31	728.41	759.32	907.92	882.97	1026.48	1252.32
Organic Chemicals								
ACETIC ACID	704.88	800.68	814.63	865.50	942.30	993.41	1029.36	1073.28
ACETIC ANHYDRIDE	52.17	85.46	76.21	76.43	77.30	76.65	81.83	89.30
ACETONE	142.24	130.33	144.66	149.63	152.59	159.46	174.69	146.60
PHENOL	211.54	232.24	258.34	240.37	282.35	321.74	337.27	292.48
METHANOL	1439.15	1469.22	1535.78	1801.99	1830.49	1801.79	2034.32	2247.70
FORMALDEHYDE	259.94	270.66	262.35	248.89	233.68	235.87	237.67	214.15
NITROBENZENE	74.36	83.53	76.36	70.78	74.16	83.80	86.73	86.91
CITRIC ACID	50.40	54.33	62.09	65.63	74.49	80.01	81.87	92.96
MALEIC ANHYDRIDE	37.18	39.33	39.64	41.56	50.86	54.11	55.71	74.39
PENTAERYTHRITOL	25.11	24.76	26.37	25.58	31.82	31.35	29.95	31.11
ANILINE	54.45	63.48	72.27	70.48	77.61	85.94	107.14	126.17

Table 5:- Consumption of Selected Major Chemicals (Product-Wise) during 2011-12 to 2018-19*(Figures in 000'MT)*

PRODUCTS								
	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
CHLORO METHANES	188.67	197.85	214.14	220.68	220.75	221.68	222.85	286.87
ISOBUTYLBENZENE	-11.98	-6.68	-8.05	-9.64	-5.33	-6.51	-3.39	-2.04
ONCB	15.75	17.12	14.94	14.29	18.66	22.42	24.90	23.70
PNCB	21.22	22.30	25.09	29.96	38.01	39.26	37.78	36.07
MEK	31.98	33.68	30.50	30.89	46.45	37.25	51.71	53.69
ACETALDEHYDE	65.21	76.07	79.72	67.80	59.03	60.55	65.81	60.84
ETHANOLAMINES	13.47	16.65	19.98	24.02	22.19	23.08	24.49	30.21
ETHYL ACETATE	113.77	137.50	192.44	213.04	255.88	279.24	305.98	324.80
MENTHOL	6.46	7.85	3.80	4.82	6.83	4.05	2.31	-5.78
ORTHO NITRO TOLUENE	10.87	9.74	11.73	11.67	10.47	13.30	12.01	12.67

Note : 1. Production and Installed Capacity data based on MPR received from large and medium scale units only.

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

\$ Derived consumption as Production + Imports - Exports

Table5A:- Consumption of Selected Pesticides (Tech. Grade) (State -wise) during 2011-12 to 2018-19*(Figures in MT)*

S. No.	States/UTs	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1	Andhra Pradesh	9,289	2,803	4,253	4050	2713	2015	1738	1689
2	Bihar	655	687	765	787	831	790	840	850
3	Chhattisgarh	600	812	1,016	1589	1625	1660	1685	1770
4	Goa	8	9	9	12	48	22	24	25
5	Gujarat	2,190	1,210	2,330	1730	1980	1713	1692	1608
6	Haryana	4,050	4,050	4,080	4070	4100	4050	4025	4015
7	Himachal Pradesh	310	325	344	379	450	341	467	322
8	Jharkhand	151	151	430	650	493	541	619	646
9	Karnataka	1,412	1,615	1,735	1793	1434	1288	1502	1524
10	Kerala	807	712	1,276	910	1123	895	1067	995
11	Madhya Pradesh	850	846	987	696	732	694	502	540
12	Maharashtra	6,723	6,618	10,969	8663	11665	13496	15568	11746
13	Orissa	555	606	1,219	1278	994	1050	1633	1609
14	Punjab	5,625	5,730	5,723	5689	5743	5843	5835	5543
15	Rajasthan	2,802	2,559	2,736	2694	2475	2269	2307	2290
16	Tamil Nadu	1,968	1,766	2,142	2096	2096	2092	1929	1901
17	Telangana			3,812	2806	993	3436	4866	4894
18	Uttar Pradesh	8,839	9,057	10,164	9736	10457	10614	10824	11049
19	Uttarakhand	206	247	174	172	217	198	210	195
20	West Bengal	3,670	3,465	3,190	3060	3712	2624	2982	3190
Sub Total		52,421	45,057	59,077	54,633	53,881	55,631	60,316	56,402

Table 5A:- Consumption of Selected Pesticides (Tech. Grade) (State -wise) during 2011-12 to 2018-19

(Figures in MT)

S. No.	States/UTs	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
North-Eastern									
21	Arunachal Pradesh	17	NR	18	18	17	18	NR	5
22	Assam	160	183	190	190	185	306	241	256
23	Manipur	33	31	31	31	30	33	27	NR
24	Meghalaya	9	24	44	28	NR	NR	NR	NR
25	Mizoram	4	4	508	805	NR	9	NR	26
26	Nagaland	15	NR	16	20	20	20	20	21
27	Sikkim	NR	NR	NR	NR	NR	NR	NR	NR
28	Tripura	266	272	310	346	293	298	330	349
Sub Total		504	514	1,117	1,437	544	684	617	657
Union Territories									
29	Andaman & Nicobar	15	7	NR	8	NR	NR	NR	NR
30	Chandigarh	NR	NR	NR	NR	NR	NR	NR	NR
31	Dadra & Nagar Haveli	NR	NR	NR	NR	NR	NR	NR	NR
32	Daman & Diu	NR	NR	NR	NR	NR	NR	NR	NR
33	Delhi	NR	NR	48	NR	NR	88	NR	110
34	Jammu & Kashmir				1921	2251	2188	2430	2459
35	Ladakh								Formed in Oct,19
36	Lakshadweep	NR	NR	NR		NR	NR	NR	NR
37	Pondicherry	38	41	41	42	43	43	43	42
Sub Total		54	48	89	50	43	2,319	2473	2611
Grand Total		52,979	45,619	60,282	56,121	54,468	58,634	63,406	59,670

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

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

Section – II

Petrochemical Sector

Table 6:- Performance of Selected Basic Major Petrochemicals (Group Wise) during 2011-12 to 2018-19 At a Glance

(Figures in 000'MT)

Group	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Synthetic Fibres/Yarn									
Capacity	3743	3807	3769	4213	4452	4393	4379	4440	2.27
Production	3105	3127	3149	3532	3558	3599	3625	3601	2.14
Capacity Utilisation (%)	83.0	82.1	83.6	83.8	79.9	81.9	82.8	81.1	
Imports	150	156	164	236	264	280	260	276	9.11
Exports	734	776	908	887	878	1026	1001	1016	4.75
2. Polymers									
Capacity	8351	8761	8905	8905	9768	10110	10112	10115	2.78
Production	7250	7509	7876	7558	8839	9163	9276	10040	4.76
Capacity Utilisation (%)	86.8	85.7	88.4	84.9	90.5	90.6	91.7	99.3	
Imports	2435	3180	3125	3737	4214	4452	4751	4479	9.09
Exports	1163	1113	1188	903	998	912	1188	1934	7.53
3. Synthetic Rubber									
Capacity	128	124	244	425	425	425	425	425	18.70
Production	100	96	105	172	242	285	308	351	19.56
Capacity Utilisation (%)	78.4	77.4	42.8	40.3	56.8	67.0	72.3	82.5	
Imports	493	520	580	578	596	560	608	619	3.30
Exports	22	11	13	26	43	38	52	64	16.27
4. Synthetic Detergent Intermediates									
Capacity	672	687	687	687	687	687	687	687	0.32
Production	623	627	597	596	566	664	743	687	1.42
Capacity Utilisation (%)	92.6	91.2	86.8	86.7	82.3	96.6	108.1	100.0	
Imports	107	127	124	134	218	228	206	227	11.37
Exports	75	50	33	28	10	7	1	1	-45.66
5 : Performance Plastics									
Capacity	2201	2452	2958	2983	3018	2945	2947	2963	4.34
Production	1677	1691	1685	1591	1700	1799	1719	1589	-0.77
Capacity Utilisation (%)	76.2	69.0	56.9	53.3	56.3	61.1	58.3	53.6	
Imports	175	250	311	395	389	417	583	684	21.48
Exports	310	348	475	409	814	973	1051	1080	19.55
Total Basic Major Petrochemicals (1 to 5)									
Capacity	15095	15831	16563	17213	18351	18561	18551	18630	3.05
Production	12755	13050	13410	13448	14905	15510	15670	16269	3.54
Capacity Utilisation (%)	84.5	82.4	81.0	78.1	81.2	83.6	84.5	87.3	
Imports	3360	4233	4304	5080	5681	5938	6408	6284	9.36
Exports	2304	2298	2616	2254	2743	2956	3293	4095	8.56

Note : 1. Production and Installed Capacity data based on MPR received from large and medium scale units only.

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

Note: Product coverage under each group is given at page viii- ix.

Table 6A: Projection of Production, Installed Capacity, Export and Import of Selected Basic Major Petrochemical (Group-wise) from the year 2019-20 to 2024-25														
(Figures in 000'MT)														
	Actual Values								forecast values					
Group	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25
Period	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Synthetic Fibres/Yarn														
Capacity	3743	3807	3769	4213	4452	4393	4379	4440	4681	4753	4865	4880	4966	5094
Production	3105	3127	3149	3532	3558	3599	3625	3601	3805	3879	3954	4009	4080	4168
Capacity Utilisation (%)	83.0	82.1	83.6	83.8	79.9	81.9	82.8	81.1	81.3	81.6	81.3	82.1	82.2	81.8
Imports	150	156	164	236	264	280	260	276	319	335	354	361	379	397
Exports	734	776	908	887	878	1026	1001	1016	1079	1099	1134	1214	1227	1263
2. Polymers														
Capacity	8351	8761	8905	8905	9768	10110	10112	10115	10599	10937	11168	11448	11633	11887
Production	7250	7509	7876	7558	8839	9163	9276	10040	10304	10413	11357	11697	11733	12599
Capacity Utilisation (%)	86.8	85.7	88.4	84.9	90.5	90.6	91.7	99.3	97	95	102	102	101	106
Imports	2435	3180	3125	3737	4214	4452	4751	4479	5089	5409	5672	5825	6112	6375
Exports	1163	1113	1188	903	998	912	1188	1934	1994	2122	2307	2603	2923	3174
3. Synthetic Rubber														
Capacity	128	124	244	425	425	425	425	425	480	519	544	563	586	612
Production	100	96	105	172	242	285	308	351	391	448	493	533	575	619
Capacity Utilisation (%)	78.4	77.4	42.8	40.3	56.8	67.0	72.3	82.5	82	86	91	95	98	101
Imports	493	520	580	578	596	560	608	619	634	621	653	662	689	685
Exports	22	11	13	26	43	38	52	64	70	80	89	94	105	114
4. Synthetic Detergent Intermediates														
Capacity	672	687	687	687	687	687	687	687	689	688	688	689	689	689
Production	623	627	597	596	566	664	743	687	714	737	778	808	834	837
Capacity Utilisation (%)	92.6	91.2	86.8	86.7	82.3	96.6	108.1	100.0	104	107	113	117	121	121
Imports	107	127	124	134	218	228	206	227	262	288	302	322	338	357
Exports	75	50	33	28	10	7	1	1	-10	-18	-24	-30	-36	-43
5 : Performance Plastics														
Capacity	2201	2452	2958	2983	3018	2945	2947	2963	3065	3110	3082	3105	3127	3180
Production	1677	1691	1685	1591	1700	1799	1719	1589	1675	1680	1682	1682	1631	1621
Capacity Utilisation (%)	76.2	69.0	56.9	53.3	56.3	61.1	58.3	53.6	55	54	55	54	52	51
Imports	175	250	311	395	389	417	583	684	702	785	857	933	1020	1098
Exports	310	348	475	409	814	973	1051	1080	1269	1448	1614	1762	1893	2034
Total Basic Major Petrochemicals (1 to 5)														
Capacity	15095	15831	16563	17213	18351	18561	18551	18630	19514	20008	20348	20684	21002	21462
Production	12755	13050	13410	13448	14905	15510	15670	16269	16888	17158	18264	18729	18853	19843
Capacity Utilisation (%)	84.5	82.4	81.0	78.1	81.2	83.6	84.5	87.3	86.5	85.8	89.8	90.5	89.8	92.5
Imports	3360	4233	4304	5080	5681	5938	6408	6284	7006	7436	7839	8103	8539	8912
Exports	2304	2298	2616	2254	2743	2956	3293	4095	4402	4730	5120	5642	6112	6542

Note : 1. Production and Installed Capacity data based on MPR received from large and medium scale units only.

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

Note: Product coverage under each group is given at page viii- ix.

Table 7:- Production, Installed Capacity & Growth of Selected Basic Major Petrochemicals (Group-wise) during 2011-12 to 2018-19.

(Figures in 000' MT)

Group	Installed Capacity			Production / Growth Rate	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
	2016-17	2017-18	2018-19									
1	2	3	4	5	6	7	8	9	10	11	12	13
Synthetic Fibers	4393	4379	4440	Production	3105	3127	3149	3532	3558	3599	3625	3601
				Growth Rate (%)	-1.7	0.7	0.7	12.2	0.7	1.2	0.7	-0.7
Polymers	10110	10112	10115	Production	7250	7509	7876	7558	8839	9163	9276	10040
				Growth Rate (%)	14.3	3.6	4.9	-4.0	17.0	3.7	1.2	8.2
Elastomers (S.Rubber)	425	425	425	Production	100	96	105	172	242	285	308	351
				Growth Rate (%)	-4.7	-4.2	8.7	64.1	40.8	17.9	8.0	14.0
Synth. Detergent Intermediates	687	687	687	Production	623	627	597	596	566	664	743	687
				Growth Rate (%)	-2.4	0.7	-4.8	-0.1	-5.1	17.4	11.9	-7.5
Performance Plastics	2945	2947	2963	Production	1677	1691	1685	1591	1700	1799	1719	1589
				Growth Rate (%)	-4.1	0.8	-0.4	-5.5	6.9	5.8	-4.5	-7.6
Total Basic Major Petrochemicals	18561	18551	18630	Production	12755	13050	13410	13448	14905	15510	15670	16269
				Growth Rate (%)	6.4	2.3	2.8	0.3	10.8	4.1	1.0	3.8

Note : 1. Production and Installed Capacity data based on MPR received from large and medium scale units only.

Note: Product coverage under each group is given at page viii-ix.

Table 8:- Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-Wise) during 2011-12 to 2018-19.

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A : BASIC MAJOR PETROCHEMICALS													
I : Synthetic Fibres / Yarn													
POLYESTER FILAMENT YARN (\$)	2784.01	2765.81	2827.42	1874.27	1877.53	1811.28	2178.75	2179.00	2200.91	2283.41	2316.43	3.07	81.93
NYLON FILAMENT YARN (\$\$)	24.62	24.62	24.62	30.39	21.94	24.32	32.45	37.25	40.91	40.01	46.62	6.30	189.37
NYLON INDUSTRIAL YARN/TYRE CORD(\$\$)	90.50	90.50	90.50	96.64	95.07	103.83	100.52	94.87	103.56	107.59	109.55	1.81	121.04
POLYPROPYLENE FILAMENT YARN(\$\$)	3.60	3.60	3.60	6.97	6.43	5.91	5.14	3.47	3.39	3.15	2.36	-14.36	65.44
Sub Total Yarn (1+2+3+4)	2902.72	2884.53	2946.14	2008.27	2000.97	1945.34	2316.86	2314.59	2348.77	2434.15	2474.95	3.03	84.01
ACRYLIC FIBRE (AF)	107.00	107.00	107.00	76.41	74.97	94.38	89.63	105.87	95.39	90.97	99.45	3.84	92.95
POLYESTER STAPLE FIBREFILL	69.00	69.00	69.00	48.52	51.09	56.46	57.30	51.05	53.65	51.33	52.99	1.27	76.80
POLYESTER STAPLE FIBRE	1256.08	1256.56	1256.56	953.22	974.05	1010.05	1021.25	1039.65	1056.00	1005.30	931.44	-0.33	74.13
POLYPROPYLENE STAPLE FIBRE	32.13	32.13	30.93	4.08	8.06	23.01	25.42	27.04	24.56	22.24	20.74	26.17	67.08
POLYESTER INDUSTRIAL YARN	21.50	21.50	21.50	14.39	15.24	14.75	16.58	15.38	16.33	15.04	14.83	0.43	68.96
10.ELASTOMERIC/SPANDEX FILAMENT YARN	5.00	8.50	8.50	0.00	2.37	4.74	4.95	4.81	4.70	6.18	7.08		83.26
Total Synth. Fibre / Yarn	4393.43	4379.22	4439.63	3104.88	3126.75	3148.73	3531.98	3558.39	3599.40	3625.20	3601.48	2.14	81.12
II : Polymers													
LINEAR LOW DENSITY POLYETHYLENE (LLDPE)	No separate Capacity			1032.94	1011.79	1036.58	910.26	1204.57	1318.26	1290.05	1581.22	6.27	
HIGH DENSITY POLYETHYLENE (HDPE)	No separate Capacity			1118.97	1176.90	1195.04	1155.79	1317.15	1520.04	1578.38	1597.68	5.22	
LLDPE/HDPE (Combined) (\$\$\$)	3348.10	3348.10	3348.10	2151.91	2188.69	2231.62	2066.05	2521.72	2838.30	2868.42	3178.90	5.73	94.95
LOW DENSITY POLYETHYLENE (LDPE)	160.00	160.00	160.00	194.24	186.58	190.01	184.40	200.03	201.76	185.66	193.05	-0.09	120.66
POLYSTYRENE (PS)	472.00	471.00	471.00	288.37	289.84	270.33	281.17	308.58	311.35	301.58	292.86	0.22	62.18

Table 8:- Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-Wise) during 2011-12 to 2018-19.

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
POLYPROPYLENE(PP)	4514.00	4514.00	4514.00	3248.01	3506.60	3739.64	3614.82	4284.42	4253.39	4350.20	4779.02	5.67	105.87
EXPANDABLE POLYSTYRENE (EXPS)	122.80	126.30	128.70	72.02	80.80	77.35	80.68	86.20	96.77	103.91	108.27	6.00	84.12
POLY VINYL CHLORIDE (PVC)	1493.00	1493.00	1493.00	1295.84	1256.65	1367.00	1330.44	1437.89	1461.53	1466.08	1488.40	2.00	99.69
Total Polymers	10109.90	10112.40	10114.80	7250.38	7509.16	7875.96	7557.57	8838.84	9163.10	9275.85	10040.50	4.76	99.27
III : Synthetic Rubber													
STYRENE BUTADIENE RUBBER (SBR)	271.00	271.00	271.00	9.03	8.17	11.95	57.25	124.80	167.33	193.97	228.64	58.67	84.37
POLY BUTADIENE RUBBER (PBR)	114.00	114.00	114.00	78.92	77.25	80.87	107.54	113.93	117.09	113.63	122.23	6.45	107.22
ETHYL VINYL ACETATE (EVA)	15.00	15.00	15.00	12.44	10.68	11.21	6.42	2.41	0.00	0.00	0.00	-100.00	0.00
NITRILE BUTADIENE RUBBER (NBR)	25.30	25.30	25.30	0.07	0.10	0.52	0.38	0.39	0.35	0.05	0.00	-100.00	0.00
Total Synthetic Rubber	425.30	425.30	425.30	100.47	96.20	104.54	171.59	241.53	284.78	307.66	350.87	19.56	82.50
IV : Synthetic Detergent Intermediates													
LINEAR ALKYL BENZENE (LAB)	547.40	547.40	547.40	453.70	454.92	405.64	410.54	377.20	447.65	451.53	454.82	0.04	83.09
ETHYLENE OXIDE (EO)	140.00	140.00	140.00	169.00	171.85	190.89	185.32	188.31	216.06	291.30	232.34	4.65	165.95
Total Synth. Detergent Intermediates	687.40	687.40	687.40	622.70	626.77	596.53	595.86	565.51	663.71	742.82	687.16	1.42	99.96
V : Performance Plastic													
ABS RESINS	140.00	140.00	156.00	88.96	90.53	102.19	107.28	117.01	117.77	145.23	148.18	7.56	94.99
NYLON-6/ NYLON 6,6	28.20	28.20	28.20	18.44	19.34	20.45	20.75	21.44	21.54	20.56	21.52	2.24	76.33
POLYMETHYL METHACRYLATE (PMMA)	3.50	3.50	3.50	2.92	2.54	2.48	1.05	1.47	0.29	0.02	0.00	-100.00	0.00
STYRENE ACRYLONITRILE (SAN)	148.00	148.00	148.00	77.38	80.15	87.61	88.77	98.68	99.24	114.69	131.76	7.90	89.03
PET Chips/Polyester Chips	2605.06	2607.66	2607.66	1472.71	1487.15	1459.85	1361.98	1452.93	1548.70	1424.60	1271.09	-2.08	48.74
PTFE (TEFLON)	19.80	19.80	19.80	16.50	11.03	11.95	11.35	8.75	11.73	13.72	16.24	-0.23	82.00
Total Performance Plastics	2944.56	2947.16	2963.16	1676.90	1690.73	1684.53	1591.18	1700.27	1799.27	1718.81	1588.79	-0.77	53.62

Table 8:- Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-Wise) during 2011-12 to 2018-19.

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
TOTAL BASIC MAJOR PETROCHEMICALS													
(I+II+III+IV+V)	18560.59	18551.48	18630.29	12755.32	13049.61	13410.29	13448.16	14904.54	15510.25	15670.34	16268.79	3.54	87.32
B : INTERMEDIATES													
I : FIBRE INTERMEDIATES													
ACRYLONITRILE (ACN)	41.00	41.00	41.00	37.93	32.99	37.04	33.70	1.94	0.00	0.00	0.00	-100.00	0.00
CAPROLACTUM	120.00	120.00	120.00	118.36	98.72	84.86	87.05	86.30	86.96	85.97	92.56	-3.45	77.13
MONO ETHYLENE GLYCOL (MEG)	1153.40	1153.40	1153.40	996.57	1061.22	1069.28	1001.14	1158.97	1110.50	1132.65	1159.76	2.19	100.55
PURIFIED TEREPHTHALIC ACID (PTA)	3753.00	3873.00	3873.00	3307.81	3493.92	3476.51	3755.28	3431.78	3390.56	3492.44	3404.93	0.41	87.91
Total Fibre Intermediates	5067.40	5187.40	5187.40	4460.66	4686.86	4667.68	4877.16	4678.98	4588.01	4711.06	4657.25	0.62	89.78
II : BUILDING BLOCKS													
(a) Olefins													
BUTADIENE	433.00	433.00	433.00	249.57	235.14	235.53	239.45	343.45	347.36	332.38	385.76	6.42	89.09
ETHYLENE	4446.50	4446.50	4446.50	3319.66	3314.57	3346.39	3191.90	3727.39	4021.73	4222.68	3831.89	2.07	86.18
PROPYLENE	4803.42	4803.42	4803.38	3567.06	3740.73	3988.06	3869.40	4456.69	4425.21	4457.91	4639.53	3.83	96.59
Total Olefins	9682.92	9682.92	9682.88	7136.29	7290.44	7569.97	7300.74	8527.53	8794.29	9012.97	8857.18	3.13	91.47
(b) Aromatics													
BENZENE	1566.35	1566.35	1566.35	1002.36	1048.45	1030.79	1094.38	1332.59	1332.04	1318.03	1414.56	5.04	90.31
MIXED XYLENE	898.33	898.33	898.33	206.79	199.97	247.54	215.00	269.35	296.03	271.35	249.05	2.69	27.72
ORTHOXYLENE	420.00	420.00	420.00	389.60	444.47	412.41	462.46	499.51	444.88	447.76	406.30	0.60	96.74
TOLUENE	288.27	288.27	288.27	132.06	108.38	120.39	108.16	115.74	126.76	106.94	141.14	0.95	48.96
PARAXYLENE (PX)	3131.70	3131.70	3131.70	2394.20	2359.75	2263.76	2757.84	3266.36	3161.30	3194.52	3331.81	4.83	106.39
Total Aromatics	6304.65	6304.65	6304.65	4125.01	4161.01	4074.89	4637.84	5483.55	5361.02	5338.60	5542.87	4.31	87.92
Total Intermidates													
(I+II(a)+II(b))	21054.97	21174.97	21174.93	15721.97	16138.31	16312.54	16815.75	18690.06	18743.32	19062.62	19057.29	2.79	90.00

Table 8:- Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-Wise) during 2011-12 to 2018-19.

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2018-19
	2016-17	2017-18	2018-19	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
C : OTHER PETRO-BASED CHEMICALS													
DIETHYLENE GLYCOL	84.50	83.30	83.30	98.54	102.88	106.65	100.96	114.24	108.24	105.70	107.41	1.24	128.93
DIACETONE ALCOHOL	9.50	9.50	9.50	5.40	3.15	0.00	0.00	0.00	0.00	0.21	4.07	-3.95	42.86
ETHYLENE DICHLORIDE	593.20	593.20	593.20	435.12	316.44	278.03	285.30	277.35	282.57	282.35	339.20	-3.49	57.18
BUTANOL	26.00	26.00	26.00	22.18	14.41	5.48	4.20	11.08	12.47	17.39	21.69	-0.32	83.43
2-ETHYL HEXANOL**	55.20	55.20	55.20	48.97	49.78	20.19	13.89	44.41	45.59	56.64	58.89	2.67	106.69
VINYL CHLORIDE MONOMER	541.30	541.30	541.30	689.24	668.92	735.47	717.88	790.71	791.26	777.98	803.62	2.22	148.46
EPICHLORHYDRINE	0.00	0.00	0.00	8.57	10.69	0.00	0.00	0.00	0.00	0.00	0.00	-100.00	
PBT*	0.00	0.00	0.00	0.00	0.00	0.43	0.50	0.50	0.61	0.58	1.29		
POLYCARBONATE*	0.00	0.00	0.00	0.00	0.00	0.16	0.16	0.17	0.15	0.09	0.12		
PROPYLENE OXIDE	36.00	36.00	36.00	34.86	29.84	33.43	36.61	25.59	29.34	36.00	35.12	0.11	97.56
PROPYLENE GLYCOL	20.00	20.00	20.00	19.47	15.11	14.04	16.25	13.65	16.35	17.64	19.13	-0.25	95.65
POLYVINYL ACETATE RESIN	17.34	17.34	17.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
METHYL METHACRYLATE	4.38	4.38	4.38	4.29	3.12	3.23	3.47	2.28	0.54	2.83	3.99	-1.01	91.29
ISO-BUTANOL	2.80	2.80	2.80	2.44	2.38	0.79	0.67	1.86	1.96	2.23	2.21	-1.44	78.79
C4-RAFFINATE	291.60	291.60	291.60	209.39	395.15	392.64	364.61	428.64	437.17	339.20	380.26	8.90	130.40
PHTHALIC ANHYDRIDE	349.05	349.05	349.05	249.58	254.47	263.75	291.52	305.78	296.07	290.01	275.07	1.40	78.81
VINYL ACTATE MONOMER	30.00	30.00	30.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00
ISOPROPANOL	70.20	70.20	70.20	71.08	70.33	75.90	74.98	71.18	72.47	71.83	58.27	-2.80	83.00
POLYOL	141.63	141.63	141.63	41.11	42.21	40.12	51.78	71.80	78.72	79.43	82.13	10.39	57.99
Total Other Petro-based Chemicals	2272.69	2271.49	2271.49	1940.22	1978.87	1970.31	1962.81	2159.22	2173.50	2080.10	2192.46	1.76	96.52
Total Major Petrochemical (9 group)	41888.25	41997.93	42076.70	30417.52	31166.79	31693.14	32226.72	35753.82	36427.08	36813.06	37518.55	3.04	89.17

(\$) : Includes capacity of all the units producing PFY, NFY, NIY and PPFY under broadbanding as Synthetic Filament Yarn :

* Nylon 6, 66 includes installed capacity of PBT and Polycarbonate.

(\$\$) : Independent capacity of units producing only NFY, NIY and PPFY.

As the capacities of these products are also included in Synthetic Filament yarn, capacity utilisation can not be worked out.

(\$\$\$) : Combined capacity to produce both LLDPE and HDPE and hence capacity utilisation can not be worked out. However production is independent.

(**) : Combined capacity of 2-EH, Butanol & Iso Butanol is given under 2 - EH)

Table 9:- Installed Capacities of Selected Major Petrochemicals (Group Wise) from 2011-12 to 2018-19.

(Figures in 000'MT)

GROUP / PRODUCT	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
A : BASIC PETROCHEMICALS								
I : SYNTHETIC FIBRES	3743	3807	3769	4213	4452	4393	4379	4440
II : POLYMERS	8351	8761	8905	8905	9768	10110	10112	10115
III : SYNTHETIC RUBBER (ELASTOMERS)	128	124	244	425	425	425	425	425
IV : SYNTH. DETERGENT INTERMEDIATE	672	687	687	687	687	687	687	687
V : PERFORMANCE PLASTICS	2201	2452	2958	2983	3018	2945	2947	2963
MAJOR PETROCHEMICALS (I TO V)	15095	15831	16563	17213	18351	18561	18551	18630
B : INTERMEDIATES								
VI : FIBRE INTERMEDIATES	5034	5034	5067	5067	5067	5067	5187	5187
VII : OLEFINS	7864	8304	8484	8484	9462	9683	9683	9683
VIII : AROMATICS	5069	5070	5077	6274	6304	6305	6305	6305
Total (VI TO VIII)	17967	18408	18629	19826	20834	21055	21175	21175
C : OTHER PETRO-BASED CHEMICALS	2062	2121	2169	2244	2272	2273	2271	2271
Total (A,B & C)	35124	36360	37361	39283	41457	41888	41998	42077

Note : 1.Production and Installed Capacity data based on MPR received from large and medium scale units only.

Table 10:- Consumption of Selected Major Petrochemicals (Product-wise) during 2011-12 to 2018-19

(Figures in 000'MT)

PRODUCT NAME	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
I. SYNTHETIC FIBRE								
ACRYLIC FIBRE	70.22	85.07	95.81	88.55	97.20	83.83	83.94	94.00
POLYESTER STAPLE FIBREFILL	48.52	51.09	56.46	57.30	51.05	53.65	51.33	52.99
NYLON FILAMENT YARN	51.37	44.14	46.60	58.41	64.58	70.11	58.72	64.08
NYLON INDUSTRIAL YARN/TYRE CORD	101.98	103.23	107.96	102.52	98.16	109.83	112.53	115.76
POLYESTER FILAMENT YARN	1393.58	1351.32	1210.26	1602.69	1616.81	1537.24	1648.48	1703.72
POLYESTER STAPLE FIBRE	821.90	833.40	847.34	919.53	957.55	941.91	866.85	767.76
POLYPROPYLENE FILAMENT YARN	7.64	6.02	4.84	3.62	1.32	2.01	3.62	3.22
POLYPROPYLENE STAPLE FIBRE	3.84	6.09	8.52	15.14	21.40	16.82	16.02	16.19
POLYSTER INDUSTRIAL YARN	14.39	15.24	14.75	16.58	15.38	16.33	15.04	14.83
Elastomeric/Spandex Filament Yarn	7.16	11.55	12.69	16.04	20.36	21.93	27.24	28.89
Total	2520.59	2507.15	2405.22	2880.38	2943.80	2853.65	2883.77	2861.43
II. POLYMERS								
LOW DENSITY POLYETHYLENE	379.07	434.18	427.79	488.78	550.79	566.35	541.99	369.97
HIGH DENSITY POLYTHYLENE	1302.14	1656.62	1656.81	1947.02	2122.78	2372.35	2365.65	2042.53
POLYSTYRENE	256.60	251.65	224.15	247.12	264.80	273.18	284.56	285.18
POLYPROPYLENE (INC. CO-POLYMER)	2830.10	3176.05	3275.54	3499.59	4249.93	4460.35	4737.19	4915.80
EXPANDABLE POLYSTYRENE	77.36	81.53	77.68	78.99	85.42	96.85	103.44	106.44
POLY VINYL CHLORIDE	2143.54	2388.51	2574.19	2621.79	2936.15	3157.90	3305.72	3523.84
LINEAR LOW DENSITY POLYTHYLENE	1474.14	1528.82	1522.95	1449.51	1778.76	1734.12	1486.21	1349.40
PVC COMPOUND	59.40	58.74	54.20	58.29	65.91	42.13	14.35	-7.68
Total	8522.36	9576.09	9813.31	10391.10	12054.52	12703.23	12839.10	12585.48
III. SYNTHETIC RUBBER								
STYRENE BUTADIENE RUBBER	214.07	207.19	244.01	262.79	266.55	289.76	286.26	305.47
POLY BUTADIENE RUBBER	144.67	147.13	166.80	176.09	182.59	196.89	201.40	213.72
ETHYL PROPYLENE DIMERS	26.17	27.19	28.27	30.43	36.65	40.13	42.58	50.34
ETHYL VINYL ACETATE	95.25	118.20	124.76	144.70	166.40	143.11	182.45	178.15
NITRILE BUTADIENE RUBBER	8.91	26.40	29.66	26.66	51.93	36.36	39.93	38.01
BUTYL RUBBER	81.90	78.27	78.53	83.29	90.84	100.26	111.02	120.12
Total	570.97	604.38	672.04	723.95	794.94	806.50	863.64	905.82
IV. SYNTHETIC DETERGENT INTERMEDIATES								
LINEAR ALKYL BENZENE	485.96	532.29	496.97	517.33	585.94	669.30	656.51	681.61
ETHYLENE OXIDE	168.73	171.49	190.44	184.57	188.03	215.58	290.89	231.64
Total	654.69	703.78	687.41	701.90	773.97	884.88	947.39	913.24
V. PERFORMANCE PLASTICS								
ABS RESIN	133.63	146.76	164.91	176.97	206.62	220.16	242.99	267.13
NYLON-6	86.40	96.84	118.59	136.67	150.19	161.53	174.07	216.48
POLYMETHYL METHACRYLATE	9.82	11.18	11.63	7.11	12.62	18.90	26.45	25.22
STYRENE ACRYLONITRILE	81.82	86.35	93.30	95.07	107.67	107.11	122.94	140.56
NYLON 6,6	0.79	0.85	0.91	1.25	1.23	1.17	1.08	1.02

Table 10:- Consumption of Selected Major Petrochemicals (Product-wise) during 2011-12 to 2018-19

(Figures in 000'MT)

PRODUCT NAME	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
POLYESTER CHIPS/PET CHIPS	1217.79	1242.59	1123.03	1153.57	792.03	729.45	676.37	534.81
POLYTETRAFLUOROETHYLENE(PTFE)	12.24	7.96	8.52	5.95	4.75	5.64	7.07	7.14
Total	1542.48	1592.52	1520.90	1576.58	1275.10	1243.96	1250.96	1192.35
TOTAL BASIC MAJOR PETROCHEMICALS								
(I+II+III+IV+V)	13811.10	14983.93	15098.87	16273.91	17842.34	18492.22	18784.86	18458.32
FIBRE INTERMEDIATE								
ACRYLONITRILE	109.69	112.85	137.90	131.08	159.82	139.70	158.27	180.36
CAPROLACTUM	110.29	111.30	107.84	119.33	130.87	138.86	144.33	158.98
DIMETHYL TEREPHTHALATE	2.81	2.10	1.79	2.09	2.22	1.76	2.26	1.45
MONO EHYLENE GLYCOL	1564.68	1644.26	1822.97	1931.46	2198.31	2283.68	2061.67	1501.89
PURIFIED TEREPHTHALIC ACID	3887.52	4138.30	4454.58	4799.80	3955.64	3543.14	3801.61	3812.26
Total	5674.98	6008.81	6525.06	6983.76	6446.86	6107.15	6168.13	5654.95
OLEFINS								
BUTADIENE	133.21	126.70	117.19	170.19	214.64	242.62	231.81	250.62
ETHYLENE	3334.32	3338.36	3371.18	3235.80	3743.33	4102.62	4125.38	3699.24
PROPYLENE	3558.14	3735.74	3988.31	3871.53	4445.58	4415.14	4445.97	4608.31
Total	7025.68	7200.80	7476.67	7277.52	8403.54	8760.38	8803.16	8558.17
AROMATICS								
BENZENE	543.93	446.14	400.29	517.68	417.72	542.62	31.77	-214.30
MIXED XYLENE	58.31	58.58	65.87	206.19	269.45	296.08	273.36	248.71
ORTHO-XYLENE	238.02	278.78	228.28	271.15	299.63	316.81	277.81	203.57
TOLUENE	371.99	410.11	369.35	386.04	454.13	513.67	516.98	565.59
PARAXYLENE	2227.63	2344.68	2220.25	2391.98	3213.80	3557.33	2256.66	1508.80
Total	3439.87	3538.29	3284.04	3773.04	4654.73	5226.49	3356.58	2312.38
OTHER PETRO-BASED CHEMICALS								
DIETHYLENE GLYCOL	98.54	102.88	106.65	100.96	114.24	108.24	105.70	107.41
DIACETONE ALCOHOL	5.40	3.15	0.00	0.00	0.00	0.00	0.21	4.07
ETHYLENE DICHLORIDE	698.52	672.25	717.56	750.57	861.55	786.54	950.82	901.70
BUTANOL	50.16	45.94	47.98	60.40	73.40	68.13	70.21	70.20
OXO ALCOHOL	0.46	0.52	0.51	0.10	0.69	1.92	1.38	-0.24
2-ETHYL HEXANOL	78.07	108.15	120.37	142.40	152.76	110.41	112.13	109.83
VINYL CHLORIDE MONOMER	991.56	965.09	1038.51	1035.81	1140.08	1135.68	1262.37	1261.15
EPICHLHYDRINE	27.62	29.79	22.98	33.57	43.36	48.06	55.98	64.96
ISO BUTYLENE	23.35	9.26	21.44	13.01	15.83	20.05	48.70	44.56
METAXYLENE	-82.78	-36.69	3.03	0.92	3.02	2.60	2.07	2.93
METHYL ISOBUTYL KETONE	18.67	17.66	18.30	23.04	27.29	21.57	33.75	31.89
PBT	0.00	0.00	0.43	0.50	0.50	0.61	0.58	1.29
PIB	0.91	6.47	3.56	6.30	8.24	13.80	12.42	11.99
POLYCARBONATE	113.67	120.23	120.57	122.26	133.91	134.53	154.11	187.12
PROPYLENE OXIDE	44.25	42.98	45.11	59.52	51.14	52.40	59.44	61.92
PROPYLENE GLYCOL	54.29	52.56	56.77	64.23	67.16	66.82	73.86	83.93

Table 10:- Consumption of Selected Major Petrochemicals (Product-wise) during 2011-12 to 2018-19*(Figures in 000'MT)*

PRODUCT NAME	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
POLYVINYL ACETATE RESIN	-5.82	-9.68	-11.26	-11.45	-8.05	-5.72	-3.51	-5.80
UNSATURATED POLYESTER RESIN	24.78	25.31	20.41	16.19	18.19	23.71	35.45	28.29
METHYL METHACRYLATE	4.29	3.12	3.23	3.47	2.28	0.54	2.83	3.99
ISO-BUTANOL	2.44	2.38	0.79	0.67	1.86	1.96	2.23	2.21
ETHYL BENZENE	0.07	0.40	0.17	0.13	0.15	0.31	0.35	0.72
C4-RAFFINATE	209.39	395.15	392.64	364.61	428.64	437.17	339.20	380.26
CELLULOSE ACETATE BUTYRATE	0.22	-0.04	-0.09	-0.04	0.00	-0.01	0.00	0.00
CELLULOSE ACETATE SHEET	0.44	0.53	0.92	1.23	1.26	0.98	1.29	1.49
CELLULOSE NITRATE SHEET	0.07	0.13	0.50	0.25	0.09	0.06	0.10	0.10
MELAMINE MOULDING POWDER	6.95	7.51	8.04	3.74	3.88	2.87	-0.06	-1.30
POLYACETAL RESIN	20.37	25.66	25.73	32.07	34.90	37.50	43.53	48.48
PHTHALIC ANHYDRIDE	263.48	285.98	295.51	305.24	345.13	346.10	382.58	393.37
STYRENE	513.24	574.32	570.41	610.86	716.90	724.54	784.75	811.25
VINYL ACTATE MONOMER	122.50	126.19	143.27	137.99	139.95	150.25	163.70	163.01
ISOPROPANOL	94.92	122.21	123.84	132.04	155.07	162.35	171.29	193.10
POLYOL	160.34	179.44	180.22	200.76	236.94	226.03	274.55	308.30
Total	3540.38	3878.82	4078.06	4211.33	4770.34	4679.97	5142.00	5272.18

Note : 1. Production and Installed Capacity data based on MPR received from large and medium scale units only.

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

\$ Derived consumption as Production + Imports - Exports

Section – III

Foreign Trade

Table 11:- Exports and Imports of Chemicals (excluding Pharmaceutical Products and Fertilizers) during 2011-12 to 2018-19

Values in Rs. Crore

HS Code	Commodity	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	CAGR (%)
	Total National Exports of which	1465959	1634318	1905011	1896445	1716384	1849433.6	1955541.1	2307726.2	6.7
28	INORGANIC CHEMICALS	8667	7176	8258	8749	7913	9138	11175	14056	7.2
29	ORGANIC CHEMICALS	56179	65865	72860	73069	75295	78386	95305	127567	12.4
32	TANNING OR DYEING	9336	11372	15455	17206	16165	17189	18951	23124	13.8
38	MISCELLANEOUS CHEMICAL PRODUCTS.	12485	15545	18694	19432	20083	21792	25082	32397	14.6
39	THEREOF.	25312	28012	34154	31022	34381	35502	40926	56079	12.0
4002	FACTICE	286	181	245	379	452	480	571	739	14.5
54	MAN-MADE FILAMENTS.	12467	12112	15575	14621	13460	13334	13984	16018	3.6
55	MAN-MADE STAPLE FIBRES.	10599	10565	12621	13334	13625	14373	13212	13308	3.3
A: Total Chemicals and Petrochemical Products		135330	150829	177862	177813	181374	190193	219206	283287	11.1
	% share in total export	9.2	9.2	9.3	9.4	10.6	10.3	11.2	12.3	
	Total National Imports of which	2345463	2669162	2715434	2737087	2490306	2577675	3001016	3594675	6.3
28	INORGANIC CHEMICALS	27792	28770	29063	31413	33170	31654	38927	53237	9.7
29	ORGANIC CHEMICALS	69144	85439	103157	108320	101986	103798	123761	156552	12.4
32	TANNING OR DYEING	7097	8004	9254	9821	10467	11186	12995	15460	11.8
38	MISCELLANEOUS CHEMICAL PRODUCTS.	17855	20650	23107	25494	27207	30642	35521	41748	12.9
39	THEREOF.	40578	52283	61072	71398	74566	77573	89772	106591	14.8
4002	FACTICE	7731	7562	7339	6697	5205	5654	6687	7896	0.3
54	MAN-MADE FILAMENTS.	3725	4149	4597	5042	4879	4856	5538	6843	9.1
55	MAN-MADE STAPLE FIBRES.	2498	3052	3722	4539	4401	3826	4658	6508	14.7
B: Total Chemicals and Petrochemical Products		176419	209909	241311	262722	261880	269189	317859	394834	12.2
	% share in total import	7.5	7.9	8.9	9.6	10.5	10.4	10.6	11.0	

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

Note: Data Source in respect of imports and exports is DGCIS, Kolkata, M/O Commerce and Industry, as on 12.12.2019.

Table 12:- Exports and Imports of Chemicals and Petrochemical Products (including Pharmaceutical Products and Fertilizers) during 2011-12 to 2018-19

Values in Rs. Crore

HS Code	Commodity	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	CARG (%)
	Total National Exports of which	1465959	1634318	1905011	1896445	1716384	1849433.6	1955541.1	2307726.2	6.7
28,29,32,38, 4002, 54 & 55	Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)	135330	150829	177862	177813	181374	190193	219206	283287	11.1
	% share in total exports	9.2	9.2	9.3	9.4	10.6	10.3	11.2	12.3	
30	Pharmaceutical Products	40817	54774	67404	70815	84481	86705	85445	103240	14.2
	% share in total exports	2.8	3.4	3.5	3.7	4.9	4.7	4.4	4.5	
31	Fertilisers	397	480	492	555	673	466	685	1038	14.7
	% share in total exports	0.03	0.03	0.03	0.03	0.04	0.03	0.04	0.04	
A: Total Chemicals and Chemical Products (including Pharmaceutical Products and Fertilizers)		176544	206082	245758	249183	266528	277364	305336	387565	11.9
	% share in total exports	12.04	12.61	12.90	13.14	15.53	15.00	15.61	16.79	
	Total National Imports of which	2345463	2669162	2715434	2737087	2490306	2577675	3001016	3594675	6.3
28,29,32,38, 4002, 54 & 55	Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)	176419	209909	241311	262722	261880	269189	317859	394834	12.2
	% share in total imports	7.5	7.9	8.9	9.6	10.5	10.4	10.6	11.0	
30	Pharmaceutical Products	8131	9522	9371	9961	10742	11515	12241	14581	8.7
	% share in total imports	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.4	
31	Fertilisers	44996	40412	32639	39106	45973	28754	30108	46457	0.5
	% share in total imports	1.92	1.51	1.20	1.43	1.85	1.12	1.00	1.29	
B: Total Chemicals and Petrochemical Products (including Pharmaceutical Products and Fertilizers)		229546	259844	283322	311790	318595	309458	360208	455872	10.3
	% share in total imports	9.79	9.74	10.43	11.39	12.79	12.01	12.00	12.68	

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

Note: Data Source in respect of imports and exports is DGCIS, Kolkata, M/O Commerce and Industry, as on 12.12.2019.

Table 12A:- Net Imports of Chemicals and Chemical Products (including Pharmaceutical Products and Fertilizers) during 2011-12 to 2018-19

Values in Rs. Crore

HS Code	Commodity	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
	Total National Net Imports of which	879504	1034844	810423	840641	773921	728242	1045475	1286948
28	INORGANIC CHEMICALS	19125	21594	20805	22664	25256	22516	27753	39181
29	ORGANIC CHEMICALS	12965	19574	30296	35251	26692	25412	28455	28985
32	TANNING OR DYEING	-2240	-3368	-6201	-7385	-5698	-6004	-5955	-7664
38	MISCELLANEOUS CHEMICAL PRODUCTS.	5370	5105	4413	6061	7124	8850	10439	9352
39	PLASTIC AND ARTICLES THEREOF.	15266	24271	26918	40376	40185	42071	48845	50512
4002	SYNTHETIC RUBBER AND FACTICE	7445	7381	7094	6318	4753	5174	6116	7157
54	MAN-MADE FILAMENTS.	-8742	-7964	-10978	-9579	-8582	-8479	-8446	-9175
55	MAN-MADE STAPLE FIBRES.	-8101	-7513	-8899	-8795	-9224	-10546	-8554	-6800
	Net Imports of Total Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)	41089	59080	63449	84909	80506	78995	98653	111548
	% share in total national net imports	4.7	5.7	7.8	10.1	10.4	10.8	9.4	8.7
30	Pharmaceutical Products	-32686	-45252	-58032	-60854	-73739	-75190	-73204	-88659
31	Fertilisers	44599	39933	32147	38551	45300	28289	29423	45419
	Net Imports of Total Chemicals and Chemical Products (including Pharmaceutical Products and Fertilizers)	53002	53761	37564	62607	52067	32094	54872	68308
	% share in total national net imports	6.0	5.2	4.6	7.4	6.7	4.4	5.2	5.3

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: Data Source in respect of imports and exports is DGCIS, Kolkata, M/O Commerce and Industry, as on 12.12.2019.

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

Table-13: Exports of Major Chemicals (Group Wise) during 2011-12 to 2018-19

(QTY. IN MT ; VALUE IN RS. LAKH)

GROUP	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
ALKALI CHEMICALS	344596	51653	144954	33599	164213	35747	73639	17660	106744	29210	154244	39591	273456	86880	239321	87844
INORGANIC CHEMICALS	327280	162105	162645	99228	167449	116036	163592	100558	156683	74466	377587	111322	173071	102270	176900	133248
ORGANIC CHEMICALS	315492	264248	406944	373539	335353	343064	240545	249461	231728	216771	190306	232940	204923	320492	233147	425738
PESTICIDES & INSECTICIDES \$	153501	568869	179518	794635	206960	985161	230227	974682	266915	1126874	342331	1315026	358481	1481031	404783	2004132
DYES & PIGMENTS	288392	661852	326035	816039	346539	1145588	353220	1285827	376046	1219795	419272	1307546	485741	1439290	525170	1800681
EXPORTS OF MAJOR CHEMICALS	1429261	1708727	1220096	2117040	1220514	2625596	1061223	2628188	1138116	2667116	1483740	3006425	1495672	3429963	1579321	4451643

Source: Imports & Exports data have been received from Directorate General of Commercial Intelligence & Statistics, Ministry of Commerce & Industry, and Kolkata. www.dgciskol@nic.in

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

Table-14: Imports of Major Chemicals (Group Wise) during 2011-12 to 2018-19

(QTY. IN MT : VALUE IN RS. LAKH)

GROUP	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
ALKALI CHEMICALS	658385	95789	995300	172682	874159	152967	1134146	206474	1117878	218199	1121137	215051	1193978	265347	1049124	225523
INORGANIC CHEMICALS	478707	196837	689374	237352	873906	265840	911969	267873	1009821	237368	1010071	235237	1228854	308363	1579667	485763
ORGANIC CHEMICALS	2182271	627474	2486575	757437	2495989	957223	2885815	995356	3143476	865684	3170287	904366	3407051	1207748	3644781	1520278
PESTICIDES & INSECTICIDES \$	30255	231832	29789	263642	37099	335996	40674	374050	33868	390707	42591	490581	44145	581385	49233	632590
DYES & PIGMENTS	47548	148857	52236	183735	52315	208985	51935	214741	54691	219304	55868	214913	62971	231383	56452	278422
IMPORTS OF MAJOR CHEMICALS	3397166	1300789	4253274	1614848	4333468	1921011	5024539	2058494	5359734	1931262	5399954	2060148	5936999	2594226	6379257	3142576

Source: Imports & Exports data have been received from Directorate General of Commercial Intelligence & Statistics, Ministry of Commerce & Industry, and Kolkata. www.dgciskol@nic.in

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

Table-15: Net Imports of Major Chemicals (Group Wise) during 2011-12 to 2018-19

(QTY. IN MT ; VALUE IN RS. LAKH)

GROUP	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
ALKALI CHEMICALS	313789	44136	850346	139083	709946	117220	1060507	188814	1011134	188989	966893	175460	920522	178467	809803	137679
INORGANIC CHEMICALS	151427	34732	526729	138124	706457	149804	748377	167315	853138	162902	632484	123915	1055783	206093	1402767	352515
ORGANIC CHEMICALS	1866779	363226	2079631	383898	2160636	614159	2645270	745895	2911748	648913	2979981	671426	3202128	887256	3411634	1094540
PESTICIDES & INSECTICIDES \$	-123246	-337037	-149729	-530993	-169861	-649165	-189553	-600632	-233047	-736167	-299740	-824445	-314336	-899646	-355550	-1371542
DYES & PIGMENTS	-240844	-512995	-273799	-632304	-294224	-936603	-301285	-1071086	-321355	-1000491	-363404	-1092633	-422770	-1207907	-468718	-1522259
NET IMPORTS OF MAJOR CHEMICALS	1967905	-407938	3033178	-502192	3112954	-704585	3963316	-569694	4221618	-735854	3916214	-946277	4441327	-835737	4799936	-1309067

Source: Imports & Exports data have been received from Directorate General of Commercial Intelligence & Statistics, Ministry of Commerce & Industry, and Kolkata. www.dgciskol@nic.in

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

Table 16 :- Exports of Major Chemicals (Productwise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ALKALI CHEMICALS																
SODA ASH	257622	31586	82144	12766	84254	12506	27720	5166	18613	3927	64377	10793	110087	19377	62457	15202
CAUSTIC SODA	82208	18977	59118	20166	76059	22568	42200	11973	82144	23807	84809	27773	159630	66829	172165	71663
LIQUID CHLORINE	4766	1090	3692	667	3900	673	3719	521	5987	1476	5058	1025	3739	674	4699	979
TOTAL	344596	51653	144954	33599	164213	35747	73639	17660	106744	29210	154244	39591	273456	86880	239321	87844
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	3362	2181	3755	2410	3658	2571	2831	1980	1796	1240	321	265	206	204	442	363
CALCIUM CARBIDE	1267	592	1758	853	268	148	412	230	371	206	493	284	464	258	325	204
CARBON BLACK	277698	142242	110697	79285	123679	88731	114119	77832	114668	55019	332172	87414	122287	72959	122832	103643
POTASSIUM CHLORATE	844	487	791	567	724	451	634	492	758	576	1658	1145	1941	1245	3024	2124
SODIUM CHLORATE	127	51	40	5	7	10	31	21	13	13	118	56	1075	256	810	41
TITANIUM DIOXIDE	5009	7811	3470	5278	9051	12853	5158	7108	4436	5582	8183	10216	9560	15377	7345	12743
RED PHOSPHORUS	383	1133	471	1598	411	1557	360	1299	482	1777	454	1757	455	1716	595	2242
HYDROGEN PEROXIDE	2415	598	1789	483	544	217	244	143	351	222	270	284	116	214	263	225
CALCIUM CARBONATE	36175	7010	39874	8749	29107	9498	39803	11453	33808	9831	33918	9901	36967	10041	41264	11663
TOTAL	327280	162105	162645	99228	167449	116036	163592	100558	156683	74466	377587	111322	173071	102270	176900	133248
ORGANIC CHEMICALS																
ACETIC ACID	25887	8687	6617	2995	7338	3134	6489	3449	8378	5181	12914	6277	12220	5401	17821	10476
ACETIC ANHYDRIDE	2652	1373	3734	1855	6430	3470	20098	11565	18605	9941	20443	10277	19644	13743	18444	13582
ACETONE	1200	958	2660	1828	674	628	3182	2975	10778	6392	3225	2201	5054	3173	10901	5904
PHENOL	1146	2147	436	1028	2142	3230	2009	3338	6841	7379	4013	8192	4750	9709	4724	11740
METHANOL	120419	20481	184669	34456	81917	22584	49463	11525	44013	8196	12624	3123	9466	2846	10943	3819
FORMALDEHYDE	4474	722	5041	961	6369	2020	7467	1213	8480	1383	8406	1548	10616	2098	12484	2495

Table 16 :- Exports of Major Chemicals (Productwise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
NITROBENZENE	128	126	165	141	146	131	150	137	49	38	344	231	60	49	103	110
CITRIC ACID	2745	1935	2411	1817	2013	1671	1737	1364	1487	1144	1670	1244	2393	1931	2323	2010
MALEIC ANHYDRIDE	38	32	23	27	27	36	37	47	80	67	232	164	233	227	87	105
PENTAERYTHRITOL	1353	1966	1385	2144	1460	2277	1557	2516	1632	2958	2044	3470	2110	3399	2287	4161
ANILINE	953	744	193	344	94	143	86	141	129	134	168	207	162	614	137	341
CHLORO METHANES	126	121	42	49	35	353	144	236	38	41	89	121	101	283	75	149
ISOBUTYLBENZENE	13920	14712	13314	17938	14156	21087	13944	19250	12572	14186	13430	14854	12341	14384	11740	16320
ONCB	323	168	378	319	2555	2428	2231	2283	843	883	973	950	0	0	0	0
PNCB	1272	693	2096	1442	2370	1763	843	564	1670	1114	1023	738	0	0	0	0
MEK	428	501	408	390	460	2382	673	922	184	795	189	98	19	36	465	477
ACETALDEHYDE	241	908	239	1005	37	118	25	140	2	4	40	44	3	6	1148	912
ETHANOLAMINES	1752	3063	832	3173	1235	4665	1027	3696	1129	7119	1692	4996	4801	14201	3143	13553
ETHYL ACETATE	126601	64994	169166	88388	190187	103855	115096	67934	104814	54269	93699	48020	105551	62174	118682	82170
MENTHOL	9507	139774	12181	212575	14988	166411	13135	115160	8836	94548	12006	125246	12749	183951	13351	253213
ORTHO NITRO TOLUENE	327	143	954	664	720	678	1152	1006	1168	999	1082	939	2650	2267	4289	4201
TOTAL	315492	264248	406944	373539	335353	343064	240545	249461	231728	216771	190306	232940	204923	320492	233147	425738
PESTICIDES & INSECTICIDES																
MALATHION	425	483	328	611	415	819	1260	2346	1010	1943	1264	2274	1977	3682	2499	5792
DIMETHOATE	4	9	69	182	184	679	369	1327	20	52	24	58	24	62	126	429
D.D.V.P.	1129	2024	543	1179	298	707	564	1449	550	1461	322	1145	493	1835	689	2716
QUINALPHOS	483	1490	463	1657	950	3360	996	3900	235	1036	384	1772	382	1645	281	1439
ENDOSULPHAN	1612	3483	80	260	45	59	0	0	0	0	0	0	0	1	0	0
CYPERMETHRIN	10570	52655	10268	55107	11982	58546	10487	50407	8837	45949	9416	45742	9706	62713	13609	112381

Table 16 :- Exports of Major Chemicals (Productwise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
FENTHION	0	0	0	0	0	0	0	0	0	0	10	18	0	0	0	0
OTHER PESTICIDES	27283	83613	33468	136414	48228	206246	37862	178366	41058	214054	45560	208648	43320	216510	39174	233275
OTHER INSECTICIDES	42940	259829	41853	335623	48918	372937	45483	344754	31146	276427	41471	311285	50008	393497	62714	580271
COPPER-OXYCHLORIDE	434	1179	478	1231	417	1155	867	2311	810	1818	871	1921	723	1732	806	2427
2, 4-D	13262	20823	15365	27427	14851	27924	10938	18095	19449	29770	20677	27496	24125	36076	22242	46347
ISOPROTURON	2239	6588	4181	13189	2114	7804	2150	7972	1087	3830	356	1295	0	0	0	0
ALUMINIUM PHOSPHIDE	1969	7271	2341	9758	853	3703	223	562	64	226	127	515	505	1703	481	2084
METHYL BROMIDE	155	404	104	373	383	1333	551	1940	1274	4641	1756	6229	2000	7292	2208	8384
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	14971	68852	14452	85943	15005	130898	19150	151055	32381	266182	50720	362041	67039	425113	74058	595122
OTHER FUNGICIDE NES	36025	60166	55525	125681	62317	168991	99327	210198	128994	279485	169373	344587	158179	329170	185896	413465
TOTAL	153501	568869	179518	794635	206960	985161	230227	974682	266915	1126874	342331	1315026	358481	1481031	404783	2004132
DYES & PIGMENTS																
AZO DYES	48638	89802	54228	111415	57392	172261	51902	194665	55327	161970	60390	162456	69996	181785	72999	225224
ACID DIRECT DYES(OTHER THAN AZO)	3264	7815	3629	9770	5637	21363	4004	20146	3559	17300	4434	19689	5098	21655	5103	26145
BASIC DYES	5655	9732	6957	14815	7148	19082	7646	21701	8173	23896	9229	26186	10757	32222	12017	44585
DISPERSE DYES	6452	18596	7017	19417	9248	33190	12065	48545	13117	52818	16078	59912	14460	56914	20552	107647
FAST COLOUR BASES	2815	7442	3106	9349	2619	10191	2806	11890	2262	11868	2174	15766	2042	9726	2652	14987
OIL SOLUBLE (SOLVENT DYES)	5158	17215	4665	17828	4965	23306	6826	32614	6123	31703	8702	39439	8995	42906	10195	66808
OPTICAL WHITENING AGENTS	20346	22941	23049	29156	23381	36889	27211	44223	25203	46519	26957	46240	30124	48069	30259	66858
ORGANIC PIGMENT	330	1383	60	386	15	100	191	500	75	531	71	293	62	185	15	98
PIGMENT EMULSION	65704	253341	69919	295002	71335	353119	76407	365943	81536	374190	88980	392700	102051	441253	110526	494598
REACTIVE DYES	77313	137604	98440	200414	110018	340284	107369	392147	113224	344963	128417	379350	147417	413080	158530	511426

Table 16 :- Exports of Major Chemicals (Productwise) during 2011-12 to 2018-19

PRODUCT	[QTY in MT & VAL in Rs. Lakh]															
	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SULPHUR DYES (SULPHUR BLACK)	747	838	889	1153	1141	1575	1993	2627	1472	1945	2023	2682	5467	5794	5720	7303
VAT DYES	2229	18768	1954	16816	1955	24387	2132	31855	1364	20523	1404	22737	1707	26607	4475	46284
SOLUBILISED VAT DYES	51	399	47	370	31	491	29	283	36	354	31	265	46	529	63	789
FOOD COLOURS	19012	42563	21786	51772	22893	65439	26034	77218	27101	79537	28359	79492	31110	87129	29007	107344
NAPTHOLS	869	1634	1242	2754	887	2597	1139	3113	1489	3463	2076	4753	2329	5725	3276	8341
OTHER DYES	6852	13361	8050	16587	9558	23840	9612	27865	10159	22693	12711	24977	13735	26227	13621	31196
INORGANIC PIGMENTS	22957	18418	20997	19035	18316	17474	15854	10492	25826	25522	27236	30609	40345	39484	46160	41048
TOTAL	288392	661852	326035	816039	346539	1145588	353220	1285827	376046	1219795	419272	1307546	485741	1439290	525170	1800681

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

Table 17 :- Imports of Major Chemicals (Productwise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ALKALI CHEMICALS																
SODA ASH	445363	52829	692866	96965	569420	79817	725517	112616	633263	101707	695307	102490	772622	111757	840591	144900
CAUSTIC SODA	212642	42811	302385	75577	304653	73038	407981	93584	484133	116303	425795	112391	421298	153382	208267	79927
LIQUID CHLORINE	380	149	49	140	86	112	648	274	482	189	35	170	58	208	266	696
TOTAL	658385	95789	995300	172682	874159	152967	1134146	206474	1117878	218199	1121137	215051	1193978	265347	1049124	225523
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	28448	20188	26244	19086	24542	17383	30120	20259	27258	18102	46564	26437	49758	29075	62374	56075
CALCIUM CARBIDE	56500	21507	57865	24734	64239	26743	78332	31525	61935	25429	55692	23652	55651	23941	45321	21554
CARBON BLACK	124338	85053	143461	105503	145939	112823	139468	108915	124059	83401	128740	82424	186224	143618	278531	249368
POTASSIUM CHLORATE	6300	2991	7468	4217	7040	4357	6147	3856	3160	2026	100	61	29	22	128	272
SODIUM CHLORATE	25135	8251	25076	9375	28083	11570	21818	9085	17298	6400	7447	2907	8822	3041	14240	5884
TITANIUM DIOXIDE	22636	34902	17825	31788	16875	29196	17574	28243	16421	25709	13901	22943	13701	24771	14546	28686
RED PHOSPHORUS	388	808	298	735	266	750	36	98	0	0	0	1	0	3	14	51
HYDROGEN PEROXIDE	25313	6378	33129	8191	62527	16443	56276	14311	44084	11211	57068	15910	68474	19305	84261	36931
CALCIUM CARBONATE	189649	16759	378008	33723	524395	46575	562198	51581	715606	65090	700559	60902	846195	64587	1080252	86942
TOTAL	478707	196837	689374	237352	873906	265840	911969	267873	1009821	237368	1010071	235237	1228854	308363	1579667	485763
ORGANIC CHEMICALS																
ACETIC ACID	570040	152012	646738	171462	664797	197806	712384	234821	792775	206305	847808	193958	884515	290624	937298	422360
ACETIC ANHYDRIDE	1533	856	2042	1049	1792	985	2689	1538	2918	1780	2272	1118	4381	2346	12275	9700
ACETONE	100637	54505	95939	54615	116758	81421	126832	82658	138402	55796	135887	63055	146878	74975	116760	52108
PHENOL	146762	111194	172758	139980	214096	172402	200115	183502	248769	147715	282187	176601	288572	202842	231808	217710
METHANOL	1199635	198749	1398982	260025	1310438	341804	1641624	319399	1711879	285259	1637457	295762	1783293	400004	1986712	519474

Table 17 :- Imports of Major Chemicals (Productwise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
FORMALDEHYDE	614	395	342	217	433	216	412	225	66	42	84	248	46	44	22	13
NITROBENZENE	22	36	0	0	0	4	1208	802	5838	2733	14429	6944	15384	8207	18204	10721
CITRIC ACID	53142	25921	56743	27338	64099	31694	67369	33345	75978	36119	81681	39558	84262	45489	95283	45136
MALEIC ANHYDRIDE	34584	25470	36864	35099	36751	39695	38388	35773	47399	31392	50813	34618	52627	42928	69920	61694
PENTAERYTHRITOL	15059	12162	14650	13819	15650	16423	13681	14646	19486	21468	19380	20690	17963	19614	18407	23000
ANILINE	15310	10544	15441	14410	31742	34853	36095	36876	38341	26965	44650	29368	65416	58924	88454	81524
CHLORO METHANES	249	268	153	356	143	296	113	289	608	364	258	223	519	429	1413	1089
ISOBUTYLBENZENE	0	0	0	0	26	19	0	0	0	0	0	0	0	0	0	0
ONCB	2336	1092	2089	1313	672	589	395	410	237	192	839	628	0	0	0	0
PNCB	347	187	0	0	398	295	3838	2301	8408	3886	6095	2899	0	0	0	0
MEK	30220	24334	31597	25151	27239	23186	27539	25599	40883	26950	30901	16629	45331	36027	47158	40994
ACETALDEHYDE	67	240	49	230	97	436	53	176	74	299	130	357	81	243	94	275
ETHANOLAMINES	6488	5706	10435	8562	10023	10652	11286	17183	10072	10321	11662	10202	16101	16140	16648	19347
ETHYL ACETATE	5008	2732	1405	1102	240	466	201	453	290	909	1664	861	43	127	2917	2358
MENTHOL	159	1051	329	2702	457	3889	507	4307	936	7112	1511	10211	1372	8573	1334	12718
ORTHO NITRO TOLUENE	59	20	19	7	138	92	1086	1053	117	77	579	436	267	212	74	57
TOTAL	2182271	627474	2486575	757437	2495989	957223	2885815	995356	3143476	865684	3170287	904366	3407051	1207748	3644781	1520278

Table 17 :- Imports of Major Chemicals (Productwise) during 2011-12 to 2018-19

[QTY in MT & VAL in Rs. Lakh]																
PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
PESTICIDES & INSECTICIDES																
DIMETHOATE	152	299	182	422	46	106	0	0	0	0	0	0	0	0	0	0
D.D.V.P.	24	46	0	0	70	99	20	36	64	116	16	28	35	66	1561	3167
CYPERMETHRIN	0	4	8	20	4	11	0	0	0	0	0	0	8	47	5	53
FENTHION	0	0	0	0	35	173	50	236	0	0	0	0	0	0	0	0
OTHER PESTICIDES	2340	7815	1263	6928	2255	13747	2007	12072	1318	12700	1176	91641	1907	139991	1868	163792
OTHER INSECTICIDES	18388	156952	17157	173226	19563	194422	19369	205845	15634	213829	18067	208838	17307	239549	17188	240036
COPPER-OXYCHLORIDE	0	2	0	1	48	122	0	0	0	0	0	1	0	1	0	2
2, 4-D	0	0	0	78	0	0	34	77	72	123	16	27	1824	2735	2819	5935
ISOPROTURON	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	4
ALUMINIUM PHOSPHIDE	31	561	23	741	8	61	3	54	6	98	0	0	0	0	5	39
METHYL BROMIDE	655	1667	779	2591	460	1652	269	1150	53	250	24	70	18	107	2	14
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	4689	36838	7107	57625	10056	85938	12294	86257	10171	85167	16149	104626	15248	100387	18044	122207
OTHER FUNGICIDE NES	3976	27648	3270	22010	4554	39665	6628	68323	6550	78424	7143	85350	7798	98502	7738	97341
TOTAL	30255	231832	29789	263642	37099	335996	40674	374050	33868	390707	42591	490581	44145	581385	49233	632590
DYES & PIGMENTS																
AZO DYES	769	2556	527	2844	669	3559	1114	5148	716	4016	630	3509	514	3734	437	4207
ACID DIRECT DYES(OTHER THAN AZO)	746	1454	678	1643	729	2136	436	2036	312	1685	188	1348	248	1942	322	2639
BASIC DYES	1401	4807	1189	6195	1075	6569	724	5266	475	4135	560	4183	647	5445	487	6868
DISPERSE DYES	10534	22582	11118	28720	8788	33194	4671	26330	6199	28647	4970	23618	4051	23972	1731	19295
FAST COLOUR BASES	292	801	374	1308	499	2653	327	2864	510	3058	426	2314	379	2113	169	1743
OIL SOLUBLE (SOLVENT DYES)	1240	6292	1239	7434	1131	7329	782	6414	689	5967	762	5446	846	6414	710	7812

Table 17 :- Imports of Major Chemicals (Productwise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
OPTICAL WHITENING AGENTS	392	2755	489	4302	675	4708	565	4442	664	5376	612	5455	593	5540	565	6978
ORGANIC PIGMENT	186	817	124	561	178	694	142	575	190	889	100	678	65	271	138	471
PIGMENT EMULSION	8376	40159	6955	43711	7069	46089	6663	48423	6578	47122	7085	47759	8261	52679	7985	57272
REACTIVE DYES	2151	11667	2935	19312	3352	24425	3146	26556	3148	27009	3460	28744	3340	24642	3117	26440
SULPHUR DYES (SULPHUR BLACK)	2167	1888	2189	3318	1781	2498	1151	2537	1332	2636	1283	2638	1252	2916	1116	3286
VAT DYES	6379	16986	10201	27519	13801	36889	17449	43388	20580	48846	23527	53539	26368	59134	21571	77638
SOLUBILISED VAT DYES	193	698	107	483	91	418	82	252	473	1007	337	756	319	764	358	1289
FOOD COLOURS	290	1768	367	2778	391	2978	653	3872	1083	5225	1041	4859	1162	5057	1364	6747
NAPTHOLS	916	2147	1040	3178	1142	4190	1024	3896	1051	3824	1107	3750	1286	4446	1255	5267
OTHER DYES	462	1661	905	2709	291	1927	271	1868	177	1531	183	1533	512	2239	2337	7151
INORGANIC PIGMENTS	11054	29819	11799	27720	10653	28729	12735	30874	10514	28331	9597	24784	13128	30075	12790	43319
TOTAL	47548	148857	52236	183735	52315	208985	51935	214741	54691	219304	55868	214913	62971	231383	56452	278422

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

Table 18 Net Imports of Major Chemicals (Product-wise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ALKALI CHEMICALS																
SODA ASH	187741	21243	610722	84199	485166	67311	697797	107450	614650	97780	630930	91697	662535	92380	778134	129698
CAUSTIC SODA	130434	23834	243267	55411	228594	50470	365781	81611	401989	92496	340986	84618	261668	86553	36102	8264
LIQUID CHLORINE	-4386	-941	-3643	-527	-3814	-561	-3071	-247	-5505	-1287	-5023	-855	-3681	-466	-4433	-283
TOTAL	313789	44136	850346	139083	709946	117220	1060507	188814	1011134	188989	966893	175460	920522	178467	809803	137679
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	25086	18007	22489	16676	20884	14812	27289	18279	25462	16862	46243	26172	49552	28871	61932	55712
CALCIUM CARBIDE	55233	20915	56107	23881	63971	26595	77920	31295	61564	25223	55199	23368	55187	23683	44996	21350
CARBON BLACK	-153360	-57189	32764	26218	22260	24092	25349	31083	9391	28382	-203432	-4990	63937	70659	155699	145725
POTASSIUM CHLORATE	5456	2504	6677	3650	6316	3906	5513	3364	2402	1450	-1558	-1084	-1912	-1223	-2896	-1852
SODIUM CHLORATE	25008	8200	25036	9370	28076	11560	21787	9064	17285	6387	7329	2851	7747	2785	13430	5843
TITANIUM DIOXIDE	17627	27091	14355	26510	7824	16343	12416	21135	11985	20127	5718	12727	4141	9394	7201	15943
RED PHOSPHORUS	5	-325	-173	-863	-145	-807	-324	-1201	-482	-1777	-454	-1756	-455	-1713	-581	-2191
HYDROGEN PEROXIDE	22898	5780	31340	7708	61983	16226	56032	14168	43733	10989	56798	15626	68358	19091	83998	36706
CALCIUM CARBONATE	153474	9749	338134	24974	495288	37077	522395	40128	681798	55259	666641	51001	809228	54546	1038988	75279
TOTAL	151427	34732	526729	138124	706457	149804	748377	167315	853138	162902	632484	123915	1055783	206093	1402767	352515
ORGANIC CHEMICALS																
ACETIC ACID	544153	143325	640121	168467	657459	194672	705895	231372	784397	201124	834894	187681	872295	285223	919477	411884
ACETIC ANHYDRIDE	-1119	-517	-1692	-806	-4638	-2485	-17409	-10027	-15687	-8161	-18171	-9159	-15263	-11397	-6169	-3882
ACETONE	99437	53547	93279	52787	116084	80793	123650	79683	127624	49404	132662	60854	141824	71802	105859	46204
PHENOL	145616	109047	172322	138952	211954	169172	198106	180164	241928	140336	278174	168409	283822	193133	227084	205970
METHANOL	1079216	178268	1214313	225569	1228521	319220	1592161	307874	1667866	277063	1624833	292639	1773827	397158	1975769	515655

Table 18 Net Imports of Major Chemicals (Product-wise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
FORMALDEHYDE	-3860	-327	-4699	-744	-5936	-1804	-7055	-988	-8414	-1341	-8322	-1300	-10570	-2054	-12462	-2482
NITROBENZENE	-106	-90	-165	-141	-146	-127	1058	665	5789	2695	14085	6713	15324	8158	18101	10611
CITRIC ACID	50397	23986	54332	25521	62086	30023	65632	31981	74491	34975	80011	38314	81869	43558	92960	43126
MALEIC ANHYDRIDE	34546	25438	36841	35072	36724	39659	38351	35726	47319	31325	50581	34454	52394	42701	69833	61589
PENTAERYTHRITOL	13706	10196	13265	11675	14190	14146	12124	12130	17854	18510	17336	17220	15853	16215	16120	18839
ANILINE	14357	9800	15248	14066	31648	34710	36009	36735	38212	26831	44482	29161	65254	58310	88317	81183
CHLORO METHANES	123	147	111	307	108	-57	-31	53	570	323	169	102	418	146	1338	940
ISOBUTYLBENZENE	-13920	-14712	-13314	-17938	-14130	-21068	-13944	-19250	-12572	-14186	-13430	-14854	-12341	-14384	-11740	-16320
ONCB	2013	924	1711	994	-1883	-1839	-1836	-1873	-606	-691	-134	-322	0	0	0	0
PNCB	-925	-506	-2096	-1442	-1972	-1468	2995	1737	6738	2772	5072	2161	0	0	0	0
MEK	29792	23833	31189	24761	26779	20804	26866	24677	40699	26155	30712	16531	45312	35991	46693	40517
ACETALDEHYDE	-174	-668	-190	-775	60	318	28	36	72	295	90	313	78	237	-1054	-637
ETHANOLAMINES	4736	2643	9603	5389	8788	5987	10259	13487	8943	3202	9970	5206	11300	1939	13505	5794
ETHYL ACETATE	-121593	-62262	-167761	-87286	-189947	-103389	-114895	-67481	-104524	-53360	-92035	-47159	-105508	-62047	-115765	-79812
MENTHOL	-9348	-138723	-11852	-209873	-14531	-162522	-12628	-110853	-7900	-87436	-10495	-115035	-11377	-175378	-12017	-240495
ORTHO NITRO TOLUENE	-268	-123	-935	-657	-582	-586	-66	47	-1051	-922	-503	-503	-2383	-2055	-4215	-4144
TOTAL	1866779	363226	2079631	383898	2160636	614159	2645270	745895	2911748	648913	2979981	671426	3202128	887256	3411634	1094540
PESTICIDES & INSECTICIDES																
MALATHION	-425	-483	-328	-611	-415	-819	-1260	-2346	-1010	-1943	-1264	-2274	-1977	-3682	-2499	-5792
DIMETHOATE	148	290	113	240	-138	-573	-369	-1327	-20	-52	-24	-58	-24	-62	-126	-429
D.D.V.P.	-1105	-1978	-543	-1179	-228	-608	-544	-1413	-486	-1345	-306	-1117	-458	-1769	872	451
QUINALPHOS	-483	-1490	-463	-1657	-950	-3360	-996	-3900	-235	-1036	-384	-1772	-382	-1645	-281	-1439

Table 18 Net Imports of Major Chemicals (Product-wise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ENDOSULPHAN	-1612	-3483	-80	-260	-45	-59	0	0	0	0	0	0	0	-1	0	0
CYPERMETHRIN	-10570	-52651	-10260	-55087	-11978	-58535	-10487	-50407	-8837	-45949	-9416	-45742	-9698	-62666	-13604	-112328
FENTHION	0	0	0	0	35	173	50	236	0	0	-10	-18	0	0	0	0
OTHER PESTICIDES	-24943	-75798	-32205	-129486	-45973	-192499	-35855	-166294	-39740	-201354	-44384	-117007	-41413	-76519	-37306	-69483
OTHER INSECTICIDES	-24552	-102877	-24696	-162397	-29355	-178515	-26114	-138909	-15512	-62598	-23404	-102447	-32701	-153948	-45526	-340235
COPPER-OXYCHLORIDE	-434	-1177	-478	-1230	-369	-1033	-867	-2311	-810	-1818	-871	-1920	-723	-1731	-806	-2425
2, 4-D	-13262	-20823	-15365	-27349	-14851	-27924	-10904	-18018	-19377	-29647	-20661	-27469	-22301	-33341	-19423	-40412
ISOPROTURON	-2239	-6588	-4181	-13189	-2114	-7804	-2150	-7972	-1087	-3830	-356	-1295	0	0	3	4
ALUMINIUM PHOSPHIDE	-1938	-6710	-2318	-9017	-845	-3642	-220	-508	-58	-128	-127	-515	-505	-1703	-476	-2045
METHYL BROMIDE	500	1263	675	2218	77	319	-282	-790	-1221	-4391	-1732	-6159	-1982	-7185	-2206	-8370
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	-10282	-32014	-7345	-28318	-4949	-44960	-6856	-64798	-22210	-181015	-34571	-257415	-51791	-324726	-56014	-472915
OTHER FUNGICIDES	-32049	-32518	-52255	-103671	-57763	-129326	-92699	-141875	-122444	-201061	-162230	-259237	-150381	-230668	-178158	-316124
TOTAL	-123246	-337037	-149729	-530993	-169861	-649165	-189553	-600632	-233047	-736167	-299740	-824445	-314336	-899646	-355550	-1371542
DYES & PIGMENTS																
AZO DYES	-47869	-87246	-53701	-108571	-56723	-168702	-50788	-189517	-54611	-157954	-59760	-158947	-69482	-178051	-72562	-221017
ACID DIRECT DYES(OTHER THAN AZO)	-2518	-6361	-2951	-8127	-4908	-19227	-3568	-18110	-3247	-15615	-4246	-18341	-4850	-19713	-4781	-23506
BASIC DYES	-4254	-4925	-5768	-8620	-6073	-12513	-6922	-16435	-7698	-19761	-8669	-22003	-10110	-26777	-11530	-37717
DISPERSE DYES	4082	3986	4101	9303	-460	4	-7394	-22215	-6918	-24171	-11108	-36294	-10409	-32942	-18821	-88352
FAST COLOUR BASES	-2523	-6641	-2732	-8041	-2120	-7538	-2479	-9026	-1752	-8810	-1748	-13452	-1663	-7613	-2483	-13244
OIL SOLUBLE (SOLVENT DYES)	-3918	-10923	-3426	-10394	-3834	-15977	-6044	-26200	-5434	-25736	-7940	-33993	-8149	-36492	-9485	-58996
OPTICAL WHITENING AGENTS	-19954	-20186	-22560	-24854	-22706	-32181	-26646	-39781	-24539	-41143	-26345	-40785	-29531	-42529	-29694	-59880
ORGANIC PIGMENT	-144	-566	64	175	163	594	-49	75	115	358	29	385	3	86	123	373

Table 18 Net Imports of Major Chemicals (Product-wise) during 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
PIGMENT EMULSION	-57328	-213182	-62964	-251291	-64266	-307030	-69744	-317520	-74958	-327068	-81895	-344941	-93790	-388574	-102541	-437326
REACTIVE DYES	-75162	-125937	-95505	-181102	-106666	-315859	-104223	-365591	-110076	-317954	-124957	-350606	-144077	-388438	-155413	-484986
SULPHUR DYES (SULPHUR BLACK)	1420	1050	1300	2165	640	923	-842	-90	-140	691	-740	-44	-4215	-2878	-4604	-4017
VAT DYES	4150	-1782	8247	10703	11846	12502	15317	11533	19216	28323	22123	30802	24661	32527	17096	31354
SOLUBILISED VAT DYES	142	299	60	113	60	-73	53	-31	437	653	306	491	273	235	295	500
FOOD COLOURS	-18722	-40795	-21419	-48994	-22502	-62461	-25381	-73346	-26018	-74312	-27318	-74633	-29948	-82072	-27643	-100597
NAPTHOLS	47	513	-202	424	255	1593	-115	783	-438	361	-969	-1003	-1043	-1279	-2021	-3074
OTHER DYES	-6390	-11700	-7145	-13878	-9267	-21913	-9341	-25997	-9982	-21162	-12528	-23444	-13223	-23988	-11284	-24045
INORGANIC PIGMENTS	-11903	11401	-9198	8685	-7663	11255	-3119	20382	-15312	2809	-17639	-5825	-27217	-9409	-33370	2271
TOTAL	-240844	-512995	-273799	-632304	-294224	-936603	-301285	-1071086	-321355	-1000491	-363404	-1092633	-422770	-1207907	-468718	-1522259

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

Table 19:- TOP FIVE EXPORT DESTINATIONS OF SELECTED CHEMICALS DURING 2018-19			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(Rs.Lakhs)
SODA ASH	INDONESIA	18815.033	3809.865
	SRI LANKA DSR	13102.938	2792.864
	BANGLADESH PR	12192.04	2904.428
	NEPAL	10982.671	2304.889
	PHILIPPINES	3604.347	750.213
	Product Total	58697.029	12562.259
CAUSTIC SODA	TANZANIA REP	22300.637	8801.458
	KENYA	15541.355	6407.588
	UGANDA	13786.637	5996.068
	VIETNAM SOC REP	12126.128	4814.449
	CAMEROON	9450.01	3881.411
	Product Total	73204.767	29900.974
LIQUID CHLORINE	KENYA	937.012	231.31
	SRI LANKA DSR	741	69.23
	U ARAB EMTS	720.181	80.654
	NEPAL	568.617	58.356
	QATAR	493.982	59.273
	Product Total	3460.792	498.823
ALUMINIUM FLUORIDE	CAMEROON	294	248.444
	JAPAN	80	82.808
	DENMARK	48	16.357
	EGYPT A RP	20	14.017
	BAHARAIN IS	0.015	0.013
	Product Total	442.015	361.639
CALCIUM CARBIDE	BANGLADESH PR	129	83.039
	SAUDI ARAB	79	46.705
	NEPAL	30.01	17.524
	ANGOLA	24	14.575
	CONGO D. REP.	21	12.935
	Product Total	283.01	174.778
CARBON BLACK	SRI LANKA DSR	23984.944	20441.883
	KOREA RP	17883.705	13100.602
	VIETNAM SOC REP	13992.33	10954.993
	JAPAN	12286.72	10959.238
	INDONESIA	10915.287	8696.191
	Product Total	79062.986	64152.907
POTASSIUM CHLORATE	MEXICO	404	304.924
	THAILAND	400	270.563
	KENYA	375	227.629
	SRI LANKA DSR	300	221.155
	SOUTH AFRICA	252	168.749
	Product Total	1731	1193.02
SODIUM CHLORATE	BANGLADESH PR	798	30.026
	NEPAL	10.006	3.494
	MALAWI	1.38	2.733
	OMAN	0.15	0.4
	ARGENTINA	0.145	1.42
	Product Total	809.681	38.073

TITANIUM DIOXIDE	U S A	2637.141	4708.913
	ITALY	1200	2267.732
	JAPAN	1116.619	1803.836
	SPAIN	518	727.422
	INDONESIA	322.325	519.144
	Product Total	5794.085	10027.047
RED PHOSPHORUS	ITALY	254.525	858.582
	U S A	90.052	333.144
	BRAZIL	40	170.869
	INDONESIA	38	161.671
	PHILIPPINES	28.8	119.085
	Product Total	451.377	1643.351
HYDROGEN PEROXIDE	NEPAL	88.299	78.559
	PAKISTAN IR	79.8	35.572
	TANZANIA REP	41.015	25.848
	KENYA	24.002	12.269
	BHUTAN	10.05	6.901
	Product Total	243.166	159.149
CALCIUM CARBONATE	NEPAL	19948.593	4249.028
	BANGLADESH PR	4669.125	1756.209
	PAKISTAN IR	3997.256	575.294
	QATAR	2202.466	320.848
	SOUTH AFRICA	1470.022	461.273
	Product Total	32287.462	7362.652
ACETIC ACID	BANGLADESH PR	3336.568	2062.621
	U ARAB EMTS	2466.28	1374.437
	EGYPT A RP	2177.377	1116.335
	BELGIUM	1950	998.709
	UKRAINE	1073	496.969
	Product Total	11003.225	6049.071
ACETIC ANHYDRIDE	BELGIUM	15184	10751.75
	NETHERLAND	1776	1497.535
	BANGLADESH PR	437.4	390.299
	BRAZIL	344	291.466
	VIETNAM SOC REP	201.01	189.578
	Product Total	17942.41	13120.628
ACETONE	IRAN	2759	1808.71
	U S A	2023.085	501.368
	KENYA	1333.228	769.825
	U ARAB EMTS	894.52	434.507
	UGANDA	700.332	424.906
	Product Total	7710.165	3939.316
PHENOL	IRAN	2511.4	2920.08
	U ARAB EMTS	679.454	819.152
	NEPAL	279.212	283.391
	U S A	229.14	818.672
	EGYPT A RP	143.15	161.016
	Product Total	3842.356	5002.311

METHANOL	SRI LANKA DSR	4338.425	1185.961
	NEPAL	3166.902	1090.323
	KENYA	1607.528	619.6
	UGANDA	399.94	162.797
	BANGLADESH PR	388.516	143.633
	Product Total	9901.311	3202.314
FORMALDEHYDE	NEPAL	10682.301	1894.014
	KENYA	379.12	105.828
	SRI LANKA DSR	281.062	136.879
	QATAR	228.85	56.379
	MYANMAR	188.833	50.89
	Product Total	11760.166	2243.99
NITROBENZENE	JAPAN	40	31.524
	THAILAND	30	33.042
	SRI LANKA DSR	10.02	10.08
	NEPAL	7.501	7.439
	MEXICO	6	7.154
	Product Total	93.521	89.239
CITRIC ACID	U S A	1711.458	1439.114
	LITHUANIA	125.1	74.893
	PUERTO RICO	95	85.065
	KENYA	61.771	48.604
	RUSSIA	48.003	35.137
	Product Total	2041.332	1682.813
MALEIC ANHYDRIDE	U ARAB EMTS	40	40.399
	BANGLADESH PR	25.05	31.816
	KENYA	12	20.857
	NEPAL	6.75	7.807
	SRI LANKA DSR	3	3.744
	Product Total	86.8	104.623
PENTAERYTHRITOL	U S A	1607.05	2910
	NETHERLAND	306.02	394.009
	NEPAL	125.851	177.035
	BELGIUM	75	247.784
	JAPAN	60	241.776
	Product Total	2173.921	3970.604
ANILINE	THAILAND	72.4	81.447
	PAKISTAN IR	25	31.258
	U S A	16.12	172.343
	MEXICO	10.8	14.867
	IRAN	10	15.8
	Product Total	134.32	315.715
CHLORO METHANES	SAUDI ARAB	35.88	39.625
	U ARAB EMTS	32.32	42.502
	U S A	4.56	15.316
	NEPAL	1.36	3.837
	QATAR	0.55	9.196
	Product Total	74.67	110.476

ISOBUTYLBENZENE	CHINA P RP	8960	12805.193
	U S A	2775	3498.451
	NETHERLAND	5	16.096
	TURKEY	0.18	0.456
	JAPAN	0	0.001
	Product Total	11740.18	16320.197
MEK	U ARAB EMTS	318	303.257
	IRAN	142	152.338
	NEPAL	1.738	7.541
	CONGO D. REP.	1.65	5.622
	NEW ZEALAND	1	3.139
	Product Total	464.388	471.897
ACETALDEHYDE	TURKEY	1139.33	873.649
	SAUDI ARAB	3.626	10.042
	MYANMAR	2	6.528
	TANZANIA REP	1	4.955
	BANGLADESH PR	0.6	10.535
	Product Total	1146.556	905.709
ETHANOLAMINES	U S A	787.902	2061.102
	AUSTRALIA	471.542	768.626
	CHINA P RP	277.681	856.949
	U K	214.267	1081.33
	THAILAND	145.625	170.616
	Product Total	1897.017	4938.623
ETHYL ACETATE	BELGIUM	20739.53	13566.752
	ITALY	13764.053	9214.734
	NIGERIA	11753.43	8509.531
	RUSSIA	9022.25	6211.182
	TURKEY	8444.302	5384.627
	Product Total	63723.565	42886.826
MENTHOL	CHINA P RP	8744.811	157189.97
	U S A	1234.679	24043.661
	SINGAPORE	957.963	18170.653
	JAPAN	461.825	9612.703
	FRANCE	304.704	6175.211
	Product Total	11703.982	215192.198
ORTHO NITRO TOLUENE	GERMANY	3538.075	3416.332
	JAPAN	378.009	362.826
	NETHERLAND	372.79	420.608
	SAUDI ARAB	0.3	0.759
	MYANMAR	0.003	0.008
	Product Total	4289.177	4200.533
MALATHION	EGYPT A RP	615.5	1252.053
	TURKEY	380.75	940.586
	MEXICO	300	677.26
	SAUDI ARAB	291.95	663.298
	MALAYSIA	216	531.219
	Product Total	1804.2	4064.416

DIMETHOATE	TUNISIA	40.128	136.48
	TURKEY	20	60.108
	IRAN	14	54.74
	CHILE	12	48.313
	MADAGASCAR	11	42.246
	Product Total	97.128	341.887
D.D.V.P.	UGANDA	492.73	2000.878
	JAPAN	40	162.569
	ZAMBIA	39.64	143.435
	BRAZIL	30.6	117.585
	MEXICO	20	46.394
	Product Total	622.97	2470.861
QUINALPHOS	VIETNAM SOC REP	261.825	1371.65
	BANGLADESH PR	16.4	55.97
	TANZANIA REP	1	2.54
	NEPAL	0.73	3.135
	SOUTH AFRICA	0.675	5.502
	Product Total	280.63	1438.797
CYPERMETHRIN	CHINA P RP	1819.975	16906.043
	BRAZIL	1599.06	14809.662
	THAILAND	1526.333	13683.73
	BELGIUM	790.8	7799.315
	VIETNAM SOC REP	711.5	5591.521
	Product Total	6447.668	58790.271
OTHER PESTICIDES	BRAZIL	15633.695	89485.902
	U S A	2843.895	32179.202
	NEPAL	1796.032	4057.04
	TANZANIA REP	1114.457	3276.199
	NIGERIA	1081.833	3194.173
	Product Total	22469.912	132192.516
OTHER INSECTICIDES	BRAZIL	16070.817	190176.144
	U S A	5135.721	62622.587
	BANGLADESH PR	5037.847	26338.876
	IRAN	2773.808	15302.161
	MEXICO	1703.448	9039.705
	Product Total	30721.641	303479.473
COPPER-OXYCHLORIDE	IRAN	257	773.748
	EGYPT A RP	110	297.634
	LEBANON	84.88	294.003
	ALGERIA	60	186.411
	MYANMAR	46	118.509
	Product Total	557.88	1670.305
2, 4-D	BRAZIL	3803.7	7538.786
	U S A	3741.4	7787.64
	AUSTRALIA	2320.4	5070.089
	SOUTH AFRICA	1402.68	2862.79
	COLOMBIA	1150.496	2240.19
	Product Total	12418.676	25499.495

ALUMINIUM PHOSPHIDE	GHANA	111.955	584.565
	BANGLADESH PR	99.606	355.128
	NIGERIA	47.088	267.417
	ETHIOPIA	31.104	159.358
	SAUDI ARAB	26	19.95
	Product Total	315.753	1386.418
METHYL BROMIDE	VIETNAM SOC REP	601.517	2158.922
	NEW ZEALAND	321.3	1159.503
	AUSTRALIA	288	1070.356
	PAKISTAN IR	258.5	1112.941
	EGYPT A RP	200	725.14
	Product Total	1669.317	6226.862
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	U S A	27830.6	278194.441
	BRAZIL	5089.115	44621.677
	FRANCE	3815.059	24346.528
	ARGENTINA	3530.068	34868.636
	ISRAEL	2456.192	22142.767
	Product Total	42721.034	404174.049
OTHER FUNGICIDE NES	BRAZIL	39643.472	78571.51
	BANGLADESH PR	16017.16	17238.292
	U S A	10936.814	20725.131
	COSTA RICA	10852.26	14079.125
	FRANCE	9779.575	18122.452
	Product Total	87229.281	148736.51
AZO DYES	ITALY	10913.492	43121.011
	CHINA P RP	6279.507	20452.849
	SPAIN	5945.556	19202.711
	GERMANY	4443.433	12068.601
	BRAZIL	3640.342	12320.662
	Product Total	31222.33	107165.834
ACID DIRECT DYES(OTHER THAN AZO)	U S A	977.366	5083.261
	CHINA P RP	434.604	2416.059
	ITALY	392.48	1990.914
	MALAYSIA	301.115	768.152
	KOREA RP	278.065	1521.723
	Product Total	2383.63	11780.109
BASIC DYES	CHINA P RP	1709.378	5887.121
	PAKISTAN IR	1088.324	2670.198
	U S A	831.315	4125.718
	INDONESIA	645.36	1330.108
	MALAYSIA	566.28	1390.313
	Product Total	4840.657	15403.458
DISPERSE DYES	PAKISTAN IR	2998.341	10640.786
	HONDURAS	2215.971	11484.793
	CHINA P RP	1651.774	15799.42
	TURKEY	1547.323	6612.035
	KOREA RP	1329.92	6562.981
	Product Total	9743.329	51100.015

FAST COLOUR BASES	NETHERLAND	504.5	2789.265
	CHINA P RP	397.27	2365.461
	INDONESIA	342.778	1455.29
	U S A	259.026	1579.72
	JAPAN	188.96	1684.737
	Product Total	1692.534	9874.473
OIL SOLUBLE (SOLVENT DYES)	U K	2029.093	10309.718
	U S A	833.76	8374.636
	BRAZIL	818.65	3573.3
	ITALY	728.383	4672.487
	NETHERLAND	681.93	3904.547
	Product Total	5091.816	30834.688
OPTICAL WHITENING AGENTS	KOREA RP	2814	2154.617
	AUSTRALIA	2694.35	2513.914
	GERMANY	2554.545	6215.139
	SOUTH AFRICA	2520.215	4457.986
	U S A	2137.16	6961.455
	Product Total	12720.27	22303.111
ORGANIC PIGMENT	BANGLADESH PR	8.796	80.989
	SRI LANKA DSR	2.5	0.872
	AUSTRALIA	2.4	7.013
	RUSSIA	0.6	6.501
	NIGERIA	0.2	1.284
	Product Total	14.496	96.659
PIGMENT EMULSION	U S A	15609.957	70294.07
	NETHERLAND	8004.501	38483.526
	CHINA P RP	7286.28	30357.219
	JAPAN	5140.861	27879.143
	KOREA RP	5056.98	20055.48
	Product Total	41098.579	187069.438
REACTIVE DYES	BANGLADESH PR	31965.718	76412.172
	TURKEY	29385.475	81798.901
	PAKISTAN IR	12451.392	33924.817
	SINGAPORE	8730.995	37819.289
	HONDURAS	8440.508	31611.929
	Product Total	90974.088	261567.108
SULPHUR DYES (SULPHUR BLACK)	BANGLADESH PR	1760.36	2015.511
	NETHERLAND	643.2	720.81
	GERMANY	426.41	420.29
	ITALY	395.3	425.901
	TURKEY	353.028	480.805
	Product Total	3578.298	4063.317
VAT DYES	CHINA P RP	2039.487	12951.832
	TAIWAN	411.55	1365.399
	BANGLADESH PR	303.281	3474.842
	PAKISTAN IR	279.079	1899.866
	U S A	175.17	4902.068
	Product Total	3208.567	24594.007

SOLUBILISED VAT DYES	INDONESIA	48.995	685.616
	NIGERIA	6.6	10.431
	BANGLADESH PR	2	30.338
	PAKISTAN IR	1.72	22.941
	ETHIOPIA	1.705	7.483
	Product Total	61.02	756.809
FOOD COLOURS	U S A	2456.93	14213.219
	INDONESIA	1855.073	7753.994
	MEXICO	1607.741	6288.013
	CHINA P RP	1501.449	6336.887
	THAILAND	1175.546	4674.632
	Product Total	8596.739	39266.745
NAPTHOLS	SOUTH AFRICA	819.808	1266.867
	U S A	439.013	1355.239
	POLAND	306.125	372.026
	U ARAB EMTS	247.875	338.479
	CHINA P RP	227.319	1172.368
	Product Total	2040.14	4504.979
OTHER DYES	CHINA P RP	1575.303	4276.838
	POLAND	1572.7	2142.698
	U K	1376.144	1795.24
	ITALY	944.45	1830.84
	PAKISTAN IR	891.396	1514.549
	Product Total	6359.993	11560.165
INORGANIC PIGMENTS	SOUTH AFRICA	4511.156	1852.758
	U ARAB EMTS	2437.894	1580.46
	TANZANIA REP	2296.055	1312.39
	KENYA	2093.304	1639.959
	UGANDA	2082.116	1127.937
	Product Total	13420.525	7513.504

Note: Data sources in respect of Imports & Exports is DGCIS, Kolkata M/o Commerce and industry.

Table 20:- TOP FIVE IMPORT DESTINATIONS OF SELECTED CHEMICALS DURING 2018-19			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
SODA ASH	TURKEY	210097.925	31581.674
	ROMANIA	136852.5	24183.453
	U S A	120511.382	20184.674
	BULGARIA	109357.312	19314.655
	KENYA	86823.99	14821.876
	Product Total	663643.109	110086.332
CAUSTIC SODA	JAPAN	119846.617	47548.136
	IRAN	30537.385	9424.935
	INDONESIA	15921	6986.032
	BANGLADESH PR	15841	6085.465
	U ARAB EMTS	11288.35	3640.75
	Product Total	193434.352	73685.318
LIQUID CHLORINE	CHINA P RP	196.718	400.143
	VIETNAM SOC REP	27.02	78.282
	KOREA RP	20.708	172.111
	FRANCE	13.365	37.108
	MALAYSIA	6.51	2.587
	Product Total	264.321	690.231
ALUMINIUM FLUORIDE	MEXICO	20300	14834.696
	CHINA P RP	16945.5	19853.013
	U ARAB EMTS	12168	13496.194
	INDONESIA	6220	4701.328
	JORDAN	2835	1848.922
	Product Total	58468.5	54734.153
CALCIUM CARBIDE	CHINA P RP	39711.05	18836.007
	INDONESIA	4830	2349.424
	SOUTH AFRICA	389	172.471
	BHUTAN	261.35	130.312
	HONG KONG	91	46.03
	Product Total	45282.4	21534.244
CARBON BLACK	CHINA P RP	122893.698	97997.14
	KOREA RP	54517.368	48791.206
	RUSSIA	26923.517	22334.194
	EGYPT A RP	16962.815	14632.025
	U ARAB EMTS	10878.908	8503.104
	Product Total	232176.306	192257.669
POTASSIUM CHLORATE	U K	51.222	153.853
	CHINA P RP	50	35.496
	NETHERLAND	27	80.881
	GERMANY	0.008	1.065
	BELGIUM	0.003	0.155
	Product Total	128.233	271.45
SODIUM CHLORATE	URUGUAY	4897.256	2127.51
	FRANCE	4144.6	1485.62
	BRAZIL	2625	1031.045
	U S A	1450.003	606.431
	CHINA P RP	750	423.573
	Product Total	13866.859	5674.179

TITANIUM DIOXIDE	CHINA P RP	5886.817	10004.893
	KOREA RP	4820	8183.352
	BELGIUM	1108.05	2848.117
	NETHERLAND	694.275	1819.203
	JAPAN	660.768	2040.03
	Product Total	13169.91	24895.595
RED PHOSPHORUS	ITALY	14	50.97
	GERMANY	0.001	0.033
	U K	0.001	0.322
	U S A	0	0.121
	Product Total	14.002	51.446
HYDROGEN PEROXIDE	BANGLADESH PR	23100.5	9126.882
	THAILAND	13398.36	5798.557
	TURKEY	9542.494	4516.753
	INDONESIA	9231.91	4102.031
	BELGIUM	5995.938	2922.98
	Product Total	61269.202	26467.203
CALCIUM CARBONATE	MALAYSIA	487417.567	42049.451
	VIETNAM SOC REP	426925.538	30089.622
	EGYPT A RP	127289.833	7927.346
	GREECE	12340.35	1046.168
	THAILAND	8730.26	854.711
	Product Total	1062703.548	81967.298
ACETIC ACID	SINGAPORE	272422.953	124087.291
	CHINA P RP	271087.545	122147.726
	MALAYSIA	260202.422	120693.256
	U S A	40077.03	17928.927
	SAUDI ARAB	30466.822	11924.975
	Product Total	874256.772	396782.175
ACETIC ANHYDRIDE	SAUDI ARAB	8104.702	6265.077
	SINGAPORE	4169.92	3434.544
	BAHARAIN IS	0.002	0.21
	Product Total	12274.624	9699.831
ACETONE	THAILAND	38989.514	16661.041
	KOREA RP	25738.315	12424.474
	SINGAPORE	20181	8539.238
	U S A	7775.557	3622.233
	TAIWAN	7672.036	3182.277
	Product Total	100356.422	44429.263
PHENOL	THAILAND	81059.211	77802.678
	U S A	42668.057	38450.727
	SAUDI ARAB	34633.12	32391.313
	KOREA RP	25902.2	24124.185
	SOUTH AFRICA	20175.96	16932.596
	Product Total	204438.548	189701.499
METHANOL	IRAN	1319436	335206.612
	SAUDI ARAB	295584.008	82353.716
	QATAR	169012	48829.576
	U ARAB EMTS	84816	22264.386
	U S A	36710.775	11902.606
	Product Total	1905558.783	500556.896

FORMALDEHYDE	QATAR	20.8	6.688
	SINGAPORE	1.1	0.77
	U S A	0.253	3.33
	GERMANY	0.214	2.046
	BELGIUM	0.02	0.104
	Product Total	22.387	12.938
NITROBENZENE	KOREA RP	18203.6	10718.775
	U K	0.2	2.116
	GERMANY	0.002	0.088
	U S A	0.002	0.459
	Product Total	18203.804	10721.438
CITRIC ACID	CHINA P RP	94771.203	44264.328
	SINGAPORE	205.353	112.242
	GERMANY	86.026	380.962
	AUSTRIA	75.2	83.644
	NETHERLAND	31.3	101.083
	Product Total	95169.082	44942.259
MALEIC ANHYDRIDE	MALAYSIA	20073.97	18425.128
	CHINA P RP	17883.162	15272.983
	TAIWAN	17641.47	14881.245
	KOREA RP	6749.267	6289.913
	INDONESIA	6305.5	5662.349
	Product Total	68653.369	60531.618
PENTAERYTHRITOL	SAUDI ARAB	10840	13449.757
	CHINA P RP	2676.917	3215.05
	SWEDEN	1571.102	1930.915
	SPAIN	1279	1560.991
	TURKEY	860	1075.813
	Product Total	17227.019	21232.526
ANILINE	CHINA P RP	67083.95	59816.559
	U K	12192	12365.908
	KOREA RP	4543.4	4743.485
	U ARAB EMTS	1760	1713.088
	PORTUGAL	1418.92	1450.783
	Product Total	86998.27	80089.823
CHLORO METHANES	CHINA P RP	1394.2	989.358
	U S A	18.598	99.834
	HONG KONG	0	0.089
	Product Total	1412.798	1089.281
MEK	TAIWAN	19769.827	17042.12
	NETHERLAND	9764.92	9228.223
	SOUTH AFRICA	5600	4691.556
	JAPAN	4761	3668.931
	BELGIUM	4149	3453.025
	Product Total	44044.747	38083.855
ACETALDEHYDE	SWITZERLAND	87.851	154.843
	GERMANY	2.557	45.52
	U S A	1.848	29.273
	U K	1.487	42.446
	CHINA P RP	0.04	0.306
	Product Total	93.783	272.388

ETHANOLAMINES	U ARAB EMTS	3441.342	2714.29
	SAUDI ARAB	3121.92	2524.885
	MALAYSIA	2316.523	2025.833
	BELGIUM	1868.159	2062.477
	SINGAPORE	1524.411	1248.314
	Product Total	12272.355	10575.799
ETHYL ACETATE	SAUDI ARAB	2835	2161.05
	U ARAB EMTS	42.72	12.145
	U S A	22.617	31.937
	GERMANY	8.35	53.222
	JAPAN	4.223	12.271
	Product Total	2912.91	2270.625
MENTHOL	GERMANY	727.267	6296.825
	MALAYSIA	273.6	2873.044
	SINGAPORE	255.96	2605.633
	JAPAN	22.27	245.292
	BELGIUM	16.921	164.297
	Product Total	1296.018	12185.091
ORTHO NITRO TOLUENE	GERMANY	39.8	33.002
	BELGIUM	18.4	16.246
	NETHERLAND	15.87	7.803
	Product Total	74.07	57.051
D.D.V.P.	CHINA P RP	1560.001	3159.145
	FRANCE	0.7	7.99
	Product Total	1560.701	3167.135
CYPERMETHRIN	IRAN	4.8	45.43
	UNSPECIFIED	0.5	6.106
	U S A	0	1.122
	Product Total	5.3	52.658
OTHER PESTICIDES	CHINA P RP	1323.313	145011.416
	U S A	199.945	16825.799
	TAIWAN	140.83	351.385
	RUSSIA	90	345.563
	PAKISTAN IR	26.1	228.18
	Product Total	1780.188	162762.343
OTHER INSECTICIDES	CHINA P RP	9992.061	113767.567
	U S A	2598.056	33329.256
	TAIWAN	915.201	2230.159
	ISRAEL	799.963	8825.134
	KOREA RP	770.4	20791.032
	Product Total	15075.681	178943.148
COPPER-OXYCHLORIDE	GERMANY	0.02	0.175
	FRANCE	0.015	1.965
	Product Total	0.035	2.14
2, 4-D	CHINA P RP	2796	5885.555
	AUSTRALIA	22.5	49.424
	GERMANY	0.008	0.142
	Product Total	2818.508	5935.121
ISOPROTURON	U K	3	3.697
	Product Total	3	3.697

ALUMINIUM PHOSPHIDE	CHINA P RP	4	11.715
	DENMARK	0.6	26.979
	VIETNAM SOC REP	0.085	0.608
	Product Total	4.685	39.302
METHYL BROMIDE	SUDAN	1.55	14.486
	Product Total	1.55	14.486
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	CHINA P RP	6450.617	44336.67
	ISRAEL	5171.407	27641.192
	JAPAN	1959.894	20186.111
	U S A	1439.937	7508.375
	GERMANY	870.915	5578.667
	Product Total	15892.77	105251.015
OTHER FUNGICIDE NES	GERMANY	2137.021	26095.069
	CHINA P RP	909.013	8797.987
	U S A	900.932	15170.568
	BELGIUM	741.105	24197.286
	ISRAEL	546.01	1979.7
	Product Total	5234.081	76240.61
AZO DYES	CHINA P RP	90.016	840.888
	ITALY	72.003	293.025
	SPAIN	45.953	1666.758
	TAIWAN	39.2	73.128
	BRAZIL	23.95	64.537
	Product Total	271.122	2938.336
ACID DIRECT DYES(OTHER THAN AZO)	CHINA P RP	199.025	1171.478
	ITALY	53.891	356.07
	MALAYSIA	17	46.791
	JAPAN	12.476	468.089
	MEXICO	9.455	149.678
	Product Total	291.847	2192.106
BASIC DYES	CHINA P RP	420.874	6489.188
	U S A	23.175	41.024
	GERMANY	17.925	90.913
	ITALY	13.435	95.837
	BELGIUM	3.513	44.919
	Product Total	478.922	6761.881
DISPERSE DYES	CHINA P RP	1230.108	12710.178
	INDONESIA	137.155	1641.012
	SINGAPORE	96.24	1319.972
	ITALY	59.54	228.04
	MEXICO	37.75	642.761
	Product Total	1560.793	16541.963
FAST COLOUR BASES	CHINA P RP	150.075	1127.489
	NETHERLAND	10.905	459.023
	GERMANY	2.79	22.862
	BELGIUM	2.632	100.288
	SPAIN	0.831	4.353
	Product Total	167.233	1714.015

OIL SOLUBLE (SOLVENT DYES)	CHINA P RP	433.779	6023.119
	KOREA RP	140.549	647.53
	TAIWAN	41.76	98.954
	U ARAB EMTS	25.462	83.298
	BELGIUM	12.82	186.897
	Product Total	654.37	7039.798
OPTICAL WHITENING AGENTS	NETHERLAND	117.6	1407.59
	CHINA P RP	98.8	2067.401
	BELGIUM	94	1211.371
	SWITZERLAND	74	812.958
	GERMANY	61.68	804.446
	Product Total	446.08	6303.766
ORGANIC PIGMENT	SPAIN	63.7	117.48
	U S A	56.001	233.799
	CHINA P RP	15.312	56.278
	GERMANY	1.78	43.002
	ITALY	0.38	8.592
	Product Total	137.173	459.151
PIGMENT EMULSION	CHINA P RP	3925.426	19812.056
	GERMANY	610.758	8919.448
	KOREA RP	537.139	3017.13
	MALAYSIA	421.701	852.684
	ITALY	407.195	1266.674
	Product Total	5902.219	33867.992
REACTIVE DYES	THAILAND	1592.362	12850.576
	KOREA RP	622.886	3174.237
	CHINA P RP	467.044	6978.019
	ITALY	155.214	685.521
	SINGAPORE	116.931	1329.729
	Product Total	2954.437	25018.082
SULPHUR DYES (SULPHUR BLACK)	CHINA P RP	767.113	2390.627
	SPAIN	310.68	748.83
	HONG KONG	13.6	39.511
	INDONESIA	6.095	19.107
	GERMANY	5.535	12.862
	Product Total	1103.023	3210.937
VAT DYES	SINGAPORE	14242.207	40061.051
	CHINA P RP	5304.385	32121.407
	PAKISTAN IR	1672.001	3964.338
	BELGIUM	276.425	968.468
	GERMANY	43.349	193.541
	Product Total	21538.367	77308.805
SOLUBILISED VAT DYES	SINGAPORE	209.346	709.879
	PAKISTAN IR	125.28	330.177
	CHINA P RP	12.5	55.614
	SWITZERLAND	4.037	65.25
	GERMANY	3.27	48.285
	Product Total	354.433	1209.205
	TAIWAN	708.741	2369.831

FOOD COLOURS	KOREA RP	214.64	805.008
	CHINA P RP	89.436	756.846
	GERMANY	76.138	402.889
	MEXICO	37.395	101.092
	Product Total	1126.35	4435.666
NAPTHOLS	CHINA P RP	1244.306	5034.075
	ITALY	5.455	78.058
	THAILAND	1	3.717
	U S A	0.951	83.363
	BELGIUM	0.935	14.764
	Product Total	1252.647	5213.977
OTHER DYES	U K	1724.95	4155.5
	PHILIPPINES	195.395	508.7
	MEXICO	120.02	347.931
	U S A	108.616	996.577
	COLOMBIA	74.605	266.007
	Product Total	2223.586	6274.715
INORGANIC PIGMENTS	U ARAB EMTS	3969.013	4873.249
	CHINA P RP	1382.745	5013.869
	THAILAND	979.289	2952.256
	BELGIUM	871.716	3309.102
	ISRAEL	755.443	2009.182
	Product Total	7958.206	18157.658

Note: Data sources in respect of Imports & Exports is DGCI, Kolkata M/o Commerce and industry.

Table -21: Exports of Major Petrochemicals (Group-wise) during 2011-12 to 2018-19

[QTY in MT & VAL in Rs. Lakh]

GROUP	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES	733966	717155	775886	777875	907646	1015940	887182	917327	878358	833783	1025740	922018	1001053	977982	1015666	1172008
FIBRE INTERMEDIATES	100735	78701	80823	61926	67873	53980	73270	57347	247540	121394	323096	153574	351358	181069	456955	275919
POLYMERS	1163483	815325	1112662	853586	1187634	1078251	903266	793550	998339	732497	912124	667432	1188233	891771	1934155	1558391
SYNTHETIC RUBBER (ELASTOMERS)	22128	25460	11489	15082	12834	21597	26040	34492	42688	42428	38204	46387	51889	54589	63550	70696
SYNTHETIC DETERGENT INTERMEDIATES	74864	87518	50478	50928	32971	35845	27992	29004	9634	7768	7058	5941	1413	1468	1048	1534
PERFORMANCE PLASTICS	309593	287212	347916	307451	474528	440224	409365	353492	813967	527737	972750	636450	1050548	747271	1080286	1018773
OLEFINS	130472	181191	123827	138968	119411	88308	72479	45302	149389	76055	117365	101742	260597	179804	368714	276701
AROMATICS	1445312	985016	1590660	1188161	1789251	1344539	1888275	1163302	2033143	942807	1749173	885136	3303041	1754998	4550911	2880299
OTHER PETRO-BASED CHEMICALS	184342	145504	137082	129315	96237	107611	124125	143644	128670	101261	144135	116773	193342	138613	147298	139759
TOTAL EXPORT OF MAJOR PETRO-CHEMICALS	4164895	3323082	4230823	3523292	4688385	4186295	4411994	3537460	5301728	3385730	5289645	3535453	7401474	4927565	9618583	7394080

Note: 1. Data source in respect of Imports and Exports is DGCIS, Kolkata, M/o Commerce and Industry.

2. The data from 2011-12 to 2012-13 is based on ITCHS 2007 and the data from 2013-14 is based on ITCHS 2012

Table -22: Imports of Major Petrochemicals (Group-wise) during 2011-12 to 2018-19

GROUP	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES	149682	204214	156291	247329	164136	274315	235590	346205	263774	346368	279993	342993	259632	363079	275617	453356
FIBRE INTERMEDIATES	1315056	800960	1402774	878497	1925258	1304669	2179870	1273665	2015419	1026126	1842229	943136	1808425	1072331	1454656	1056882
POLYMERS	2435473	1598868	3179593	2254904	3124986	2531008	3736798	3177068	4214022	3132488	4452258	3267230	4751478	3549286	4479129	3684829
SYNTHETIC RUBBER (ELASTOMERS)	492633	794847	519670	797499	580333	793037	578400	758949	596101	612690	559919	628042	607867	741750	618500	851418
SYNTHETIC DETERGENT INTERMEDIATES	106852	96832	127493	131685	123846	139467	134035	138461	218097	177489	228229	179003	205984	164533	227136	210428
PERFORMANCE PLASTICS	175173	254490	249709	336062	310899	438390	394766	496367	388796	445847	417442	472270	582692	621047	683851	891721
OLEFINS	19855	13371	34187	29316	26109	21482	49255	43981	25398	20177	83453	60651	50791	43283	69700	57846
AROMATICS	760164	504683	967941	764603	998399	850360	1023472	712564	1204325	633048	1614652	864845	1321018	708548	1320424	910212
OTHER PETRO-BASED CHEMICALS	1784500	1219192	2037034	1495971	2203984	1817179	2372654	1897349	2739780	1775978	2650608	1764933	3255244	2232102	3227017	2709229
OF MAJOR PETRO-CHEMICALS	7239388	5487457	8674692	6935866	9457950	8169907	10704840	8844609	11665712	8170211	12128783	8523103	12843131	9495959	12356030	10825921

Note: 1. Data source in respect of Imports and Exports is DGCIS, Kolkata, M/o Commerce and Industry.

2. The data from 2011-12 to 2012-13 is based on ITCHS 2007 and the data from 2013-14 is based on ITCHS 2012

Table -23: Net Imports of Major Petrochemicals (Group-wise) during 2011-12 to 2018-19

GROUP	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES	-584284	-512941	-619595	-530546	-743510	-741625	-651592	-571122	-614584	-487415	-745747	-579025	-741421	-614903	-740049	-718652
FIBRE INTERMEDIATE S	1214321	722259	1321951	816571	1857385	1250689	2106600	1216318	1767879	904732	1519133	789562	1457067	891262	997701	780963
POLYMERS	1271990	783543	2066931	1401318	1937352	1452757	2833532	2383518	3215683	2399991	3540134	2599798	3563245	2657515	2544974	2126438
SYNTHETIC RUBBER (ELASTOMERS)	470505	769387	508181	782417	567499	771440	552360	724457	553413	570262	521715	581655	555978	687161	554950	780722
DETERGENT INTERMEDIATE S	31988	9314	77015	80757	90875	103622	106043	109457	208463	169721	221171	173062	204571	163065	226088	208894
PERFORMANCE PLASTICS	-134420	-32722	-98207	28611	-163629	-1834	-14599	142875	-425171	-81890	-555308	-164180	-467856	-126224	-396435	-127052
OLEFINS	-110617	-167820	-89640	-109652	-93302	-66826	-23224	-1321	-123991	-55878	-33912	-41091	-209806	-136521	-299014	-218855
AROMATICS	-685148	-480333	-622719	-423558	-790852	-494179	-864803	-450738	-828818	-309759	-134521	-20291	-1982023	-1046450	-3230487	-1970087
OTHER PETRO-BASED CHEMICALS	1600158	1073688	1899952	1366656	2107747	1709568	2248529	1753705	2611110	1674717	2506473	1648160	3061902	2093489	3079719	2569470
TOTAL NET IMPORT OF MAJOR PETRO-CHEMICALS	3074493	2164375	4443869	3412574	4769565	3983612	6292846	5307149	6363984	4784481	6839138	4987650	5441657	4568394	2737447	3431841

Note: 1. Data source in respect of Imports and Exports is DGCIS, Kolkata, M/o Commerce and Industry.
2. The data from 2011-12 to 2012-13 is based on ITCHS 2007 and the data from 2013-14 is based on ITCHS 2012

Table -24: Exports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	[QTY in MT & VAL in Rs. Lakh]															
	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES																
ACRYLIC FIBRE	26383	37398	19258	26183	31562	47385	37420	59176	47911	58966	48332	60060	39213	52227	45932	71700
NYLON FILAMENT YARN	1923	5412	1865	5728	2023	7402	1848	6939	1639	6236	1857	6462	4014	12111	5794	18888
NYLON INDUSTRIAL YARN/TYRE CORD	3733	6979	3756	6810	2896	5696	1752	2937	1122	1471	1474	1872	1620	2239	1895	2827
POLYESTER FILAMENT YARN	524093	510458	576224	588908	647732	743768	648773	677742	634799	624444	748037	690836	717714	730282	696668	839555
POLYESTER STAPLE FIBRE	176000	154451	170318	144355	205341	187652	183575	151547	181813	129129	213903	150316	227441	169364	255455	225045
POLYPROPYLENE FILAMENT YARN	1235	1582	2008	2694	1863	2813	2232	3234	2844	3878	2077	2690	869	1117	494	713
POLYPROPYLENE STAPLE FIBRE	571	798	2300	2657	14892	16220	10611	11862	7531	6885	9755	8767	9497	8663	7892	8446
Elastomeric/Spandex Filament Yarn	28	77	157	540	1337	5004	971	3890	699	2774	305	1015	685	1979	1536	4834
TOTAL	733966	717155	775886	777875	907646	1015940	887182	917327	878358	833783	1025740	922018	1001053	977982	1015666	1172008
FIBRE INTERMEDIATES																
ACRYLONITRILE	5598	6048	2103	2747	2	5	4	85	2323	2132	6	39	1514	1900	1872	3059
CAPROLACTUM	13448	20052	3343	4853	514	902	0	1	0	8	1010	867	53	93	77	129
DIMETHYL TEREPHTHALATE	3	11	0	0	1	2	0	0	1	1	1	1	0	0	1	2
MONO EHYLENE GLYCOL	66483	45720	71796	52515	67032	53008	73216	57216	72239	52081	62199	45932	137462	90499	292583	175325
PURIFIED TEREPHTHALIC ACID	15203	6870	3581	1811	324	63	50	45	172977	67172	259880	106735	212329	88577	162422	97404
TOTAL	100735	78701	80823	61926	67873	53980	73270	57347	247540	121394	323096	153574	351358	181069	456955	275919
POLYMERS																

Table -24: Exports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
LOW DENSITY POLYETHYLENE	12670	10470	16892	15296	18369	20153	21519	23853	24007	26531	26909	27321	108257	88430	164142	132765
HIGH DENSITY POLYTHYLENE	239546	159380	159341	123866	113344	103538	51663	51095	116114	97840	148142	117815	205797	155550	457416	365235
POLYESTYRENE	60982	48710	74137	68035	83962	91765	73695	69174	86290	72301	82542	75483	69814	67452	63990	64060
POLYPROPYLENE (INC. CO-POLYMER)	816005	571653	828236	616817	943284	832814	726906	620745	735410	503124	574234	382678	552002	397646	718053	596611
EXPANDABLE POLYESTYRENE	377	280	3830	3689	3646	4413	4810	5489	3762	3735	3697	3548	3119	3272	3064	3818
POLY VINYL CHLORIDE	3632	2990	1267	1462	1332	2754	1988	2085	3054	3272	6484	6127	6662	6015	2133	1788
DENSITY POLYTHYLENE	23007	16734	21821	18582	13451	13366	10854	10267	15825	14160	53215	41558	228952	163632	508135	380841
PVC COMPOUND	7264	5108	7138	5839	10246	9448	11831	10842	13877	11534	16901	12902	13630	9774	17222	13273
TOTAL	1163483	815325	1112662	853586	1187634	1078251	903266	793550	998339	732497	912124	667432	1188233	891771	1934155	1558391
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	7516	9142	7646	8461	7483	8024	18007	17961	31053	23969	27139	27423	40704	36382	46179	43572
POLY BUTADIENE RUBBER	185	408	1173	1947	267	388	1919	1978	5988	4008	5114	4942	7012	7376	13175	15311
ETHYL PROPYLENE DIMERS	3063	4830	1182	1916	2075	7096	2915	8114	2725	8882	3282	9531	2517	7696	2463	7958
ETHYL VINYL ACETATE	374	453	804	848	1215	1494	1141	1734	1274	1510	1494	1751	901	1314	530	1251
NITRILE BUTADIENE RUBBER	10778	10059	431	1297	446	1557	444	1124	400	970	451	1092	427	1128	507	1316
BUTYL RUBBER	212	568	253	613	1348	3038	1614	3581	1248	3089	724	1648	328	693	696	1288
TOTAL	22128	25460	11489	15082	12834	21597	26040	34492	42688	42428	38204	46387	51889	54589	63550	70696
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	74555	86732	50068	50134	32493	34657	27199	27204	9256	7034	6440	4816	930	809	323	367
ETHYLENE OXIDE	309	786	410	794	478	1188	793	1800	378	734	618	1125	483	659	725	1167

Table -24: Exports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	74864	87518	50478	50928	32971	35845	27992	29004	9634	7768	7058	5941	1413	1468	1048	1534
PERFORMANCE PLASTICS																
ABS RESIN	807	915	666	780	303	424	225	281	465	682	294	473	273	445	449	622
NYLON-6	5912	9804	9915	16353	15308	25961	16715	28775	14577	25321	17656	29593	21353	34774	19744	38965
POLYMETHYL METHACRYLATE	5545	5747	7849	8626	9775	12115	9306	11215	9158	10541	8557	10230	3563	3584	4323	5218
STYRENE ACRYLONITRILE	33	66	43	69	275	249	120	158	579	459	671	450	1179	682	387	380
POLYESTER CHIPS/PET CHIPS	290894	229867	324307	256947	443104	372102	375421	274943	783106	460787	937251	557185	1014588	655326	1043386	889691
POLYTETRAFLUORO ETHYLENE(PTFE)	6402	40813	5136	24676	5763	29373	7578	38120	6082	29947	8321	38519	9592	52460	11997	83897
TOTAL	309593	287212	347916	307451	474528	440224	409365	353492	813967	527737	972750	636450	1050548	747271	1080286	1018773
OLEFINS																
BUTADIENE	121393	176675	117626	135098	119410	88301	72479	45301	129808	66961	106838	97268	103426	73371	136191	113889
ETHYLENE	7	6	1	4	1	7	0	1	5119	3789	27	23	136426	97327	193233	140672
PROPYLENE	9072	4510	6200	3866	0	0	0	0	14462	5305	10500	4451	20745	9106	39290	22140
TOTAL	130472	181191	123827	138968	119411	88308	72479	45302	149389	76055	117365	101742	260597	179804	368714	276701
AROMATICS																
BENZENE	501894	279998	652963	445735	635749	437813	576741	348900	914875	371288	789425	366822	1286323	662408	1651123	822052
MIXED XYLENE	148512	87950	141564	104472	187239	139394	10464	6923	8	49	66	110	418	278	981	668
ORTHO-XYLENE	187083	121039	210822	163337	229010	172190	227007	138341	234386	107621	154347	74761	185675	86881	225703	122734
TOLUENE	5465	3535	5412	4167	14798	11449	9994	6409	5268	3314	5843	3764	4103	2772	13601	9501
PARAXYLENE	602358	492494	579899	470450	722455	583693	1064069	662729	878606	460535	799492	439679	1826522	1002659	2659503	1925344

Table -24: Exports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	1445312	985016	1590660	1188161	1789251	1344539	1888275	1163302	2033143	942807	1749173	885136	3303041	1754998	4550911	2880299
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	0	3	3200	554	9	5	21	14	15839	3103	16	8	44861	6510	19181	4478
BUTANOL	3591	4458	4762	5986	2186	3583	759	993	195	162	2292	1189	863	703	452	655
OXO ALCOHOL	383	740	812	983	1188	1133	1191	907	582	565	1271	731	890	682	2935	1505
2-ETHYL HEXANOL	78	808	47	1001	321	654	6391	6405	746	654	2055	1437	2636	1701	3175	2781
VINYL CHLORIDE MONOMER	0	0	0	0	1	8	0	0	0	0	0	0	0	0	0	3
EPICHLHYDRINE	19	24	13	10	4	7	14	19	28	33	54	55	49	76	48	90
ISO BUTYLENE	0	1	0	0	1815	1382	1	2	28	249	1	3	0	2	0	1
METAXYLENE	92344	61389	41061	32749	4	13	23	146	46	140	64	217	4	263	15	282
METHYL ISOBUTYL KETONE	539	519	5	71	24	53	206	364	287	266	918	788	940	878	2038	1817
PIB	6623	5529	4285	4739	5896	7554	4993	5925	6128	7200	2237	2448	2620	2711	4297	4788
POLYCARBONATE	2355	3671	2509	4332	3022	6103	2459	2772	4790	4597	3990	3284	4926	5370	3432	4605
PROPYLENE GLYCOL	908	879	2593	1953	818	986	773	1043	531	724	865	1113	1117	1713	1697	2419
POLYVINYL ACETATE RESIN	10077	8188	14064	11563	15509	13643	15456	15384	11259	11415	8767	8927	6958	6522	8510	8622
UNSATURATED POLYESTER RESIN	9455	9479	10709	12477	10750	14533	12660	17074	12112	15025	16263	18552	14436	18212	14667	21668
ETHYL BENZENE	3	1	4	4	0	0	0	0	0	2	0	0	0	0	0	0
CELLULOSE ACETATE BUTYRATE	10	15	53	78	93	163	44	93	6	81	8	30	1	18	1	15
CELLULOSE ACETATE SHEET	17	36	159	166	63	152	33	84	34	116	85	178	59	145	22	79

Table -24: Exports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
CELLULOSE NITRATE SHEET	8	14	46	19	3	14	12	16	3	5	19	14	2	5	7	24
MELAMINE MOULDING POWDER	1051	914	1160	940	2168	1431	6339	2284	7993	2541	10124	3072	14754	3747	16578	4758
POLYACETAL RESIN	710	703	279	403	540	654	537	598	312	383	387	439	141	279	276	402
PHTHALIC ANHYDRIDE	24993	17036	12812	11478	23182	20259	38634	26744	40448	22378	42033	25960	37869	25156	26495	18956
STYRENE	7521	4847	17327	16323	2242	2392	6940	6623	793	669	5088	4176	4524	3842	6531	6690
VINYL ACTATE MONOMER	2227	1240	1342	822	4096	2635	1562	1392	1695	1388	11755	6285	21261	13220	8344	6623
ISOPROPANOL	9598	12753	3846	4149	3334	4053	6139	6508	3716	2805	7385	5106	11004	7850	6281	5336
POLYOL	11832	12257	15994	18515	18969	26201	18938	48254	21099	26760	28458	32760	23427	39008	22316	43162
TOTAL	184342	145504	137082	129315	96237	107611	124125	143644	128670	101261	144135	116772	193342	138613	147298	139759
TOTAL EXPORT OF MAJOR PETRO-CHEMICALS	4164895	3323082	4230823	3523292	4688385	4186295	4411994	3537460	5301728	3385730	5289645	3535452	7401474	4927565	9618583	7394080

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

Table - 25 : Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES																
ACRYLIC FIBRE	20200	27538	29359	42077	32990	53051	36339	60959	39238	53809	36771	44394	32184	46549	40475	71158
NYLON FILAMENT YARN	22907	45227	24067	52783	24295	54650	27813	59448	28972	54485	31063	53352	22731	43317	23259	52088
NYLON INDUSTRIAL YARN/TYRE CORD	9068	16629	11912	21275	7022	13749	3750	7035	4411	6803	7741	10247	6566	10070	8108	16323
POLYESTER FILAMENT YARN	43409	52693	50013	64792	46713	67653	72718	89105	72605	86166	84367	92492	82784	100756	83954	118045
POLYESTER STAPLE FIBRE	44677	36811	29670	27653	42635	41577	81864	71552	99719	73357	99809	70113	88990	71053	91775	89685
POLYPROPYLENE FILAMENT YARN	1899	2396	1598	2673	792	1056	716	1002	697	1001	695	850	1343	1715	1362	2007
POLYPROPYLENE STAPLE FIBRE	336	441	331	495	401	567	329	461	1885	1997	2016	2181	3281	3378	3333	3863
ELASTOMERIC /SPANDEX FILAMENT YARN	7186	22479	9341	35581	9288	42012	12061	56643	16247	68750	17531	69364	21753	86241	23351	100187
TOTAL	149682	204214	156291	247329	164136	274315	235590	346205	263774	346368	279993	342993	259632	363079	275617	453356
FIBRE INTERMEDIATES																
ACRYLONITRILE	77357	77714	81964	83719	100862	111632	97388	118956	160202	121692	139709	108192	159778	172707	182234	244043
CAPROLACTUM	5381	9121	15917	21673	23494	34307	32276	43571	44577	45299	52906	50601	58413	75965	66497	99336
DIMETHYL TEREPHTHALATE	2815	2021	2104	1592	1786	1466	2094	1594	2216	1400	1761	1051	2256	1520	1455	1137
MONO EHYLENE GLYCOL	634589	356418	654831	374593	820724	512134	1003540	550364	1111582	539689	1235385	604838	1066477	584695	634714	371592
PURIFIED TEREPHTHALIC ACID	594914	355686	647958	396920	978392	645130	1044572	559180	696842	318046	412468	178454	521501	237444	569756	340774
TOTAL	1315056	800960	1402774	878497	1925258	1304669	2179870	1273665	2015419	1026126	1842229	943136	1808425	1072331	1454656	1056882

Table - 25 : Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
POLYMERS																
LOW DENSITY POLYETHYLENE	197507	143289	264483	204752	256147	239302	325901	295717	374761	313547	391501	330125	464591	398992	341063	310441
HIGH DENSITY POLYTHYLENE	422712	298381	639062	464130	575117	545552	842892	811233	921743	798927	1000457	824364	993072	840665	902265	872720
POLYESTYRENE	29218	30824	35949	45289	37772	49378	39647	50104	42514	47364	44374	54225	52790	64224	56312	69827
POLYPROPYLENE (INC. CO-POLYMER)	398100	317819	497691	427654	479176	472948	611673	589950	700914	574265	781188	611882	938998	762085	854828	837001
EXPANDABLE POLYESTYRENE	5722	4740	4560	4436	3978	4682	3113	3441	2981	2723	3779	3554	2644	2744	1241	1611
POLY VINYL CHLORIDE	851336	443759	1133124	647857	1208529	755732	1293338	854467	1501311	878823	1702852	1015835	1846296	1123738	2037570	1354121
LINEAR LOW DENSITY POLYTHYLENE	464211	316607	538849	414080	499817	413556	550109	515931	590015	459471	469075	381387	425112	335698	276313	228745
PVC COMPOUND	66667	43449	65875	46706	64450	49858	70125	56225	79783	57368	59032	45858	27975	21140	9537	10363
TOTAL	2435473	1598868	3179593	2254904	3124986	2531008	3736798	3177068	4214022	3132488	4452258	3267230	4751478	3549286	4479129	3684829
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	212549	329092	206663	292471	239544	287779	223549	264399	172802	155614	149559	155436	132989	161301	123010	156987
POLY BUTADIENE RUBBER	65935	111555	71052	115107	86200	109762	70471	79518	74646	63210	84910	93064	94772	122673	104671	138315
ETHYL PROPYLENE DIMERS	29231	54698	28373	60006	30347	50127	33348	54653	39370	60759	43411	54947	45099	59035	52800	80061
ETHYL VINYL ACETATE	83186	92285	108324	109280	114764	125169	139414	155970	165264	162033	144604	141686	183348	184503	178684	202884

Table - 25 : Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
NITRILE BUTADIENE RUBBER	19615	34667	26733	47496	29596	45051	26719	44760	51937	44391	36451	45999	40310	63203	38519	73014
BUTYL RUBBER	82117	172550	78525	173139	79882	175149	84899	159649	92082	126683	100984	136910	111349	151035	120816	200157
TOTAL	492633	794847	519670	797499	580333	793037	578400	758949	596101	612690	559919	628042	607867	741750	618500	851418
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	106813	96564	127440	131486	123825	139218	133994	137918	217997	176537	228092	177675	205910	163748	227111	210012
ETHYLENE OXIDE	39	268	53	199	21	249	41	543	100	952	137	1328	74	785	25	416
TOTAL	106852	96832	127493	131685	123846	139467	134035	138461	218097	177489	228229	179003	205984	164533	227136	210428
PERFORMANCE PLASTICS																
ABS RESIN	45470	53929	56897	72383	63020	86113	69910	94132	90081	100935	102685	114201	98026	131230	119398	173631
NYLON-6	74662	135583	88264	159031	114365	214028	133891	237580	144545	218291	158810	233711	175945	299915	215718	430268
POLYMETHYL METHACRYLATE	12444	17024	16488	21487	18924	25935	15367	21697	20309	30401	27175	35588	29994	47445	29540	55142
STYRENE ACRYLONITRILE	4480	4494	6248	7062	5973	7523	6411	7884	9569	9061	8542	8299	9430	10630	9188	11431
POLYESTER CHIPS/PET CHIPS	35978	27152	79743	60854	106283	90135	167015	123074	122206	74948	117996	68960	266358	113614	307111	199059
POLYTETRAFLUORO ETHYLENE(PTFE)	2139	16308	2069	15245	2334	14656	2172	12000	2086	12211	2234	11511	2939	18213	2896	22190
TOTAL	175173	254490	249709	336062	310899	438390	394766	496367	388796	445847	417442	472270	582692	621047	683851	891721
OLEFINS																

Table - 25 : Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
BUTADIENE	5035	4539	9187	10430	1071	820	3223	2823	994	706	2105	1657	2859	3104	1048	1363
ETHYLENE	14667	8223	23784	17219	24791	19461	43905	38467	21050	14753	80917	57116	39119	32795	60583	50604
PROPYLENE	153	609	1216	1667	247	1201	2127	2691	3354	4718	431	1878	8813	7384	8069	5879
TOTAL	19855	13371	34187	29316	26109	21482	49255	43981	25398	20177	83453	60651	50791	43283	69700	57846
AROMATICS																
BENZENE	43465	23677	50660	32106	5250	3146	47	35	0	5	0	8	60	66	22264	12820
MIXED XYLENE	24	75	169	197	5567	4339	1647	1155	108	96	113	125	2424	1200	641	433
ORTHO-XYLENE	35499	23839	45134	37444	44879	41678	35697	23547	34502	16871	26275	14609	15730	8337	22974	15464
TOLUENE	245391	139206	307145	215447	263759	193333	287877	183823	343662	163765	392749	183101	414144	194854	438055	235492
PARAXYLENE	435785	317886	564833	479409	678944	607864	698204	504004	826053	452311	1195515	667002	888660	504091	836490	646003
TOTAL	760164	504683	967941	764603	998399	850360	1023472	712564	1204325	633048	1614652	864845	1321018	708548	1320424	910212
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	263401	46737	359009	53578	439537	98004	465292	117028	600033	104976	503987	86304	713334	108450	581677	141440
BUTANOL	31564	23498	36290	27372	44683	37454	56954	42657	62512	31380	57959	26234	53679	30719	48955	35342
OXO ALCOHOL	842	1842	1329	2102	1698	3182	1285	3866	1270	4347	3186	6713	2272	6324	2696	7376
2-ETHYL HEXANOL	29184	27396	58418	54709	100495	88209	134894	117375	109095	66012	66867	37312	58129	39652	54107	44522
VINYL CHLORIDE MONOMER	302327	147439	296171	145623	303042	167918	317925	178829	349371	167169	344423	177368	484390	247256	457532	252913
EPICHLHYDRINE	19068	19743	19109	18276	22986	22594	33588	33629	43383	37643	48112	34563	56024	51446	65013	83311
ISO BUTYLENE	23351	20485	9260	7938	23254	21809	13010	12222	15853	10526	20051	14133	48702	36009	44558	40254
METAXYLENE	9564	5960	4371	3851	3029	3223	946	902	3064	2755	2667	2600	2078	2064	2943	3306

Table - 25 : Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
METHYL ISOBUTYL KETONE	19209	17173	17668	20184	18318	21987	23243	26643	27576	22104	22487	17388	34684	31270	33932	29589
PIB	7536	7281	10754	11817	9456	13554	11290	16394	14367	17322	16034	16949	15041	16964	16287	20089
POLYCARBONATE	116029	162876	122742	175907	123434	183633	124555	189828	138535	207756	138365	204195	158944	256209	190435	369272
PROPYLENE OXIDE	9392	9595	13141	13052	11676	13076	22914	25917	25552	25697	23064	21699	23446	23594	26800	30694
PROPYLENE GLYCOL	35736	29641	40036	34340	43547	40750	48749	50720	54045	46881	51339	39956	57333	49579	66498	69089
POLYVINYL ACETATE RESIN	4254	6302	4388	7094	4246	8824	4003	8300	3209	5941	3043	3829	3448	5059	2713	3894
UNSATURATED POLYESTER RESIN	34237	39319	36013	43468	31157	40025	28855	33910	30303	36568	39975	42255	49888	53751	42954	59992
ETHYL BENZENE	75	82	407	360	172	228	128	182	150	146	308	267	351	320	719	806
ACETATE BUTYRATE	228	450	8	151	0	1	1	5	2	12	3	18	3	10	0	0
CELLULOSE ACETATE SHEET	459	216	692	312	980	569	1260	749	1295	775	1066	564	1346	921	1516	1122
CELLULOSE NITRATE SHEET	81	236	178	248	502	843	263	467	88	260	75	250	99	327	106	396
MELAMINE MOULDING POWDER	8006	8500	8668	9858	10210	12619	10081	12356	11872	13961	12997	15304	14699	16993	15280	20127
POLYACETAL RESIN	21082	17748	25933	23667	26266	25418	32605	29992	35212	34173	37883	37829	43672	43617	48759	59046
PHTHALIC ANHYDRIDE	38894	25948	44321	36815	54934	48521	52350	39837	79803	44118	92058	53567	130440	86282	144801	107477
STYRENE	520758	348850	591646	492433	572654	602695	617800	543696	717696	516539	729627	557571	789273	654655	817779	744118
VINYL ACTATE MONOMER	124726	67921	127536	69804	147364	87273	139553	114477	141649	88260	162004	87159	184964	117193	171353	135851
ISOPROPANOL	33441	22148	55724	42087	51271	42756	63194	51016	87606	47646	97262	55519	110464	71816	141113	98531
POLYOL	131056	161806	153222	200925	159073	232014	167916	246352	186239	243011	175766	225387	218541	281622	248491	350672
TOTAL	1784500	1219192	2037034	1495971	2203984	1817179	2372654	1897349	2739780	1775978	2650608	1764933	3255244	2232102	3227017	2709229
MAJOR PETRO-CHEMICALS	7239388	5487457	8674692	6935866	9457950	8169907	10704840	8844609	11665712	8170211	12128783	8523103	12843131	9495959	12356030	10825921

Note: Data source in respect of Imports and Exports is DGCI, Kolkata, M/o Commerce and Industry.

Table - 26 : Net Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES																
ACRYLIC FIBRE	-6183	-9860	10101	15894	1428	5666	-1081	1783	-8673	-5157	-11561	-15666	-7029	-5678	-5457	-542
NYLON FILAMENT YARN	20984	39815	22202	47055	22272	47248	25965	52509	27333	48249	29206	46890	18717	31206	17465	33200
NYLON INDUSTRIAL YARN/TYRE CORD	5335	9650	8156	14465	4126	8053	1998	4098	3289	5332	6267	8375	4946	7831	6213	13496
POLYESTER FILAMENT YARN	-480684	-457765	-526211	-524116	-601019	-676115	-576055	-588637	-562194	-538278	-663670	-598344	-634930	-629526	-612714	-721510
POLYESTER STAPLE FIBRE	-131323	-117640	-140648	-116702	-162706	-146075	-101711	-79995	-82094	-55772	-114094	-80203	-138451	-98311	-163680	-135360
POLYPROPYLENE FILAMENT YARN	664	814	-410	-21	-1071	-1757	-1516	-2232	-2147	-2877	-1382	-1840	474	598	868	1294
POLYPROPYLENE STAPLE FIBRE	-235	-357	-1969	-2162	-14491	-15653	-10282	-11401	-5646	-4888	-7739	-6586	-6216	-5285	-4559	-4583
ELASTOMERIC /SPANDEX FILAMENT YARN	7158	22402	9184	35041	7951	37008	11090	52753	15548	65976	17226	68349	21068	84262	21815	95353
TOTAL	-584284	-512941	-619595	-530546	-743510	-741625	-651592	-571122	-614584	-487415	-745747	-579025	-741421	-614903	-740049	-718652
FIBRE INTERMEDIATES																
ACRYLONITRILE	71759	71666	79861	80972	100860	111627	97384	118871	157879	119560	139703	108153	158264	170807	180362	240984
CAPROLACTUM	-8067	-10931	12574	16820	22980	33405	32276	43570	44577	45291	51896	49734	58360	75872	66420	99207
DIMETHYL TEREPHTHALATE	2812	2010	2104	1592	1785	1464	2094	1594	2215	1399	1760	1050	2256	1520	1454	1135
MONO EHYLENE GLYCOL	568106	310698	583035	322078	753692	459126	930324	493148	1039343	487608	1173186	558906	929015	494196	342131	196267
PURIFIED TEREPHTHALIC ACID	579711	348816	644377	395109	978068	645067	1044522	559135	523865	250874	152588	71719	309172	148867	407334	243370

Table - 26 : Net Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	1214321	722259	1321951	816571	1857385	1250689	2106600	1216318	1767879	904732	1519133	789562	1457067	891262	997701	780963
POLYMERS																
LOW DENSITY POLYETHYLENE	184837	132819	247591	189456	237778	219149	304382	271864	350754	287016	364592	302804	356334	310562	176921	177676
HIGH DENSITY POLYTHYLENE	183166	139001	479721	340264	461773	442014	791229	760138	805629	701087	852315	706549	787275	685115	444849	507485
POLYESTYRENE	-31764	-17886	-38188	-22746	-46190	-42387	-34048	-19070	-43776	-24937	-38168	-21258	-17024	-3228	-7678	5767
POLYPROPYLENE (INC. CO-POLYMER)	-417905	-253834	-330545	-189163	-464108	-359866	-115233	-30795	-34496	71141	206954	229204	386996	364439	136775	240390
EXPANDABLE POLYESTYRENE	5345	4460	730	747	332	269	-1697	-2048	-781	-1012	82	6	-475	-528	-1823	-2207
POLY VINYL CHLORIDE	847704	440769	1131857	646395	1207197	752978	1291350	852382	1498257	875551	1696368	1009708	1839634	1117723	2035437	1352333
LINEAR LOW DENSITY POLYTHYLENE	441204	299873	517028	395498	486366	400190	539255	505664	574190	445311	415860	339829	196160	172066	-231822	-152096
PVC COMPOUND	59403	38341	58737	40867	54204	40410	58294	45383	65906	45834	42131	32956	14345	11366	-7685	-2910
TOTAL	1271990	783543	2066931	1401318	1937352	1452757	2833532	2383518	3215683	2399991	3540134	2599798	3563245	2657515	2544974	2126438
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	205033	319950	199017	284010	232061	279755	205542	246438	141749	131645	122420	128013	92285	124919	76831	113415
POLY BUTADIENE RUBBER	65750	111147	69879	113160	85933	109374	68552	77540	68658	59202	79796	88122	87760	115297	91496	123004
ETHYL PROPYLENE DIMERS	26168	49868	27191	58090	28272	43031	30433	46539	36645	51877	40129	45416	42582	51339	50337	72103
ETHYL VINYL ACETATE	82812	91832	107520	108432	113549	123675	138273	154236	163990	160523	143110	139935	182447	183189	178154	201633
NITRILE BUTADIENE RUBBER	8837	24608	26302	46199	29150	43494	26275	43636	51537	43421	36000	44907	39883	62075	38012	71698
BUTYL RUBBER	81905	171982	78272	172526	78534	172111	83285	156068	90834	123594	100260	135262	111021	150342	120120	198869

Table - 26 : Net Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	470505	769387	508181	782417	567499	771440	552360	724457	553413	570262	521715	581655	555978	687161	554950	780722
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	32258	9832	77372	81352	91332	104561	106795	110714	208741	169503	221652	172859	204980	162939	226788	209645
ETHYLENE OXIDE	-270	-518	-357	-595	-457	-939	-752	-1257	-278	218	-481	203	-409	126	-700	-751
TOTAL	31988	9314	77015	80757	90875	103622	106043	109457	208463	169721	221171	173062	204571	163065	226088	208894
PERFORMANCE PLASTICS																
ABS RESIN	44663	53014	56231	71603	62717	85689	69685	93851	89616	100253	102391	113728	97753	130785	118949	173009
NYLON-6	68750	125779	78349	142678	99057	188067	117176	208805	129968	192970	141154	204118	154592	265141	195974	391303
POLYMETHYL METHACRYLATE	6899	11277	8639	12861	9149	13820	6061	10482	11151	19860	18618	25358	26431	43861	25217	49924
STYRENE ACRYLONITRILE	4447	4428	6205	6993	5698	7274	6291	7726	8990	8602	7871	7849	8251	9948	8801	11051
POLYESTER CHIPS/PET CHIPS	-254916	-202715	-244564	-196093	-336821	-281967	-208406	-151869	-660900	-385839	-819255	-488225	-748230	-541712	-736275	-690632
POLYTETRAFLUOROETHYLENE(PTFE)	-4263	-24505	-3067	-9431	-3429	-14717	-5406	-26120	-3996	-17736	-6087	-27008	-6653	-34247	-9101	-61707
TOTAL	-134420	-32722	-98207	28611	-163629	-1834	-14599	142875	-425171	-81890	-555308	-164180	-467856	-126224	-396435	-127052
OLEFINS																
BUTADIENE	-116358	-172136	-108439	-124668	-118339	-87481	-69256	-42478	-128814	-66255	-104733	-95611	-100567	-70267	-135143	-112526
ETHYLENE	14660	8217	23783	17215	24790	19454	43905	38466	15931	10964	80890	57093	-97307	-64532	-132650	-90068
PROPYLENE	-8919	-3901	-4984	-2199	247	1201	2127	2691	-11108	-587	-10069	-2573	-11932	-1722	-31221	-16261
TOTAL	-110617	-167820	-89640	-109652	-93302	-66826	-23224	-1321	-123991	-55878	-33912	-41091	-209806	-136521	-299014	-218855

Table - 26 : Net Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
AROMATICS																
BENZENE	-458429	-256321	-602303	-413629	-630499	-434667	-576694	-348865	-914875	-371283	-789425	-366814	-1286263	-662342	-1628859	-809232
MIXED XYLENE	-148488	-87875	-141395	-104275	-181672	-135055	-8817	-5768	100	47	47	15	2006	922	-340	-235
ORTHO-XYLENE	-151584	-97200	-165688	-125893	-184131	-130512	-191310	-114794	-199884	-90750	-128072	-60152	-169945	-78544	-202729	-107270
TOLUENE	239926	135671	301733	211280	248961	181884	277883	177414	338394	160451	386906	179337	410041	192082	424454	225991
PARAXYLENE	-166573	-174608	-15066	8959	-43511	24171	-365865	-158725	-52553	-8224	396023	227323	-937862	-498568	-1823013	-1279341
TOTAL	-685148	-480333	-622719	-423558	-790852	-494179	-864803	-450738	-828818	-309759	-134521	-20291	-1982023	-1046450	-3230487	-1970087
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	263401	46734	355809	53024	439528	97999	465271	117014	584194	101873	503971	86296	668473	101940	562496	136962
BUTANOL	27973	19040	31528	21386	42497	33871	56195	41664	62317	31218	55667	25045	52816	30016	48503	34687
OXO ALCOHOL	459	1102	517	1119	510	2049	94	2959	688	3782	1915	5982	1382	5642	-239	5871
2-ETHYL HEXANOL	29106	26588	58371	53708	100174	87555	128503	110970	108349	65358	64812	35875	55493	37951	50932	41741
VINYL CHLORIDE MONOMER	302327	147439	296171	145623	303041	167910	317925	178829	349371	167169	344423	177368	484390	247256	457532	252910
EPICHLHYDRINE	19049	19719	19096	18266	22982	22587	33574	33610	43355	37610	48058	34508	55975	51370	64965	83221
ISO BUTYLENE	23351	20484	9260	7938	21439	20427	13009	12220	15825	10277	20050	14130	48702	36007	44558	40253
METAXYLENE	-82780	-55429	-36690	-28898	3025	3210	923	756	3018	2615	2603	2383	2074	1801	2928	3024
METHYL ISOBUTYL KETONE	18670	16654	17663	20113	18294	21934	23037	26279	27289	21838	21569	16600	33744	30392	31894	27772
PIB	913	1752	6469	7078	3560	6000	6297	10469	8239	10122	13797	14501	12421	14253	11990	15301

Table - 26 : Net Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
POLYCARBONATE	113674	159205	120233	171575	120412	177530	122096	187056	133745	203159	134375	200911	154018	250839	187003	364667
PROPYLENE OXIDE	9392	9595	13141	13052	11676	13076	22914	25917	25552	25697	23064	21698	23446	23594	26800	30694
PROPYLENE GLYCOL	34828	28762	37443	32387	42729	39764	47976	49677	53514	46157	50474	38843	56216	47866	64801	66670
POLYVINYL ACETATE RESIN	-5823	-1886	-9676	-4469	-11263	-4819	-11453	-7084	-8050	-5474	-5724	-5098	-3510	-1463	-5797	-4728
UNSATURATED POLYESTER RESIN	24782	29840	25304	30991	20407	25492	16195	16836	18191	21543	23712	23703	35452	35539	28287	38324
ETHYL BENZENE	72	81	403	356	172	228	128	182	150	144	308	267	351	320	719	806
CELLULOSE ACETATE BUTYRATE	218	435	-45	73	-93	-162	-43	-88	-4	-69	-5	-12	2	-8	-1	-15
CELLULOSE ACETATE SHEET	442	180	533	146	917	417	1227	665	1261	659	981	386	1287	776	1494	1043
CELLULOSE NITRATE SHEET	73	222	132	229	499	829	251	451	85	255	56	236	97	322	99	372
MELAMINE MOULDING POWDER	6955	7586	7508	8918	8042	11188	3742	10072	3879	11420	2873	12232	-55	13246	-1298	15369
POLYACETAL RESIN	20372	17045	25654	23264	25726	24764	32068	29394	34900	33790	37496	37390	43531	43338	48483	58644
PHTHALIC ANHYDRIDE	13901	8912	31509	25337	31752	28262	13716	13093	39355	21740	50025	27607	92571	61126	118306	88521
STYRENE	513237	344003	574319	476110	570412	600303	610860	537073	716903	515870	724539	553395	784749	650813	811248	737428
VINYL ACTATE MONOMER	122499	66681	126194	68982	143268	84638	137991	113085	139954	86872	150249	80874	163703	103973	163009	129228
ISOPROPANOL	23843	9395	51878	37938	47937	38703	57055	44508	83890	44841	89877	50413	99460	63966	134832	93195
POLYOL	119224	149549	137228	182410	140104	205813	148978	198098	165140	216251	147308	192627	195114	242614	226175	307510
TOTAL	1600158	1073688	1899952	1366656	2107747	1709568	2248529	1753705	2611110	1674717	2506473	1648160	3061902	2093489	3079719	2569470
MAJOR PETRO-CHEMICALS	3074493	2164375	4443869	3412574	4769565	3983612	6292846	5307149	6363984	4784481	6839138	4987650	5441657	4568394	2737447	3431841

Table - 26 : Net Imports of Major Petrochemicals (Product-wise) 2011-12 to 2018-19

PRODUCT	2011-12		2012-13		2013-14		2014-15		2015-16		2016-17		2017-18		2018-19	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL

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

Table 27:- TOP FIVE EXPORT DESTINATIONS OF SELECTED PETROCHEMICALS DURING 2018-19			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ACRYLIC FIBRE	IRAN	16297.044	28303.29
	KENYA	8215.658	7369.692
	CHINA P RP	8010.481	12884.845
	ETHIOPIA	3893.835	3377.26
	MYANMAR	1440.357	3783.121
	Product Total	37857.375	55718.208
NYLON FILAMENT YARN	TURKEY	1042.004	2258.058
	NEW ZEALAND	902.421	3210.857
	BRAZIL	727.801	2096.869
	SRI LANKA DSR	523.516	2153.829
	U S A	333.76	1494.478
	Product Total	3529.502	11214.091
NYLON INDUSTRIAL YARN/TYRE CORD	MEXICO	315.786	466.597
	BANGLADESH PR	275.446	393.002
	NEPAL	173.879	220.76
	KOREA DP RP	123.215	225.778
	U S A	114.828	176.249
	Product Total	1003.154	1482.386
POLYESTER FILAMENT YARN	BRAZIL	166437.425	173116.563
	TURKEY	164859.645	194068.463
	BANGLADESH PR	40205.37	54062.74
	EGYPT A RP	30587.549	33937.345
	KOREA RP	28460.4	32244.912
	Product Total	430550.389	487430.023
POLYESTER STAPLE FIBRE	U S A	36660.179	35167.215
	NEPAL	31046.789	26146.349
	BANGLADESH PR	25546.432	21328.885
	BELGIUM	17220.289	14633.724
	INDONESIA	15704.467	13359.695
	Product Total	126178.156	110635.868
POLYPROPYLENE FILAMENT YARN	TAIWAN	72.812	97.053
	ETHIOPIA	71.256	94.653
	NEPAL	60.421	98.297
	NIGERIA	37.121	51.67
	MALAWI	35.86	43.801
	Product Total	277.47	385.474
POLYPROPYLENE STAPLE FIBRE	U S A	7324.009	7657.47
	NEPAL	340.418	477.845
	U ARAB EMTS	143.004	206.889
	BANGLADESH PR	57	60.956
	BAHARAIN IS	13.52	21.49
	Product Total	7877.951	8424.65
Elastomeric/Spandex Filament Yarn	TURKEY	512.858	1423.241
	COLOMBIA	331.4	1010.062
	BANGLADESH PR	282.194	947.295
	TAIWAN	90.912	285.061
	PERU	83.539	272.057
	Product Total	1300.903	3937.716
ACRYLONITRILE	IRAN	1870	3054.291
	BANGLADESH PR	1.88	4.123
	MOZAMBIQUE	0.07	0.442
	U S A	0	0.006
	Product Total	1871.95	3058.862

CAPROLACTUM	SAUDI ARAB	30.05	47.226
	INDONESIA	26	49.714
	PORTUGAL	20	23.725
	BANGLADESH PR	1	2.1
	GERMANY	0.002	0.027
	Product Total	77.052	122.792
DIMETHYL TEREPHTHALATE	KAZAKHSTAN	0.9	1.55
	JAPAN	0.1	0.275
	Product Total	1	1.825
MONO EHYLENE GLYCOL	CHINA P RP	228122	126824.049
	U S A	25894	19853.331
	MEXICO	8272	6335.198
	TAIWAN	7459	5999.964
	NETHERLAND	6290	4971.468
	Product Total	276037	163984.01
PURIFIED TEREPHTHALIC ACID	PAKISTAN IR	51712	31206.905
	OMAN	41482	24480.691
	SOUTH AFRICA	18931	12203.698
	TURKEY	17351	9867.726
	U ARAB EMTS	9336	5229.047
	Product Total	138812	82988.067
LOW DENSITY POLYETHYLENE	CHINA P RP	116393.999	87426.749
	TURKEY	7854.71	7657.864
	BANGLADESH PR	7191.24	6285.787
	U ARAB EMTS	4571.952	3206.606
	KENYA	2737.2	2261.032
	Product Total	138749.101	106838.038
HIGH DENSITY POLYTHYLENE	CHINA P RP	338586.496	259529.219
	VIETNAM SOC REP	46668.445	37104.337
	NEPAL	12487.385	11225.859
	BANGLADESH PR	8476.923	7038.787
	PAKISTAN IR	6786	5485.472
	Product Total	413005.249	320383.674
POLYESTYRENE	BANGLADESH PR	14116.573	13178.789
	EGYPT A RP	10422.642	10370.918
	ITALY	4765.344	4648.331
	U S A	4254.324	5203.921
	HONG KONG	3251.075	2945.323
	Product Total	36809.958	36347.282
POLYPROPYLENE (INC. CO-POLYMER)	CHINA P RP	153221.757	122380.94
	TURKEY	120394.822	102228.274
	PAKISTAN IR	56981.6	48546.561
	ITALY	47717.059	41033.002
	VIETNAM SOC REP	43098.48	36093.035
	Product Total	421413.718	350281.812
EXPANDABLE POLYESTYRENE	INDONESIA	1254	1523.855
	U ARAB EMTS	393.678	563.414
	TAIWAN	347	427.911
	PAKISTAN IR	324	422.603
	BANGLADESH PR	149	187.304
	Product Total	2467.678	3125.087
POLY VINYL CHLORIDE	NEPAL	857.653	595.28
	U ARAB EMTS	646.55	469.988
	SRI LANKA DSR	369.012	474.331
	ETHIOPIA	41.38	24.111
	QATAR	40	24.241
	Product Total	1954.595	1587.951

LINEAR LOW DENSITY POLYTHYLENE	CHINA P RP	315395.8	232719.958
	INDONESIA	48258	36444.103
	VIETNAM SOC REP	26767	19967.95
	TURKEY	20427.45	15007.53
	BANGLADESH PR	20000.6	15727.549
	Product Total	430848.85	319867.09
PVC COMPOUND	BANGLADESH PR	2765.178	2199.05
	QATAR	2620.9	1528.592
	NIGERIA	2543.08	1792.294
	KENYA	2025.6	1481.097
	NEPAL	1778.853	1173.848
	Product Total	11733.611	8174.881
STYRENE BUTADIENE RUBBER	THAILAND	11856.765	11717.131
	PAKISTAN IR	9586.552	8873.581
	CHINA P RP	4718.738	4265.488
	VIETNAM SOC REP	3263.402	2876.889
	SRI LANKA DSR	2289.465	2531.196
	Product Total	31714.922	30264.285
POLY BUTADIENE RUBBER	THAILAND	6611.051	7781.531
	CHINA P RP	2547.31	2754.874
	SRI LANKA DSR	2489.551	2971.51
	PAKISTAN IR	655.2	759.968
	VIETNAM SOC REP	474.589	537.382
	Product Total	12777.701	14805.265
ETHYL PROPYLENE DIMERS	TURKEY	1642.892	6022.014
	COLOMBIA	189.393	653.92
	IRAN	184.8	344.411
	SAUDI ARAB	77.56	157.294
	VIETNAM SOC REP	73.413	243.875
	Product Total	2168.058	7421.514
ETHYL VINYL ACETATE	IRAN	194	285.537
	BANGLADESH PR	109.75	145.409
	NEPAL	62.049	78.86
	NIGERIA	48	133.414
	SRI LANKA DSR	18.691	27.058
	Product Total	432.49	670.278
NITRILE BUTADIENE RUBBER	U S A	142.341	400.26
	THAILAND	94.131	297.257
	MALAYSIA	67.96	60.974
	IRAN	56.82	116.313
	CHINA P RP	40	145.145
	Product Total	401.252	1019.949
BUTYL RUBBER	U ARAB EMTS	268.744	474.741
	SRI LANKA DSR	261.386	560.056
	NEPAL	91.801	92.506
	BANGLADESH PR	62.577	133.616
	VIETNAM SOC REP	8.568	16.597
	Product Total	693.076	1277.516
LINEAR ALKYL BENZENE	BANGLADESH PR	134.55	171.686
	NETHERLAND	127	87.065
	U ARAB EMTS	24.424	42.596
	NEPAL	12.295	15.217
	KENYA	10.55	16.549
	Product Total	308.819	333.113
ETHYLENE OXIDE	VIETNAM SOC REP	224	206.873
	THAILAND	161.629	289.226
	MALAYSIA	144.136	134.708
	INDONESIA	80	72.812
	SPAIN	75.05	380.642
	Product Total	684.815	1084.261

ABS RESIN	RUSSIA	94.675	93.512
	U S A	91.879	153.565
	CHINA P RP	85.039	83.122
	U ARAB EMTS	69.161	68.418
	INDONESIA	22.4	68.337
	Product Total	363.154	466.954
NYLON-6	JAPAN	3654.025	6068.789
	HONG KONG	2281.543	4186.074
	U S A	1229.643	2207.873
	SAUDI ARAB	1192.744	2391.513
	THAILAND	1104.606	2133.968
	Product Total	9462.561	16988.217
POLYMETHYL METHACRYLATE	NEPAL	1549.896	1497.486
	SRI LANKA DSR	707.71	542.477
	ISRAEL	675	1254.778
	TANZANIA REP	428.45	299.377
	TAIWAN	166.85	145.634
	Product Total	3527.906	3739.752
STYRENE ACRYLONITRILE	NIGERIA	120	79.396
	ETHIOPIA	100	74.278
	PHILIPPINES	47	77.487
	MALAWI	38	46.962
	LEBANON	35.2	16.554
	Product Total	340.2	294.677
POLYESTER CHIPS/PET CHIPS	ITALY	123057.55	104484.917
	U ARAB EMTS	110196.876	92821.675
	JAPAN	73944.3	62852.168
	BANGLADESH PR	58640.255	50202.945
	EGYPT A RP	50570.126	43542.398
	Product Total	416409.107	353904.103
POLYTETRAFLUOROETHYLENE(PTFE)	U S A	3939.185	27484.094
	GERMANY	3434.957	21910.781
	ITALY	1792.513	12258.323
	U K	527.774	4208.518
	JAPAN	418.856	3287.487
	Product Total	10113.285	69149.203
BUTADIENE	MALAYSIA	41915	36504.691
	KOREA RP	38050	30955.995
	INDONESIA	22347	18368.48
	TAIWAN	17067	14377.696
	CHINA P RP	15183	11709.436
	Product Total	134562	111916.298
ETHYLENE	CHINA P RP	110580.96	77832.478
	QATAR	67527	50447.152
	INDONESIA	10195	8263.608
	TAIWAN	4910	4103.053
	IRAN	6.5	5.123
	Product Total	193219.46	140651.414
PROPYLENE	SPAIN	16967	9344.021
	COLOMBIA	7042	4499.029
	INDONESIA	5621	3045.023
	CHINA P RP	5000	2520.529
	NETHERLAND	4660	2731.86
	Product Total	39290	22140.462
BENZENE	SAUDI ARAB	508906.41	262744.744
	CHINA P RP	325502.016	162482.947
	U S A	157252.326	70631.192
	SPAIN	145676.59	72799.071
	BELGIUM	115780	55599.666
	Product Total	1253117.342	624257.62

MIXED XYLENE	QATAR	447.34	309.079
	U ARAB EMTS	296.064	160.259
	PAKISTAN IR	80	47.207
	SRI LANKA DSR	42.004	27.571
	IRAQ	29.5	18.542
	Product Total	894.908	562.658
ORTHO-XYLENE	CHINA P RP	105051	55886.101
	TAIWAN	57996	31377.088
	INDONESIA	31965	18013.451
	PAKISTAN IR	24938	14049.854
	KOREA RP	3069	1762.266
	Product Total	223019	121088.76
TOLUENE	JORDAN	2506.836	1117.803
	U ARAB EMTS	2282.015	1377.667
	SAUDI ARAB	2197.008	1557.663
	PAKISTAN IR	1311	826.851
	KENYA	1190.9	807.517
	Product Total	9487.759	5687.501
PARAXYLENE	CHINA P RP	1450201.004	1061028.78
	MALAYSIA	370678	257270.006
	INDONESIA	310997	221001.129
	PAKISTAN IR	191656	138852.055
	THAILAND	178851	130140.786
	Product Total	2502383.004	1808292.756
ETHYLENE DICHLORIDE	U ARAB EMTS	9170	3085.735
	CHINA P RP	6799	957.619
	EGYPT A RP	3150	395.168
	SAUDI ARAB	60	32.923
	THAILAND	1.45	3.484
	Product Total	19180.45	4474.929
BUTANOL	QATAR	184.99	170.571
	NEPAL	82.709	69.404
	KENYA	66.224	51.647
	SRI LANKA DSR	36.298	30.148
	U S A	27.203	101.55
	Product Total	397.424	423.32
OXO ALCOHOL	CHINA P RP	2498.15	1037.463
	U S A	221.273	213.342
	NETHERLAND	137.001	113.86
	PAKISTAN IR	19.8	19.501
	JAPAN	14	14.244
	Product Total	2890.224	1398.41
2-ETHYL HEXANOL	TURKEY	2100	1806.132
	U ARAB EMTS	998	748.882
	KUWAIT	27.2	29.384
	U S A	14.7	13.748
	MEXICO	8.58	59.657
	Product Total	3148.48	2657.803
VINYL CHLORIDE MONOMER	U S A	0.003	2.904
	Product Total	0.003	2.904
EPICHLHYDRINE	BANGLADESH PR	26.18	39.331
	SOUTH AFRICA	18	36.443
	IRAN	2.76	5.581
	PAKISTAN IR	0.96	1.954
	ETHIOPIA	0.04	0.057
	Product Total	47.94	83.366
ISO BUTYLENE	GERMANY	0.022	0.813
	BHUTAN	0.003	0.03
	Product Total	0.025	0.843

METAXYLENE	QATAR	10	6.291
	DENMARK	3	264.926
	BELGIUM	1.5	8.675
	NEPAL	0.75	1.161
	TURKEY	0.18	0.828
	Product Total	15.43	281.881
METHYL ISOBUTYL KETONE	VIETNAM SOC REP	724.006	636.156
	U ARAB EMTS	557	446.807
	NIGERIA	356.075	361.669
	KENYA	97.051	84.807
	BANGLADESH PR	65.06	60.144
	Product Total	1799.192	1589.583
PIB	SINGAPORE	2059.4	1954.85
	U S A	791	887.141
	IRAN	223.25	359.735
	SRI LANKA DSR	198.415	208.158
	U ARAB EMTS	125.08	175.124
	Product Total	3397.145	3585.008
POLYCARBONATE	KOREA RP	1032.27	1194.476
	ITALY	919.025	1208.208
	GERMANY	297.51	376.891
	NETHERLAND	240.001	246.328
	TAIWAN	185.273	238.397
	Product Total	2674.079	3264.3
PROPYLENE GLYCOL	IRAN	1036.4	1198.698
	NEPAL	138.735	191.74
	BANGLADESH PR	97.18	226.32
	SRI LANKA DSR	87.04	117.722
	QATAR	52.735	73.704
	Product Total	1412.09	1808.184
POLYVINYL ACETATE RESIN	U S A	2122.134	2821.502
	NEPAL	819.958	546.769
	NIGERIA	718.06	421.743
	TURKEY	705.6	840.863
	BELGIUM	637.15	718.878
	Product Total	5002.902	5349.755
UNSATURATED POLYSTER RESIN	QATAR	2784.644	4149.939
	NEPAL	1400.697	1519.421
	BANGLADESH PR	1175.448	2115.998
	MALAYSIA	788.985	1296.14
	AUSTRALIA	771.813	1048.747
	Product Total	6921.587	10130.245
ETHYL BENZENE	PHILIPPINES	0.001	0.007
	U ARAB EMTS	0.001	0.039
	Product Total	0.002	0.046
CELLULOSE ACETATE BUTYRATE	RUSSIA	0.7	15.143
	Product Total	0.7	15.143
CELLULOSE ACETATE SHEET	THAILAND	20.621	76.002
	MEXICO	0.855	1.945
	NEPAL	0.29	0.91
	BHUTAN	0.03	0.084
	PHILIPPINES	0.001	0.259
	Product Total	21.797	79.2
CELLULOSE NITRATE SHEET	NEPAL	6.54	21.026
	SOUTH AFRICA	0.416	2.337
	ZIMBABWE	0.1	0.564
	Product Total	7.056	23.927
MELAMINE MOULDING POWDER	NEPAL	15371.354	3323.5
	U ARAB EMTS	256.882	272.961
	BHUTAN	177.775	41.364
	NIGERIA	139.002	156.568
	BANGLADESH PR	83.288	90.867
	Product Total	16028.301	3885.26

POLYACETAL RESIN	JAPAN	105.24	83.981
	CHINA P RP	42.24	50.183
	NEPAL	39.245	48.574
	BANGLADESH PR	28.047	47.807
	U S A	22.783	75.696
	Product Total	237.555	306.241
PHTHALIC ANHYDRIDE	SAUDI ARAB	9822.002	7303.806
	U ARAB EMTS	8242	5742.632
	EGYPT A RP	1233.011	803.462
	BANGLADESH PR	1044	764.961
	TUNISIA	1033.001	699.101
	Product Total	21374.014	15313.962
STYRENE	U ARAB EMTS	4280.215	4220.228
	PAKISTAN IR	988.02	1022.143
	SRI LANKA DSR	880.37	1007.493
	NIGERIA	115	129.731
	KENYA	100.14	110.802
	Product Total	6363.745	6490.397
VINYL ACTATE MONOMER	EGYPT A RP	2581	2190.205
	BELGIUM	2437	1896.188
	U ARAB EMTS	1106	803.358
	TUNISIA	1001	749.063
	BANGLADESH PR	256.185	208.641
	Product Total	7381.185	5847.455
ISOPROPANOL	U ARAB EMTS	1343.747	980.369
	IRAN	585.2	510.482
	SRI LANKA DSR	503.593	409.234
	AUSTRALIA	498	388.207
	U S A	450.509	358.44
	Product Total	3381.049	2646.732
POLYOL	INDONESIA	2548.596	4273.835
	CHINA P RP	1904.809	2913.074
	SINGAPORE	1879.51	5479.038
	BANGLADESH PR	1676.241	2516.865
	U ARAB EMTS	1551.81	1970.333
	Product Total	9560.966	17153.145

Note: Data sources in respect of Imports & Exports is DGCI, Kolkata M/o Commerce and industry.

Table 28:- TOP FIVE IMPORT DESTINATIONS OF SELECTED PETROCHEMICALS DURING 2018-19			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ACRYLIC FIBRE	GERMANY	12048.194	20477.923
	THAILAND	8799.514	14254.39
	NEPAL	4745.656	10554.313
	JAPAN	2666.855	6082.384
	BELARUS	2195.471	3510.556
	Product Total	30455.69	54879.566
NYLON FILAMENT YARN	CHINA P RP	7674.32	17426.658
	VIETNAM SOC REP	6733.415	13740.452
	TAIWAN	2964.211	6306.355
	KOREA RP	1953.407	3759.721
	BELGIUM	700.922	1754.458
	Product Total	20026.275	42987.644
NYLON INDUSTRIAL YARN/TYRE CORD	CHINA P RP	5131.362	10435.647
	LITHUANIA	1151.655	2210.688
	BELARUS	643.584	1234.408
	KOREA RP	315.121	232.187
	INDONESIA	274.215	531.107
	Product Total	7515.937	14644.037
POLYESTER FILAMENT YARN	CHINA P RP	36127.916	45748.547
	INDONESIA	17721.698	23157.609
	KOREA RP	9657.563	13673.027
	TAIWAN	6042.501	8873.544
	THAILAND	3984.869	8655.172
	Product Total	73534.547	100107.899
POLYESTER STAPLE FIBRE	CHINA P RP	50468.179	45874.58
	KOREA RP	13974.197	15844.562
	INDONESIA	9150.808	9373.461
	VIETNAM SOC REP	4935.992	3660.629
	THAILAND	4370.354	4022.002
	Product Total	82899.53	78775.234
POLYPROPYLENE FILAMENT YARN	TURKEY	1267.981	1803.484
	TAIWAN	53.903	95.759
	SAUDI ARAB	15.586	18.102
	BELGIUM	13.948	30.712
	CHINA P RP	9.883	13.519
	Product Total	1361.301	1961.576
POLYPROPYLENE STAPLE FIBRE	SAUDI ARAB	2471.517	2770.09
	CHINA P RP	413.633	495.682
	U ARAB EMTS	302.216	374.283
	BELGIUM	106.976	148.668
	KOREA RP	21	30.32
	Product Total	3315.342	3819.043
Elastomeric/Spandex Filament Yarn	VIETNAM SOC REP	15219.826	56682.061
	KOREA RP	2828.653	11239.093
	SINGAPORE	2556.965	16055.864
	CHINA P RP	1551.516	7849.897
	THAILAND	379.724	1989.402
	Product Total	22536.684	93816.317
ACRYLONITRILE	U S A	41154	55185.378
	KOREA RP	34611.046	47923.12
	NETHERLAND	28797.95	38180.634
	BRAZIL	24241	34623.976
	TURKEY	20016.75	24961.08
	Product Total	148820.746	200874.188

CAPROLACTUM	KOREA RP	24144	36711.749
	RUSSIA	22250	32523.056
	POLAND	6850.4	10460.259
	TAIWAN	4608	6899.019
	NETHERLAND	3600.24	5789.514
	Product Total	61452.64	92383.597
DIMETHYL TEREPHTHALATE	KOREA RP	702	553.535
	TURKEY	694	521.576
	GERMANY	56	42.734
	ISRAEL	2.5	17.775
	CHINA P RP	0.06	1.286
	Product Total	1454.56	1136.906
MONO EHYLENE GLYCOL	KUWAIT	337148.434	192408.188
	SAUDI ARAB	205912.929	122662.426
	SINGAPORE	51842.483	30804.527
	U ARAB EMTS	27795.73	18517.096
	JAPAN	11019.349	6435.632
	Product Total	633718.925	370827.869
PURIFIED TEREPHTHALIC ACID	THAILAND	249053	149810.701
	TAIWAN	167646.6	95209.72
	KOREA RP	79232	47450.387
	CHINA P RP	70344.4	46514.458
	MALAYSIA	2794	1396.691
	Product Total	569070	340381.957
LOW DENSITY POLYETHYLENE	U ARAB EMTS	50800.586	41102.099
	SAUDI ARAB	48499.295	38650.084
	SINGAPORE	47080.005	41126.961
	QATAR	40996.23	33598.208
	U S A	35259.873	30752.87
	Product Total	222635.989	185230.222
HIGH DENSITY POLYTHYLENE	U ARAB EMTS	274449.569	260750.851
	SINGAPORE	123366.849	115451.182
	QATAR	116785.822	109095.65
	SAUDI ARAB	113890.867	101947.925
	U S A	68164.552	64361.602
	Product Total	696657.659	651607.21
POLYESTYRENE	U ARAB EMTS	16907.245	15597.762
	KOREA RP	7228.273	11975.791
	TAIWAN	5750.158	6646.352
	U S A	5747.637	7649.984
	SINGAPORE	4469.311	7122.762
	Product Total	40102.624	48992.651
POLYPROPYLENE (INC. CO-POLYMER)	U ARAB EMTS	186250.426	164872.677
	SINGAPORE	186008.555	189411.334
	SAUDI ARAB	143332.439	127754.481
	THAILAND	79122.393	78342.088
	KOREA RP	74274.859	80172.101
	Product Total	668988.672	640552.681
EXPANDABLE POLYESTYRENE	CHINA P RP	654.047	726.888
	TAIWAN	232.5	264.589
	U S A	96.939	144.18
	U ARAB EMTS	83.875	110.634
	IRAN	75	83.233
	Product Total	1142.361	1329.524
POLY VINYL CHLORIDE	KOREA RP	404719.772	274315.804
	TAIWAN	395560.525	265104.075
	JAPAN	367129.247	247599.525
	CHINA P RP	125396.611	83687.658
	U S A	96318.553	58839.021
	Product Total	1389124.708	929546.083

LINEAR LOW DENSITY POLYTHYLENE	U ARAB EMTS	74884.994	60057.034
	QATAR	53810.496	42836.11
	SAUDI ARAB	46045.779	36739.715
	SINGAPORE	34943.591	29101.366
	KUWAIT	12430.05	9804.613
	Product Total	222114.91	178538.838
PVC COMPOUND	THAILAND	2817.81	4379.179
	PORTUGAL	1634.35	2245.757
	BELGIUM	1119.78	186.097
	GERMANY	916.426	945.57
	CHINA P RP	757.965	888.111
	Product Total	7246.331	8644.714
STYRENE BUTADIENE RUBBER	KOREA RP	54639.442	66213.728
	POLAND	22800.936	25892.929
	SINGAPORE	7224.764	12973.322
	GERMANY	5283.478	7405.701
	JAPAN	4832.47	7431.808
	Product Total	94781.09	119917.488
POLY BUTADIENE RUBBER	KOREA RP	51792.165	69169.08
	SINGAPORE	14462.413	19751.516
	SAUDI ARAB	6571.401	8443.156
	U ARAB EMTS	5128.84	6033.027
	RUSSIA	4956.28	5766.036
	Product Total	82911.099	109162.815
ETHYL PROPYLENE DIMERS	U S A	12927.914	18277.792
	JAPAN	11352.468	19751.441
	KOREA RP	10777.28	15483.465
	SINGAPORE	3026.707	4536.174
	SAUDI ARAB	2884.682	3676.619
	Product Total	40969.051	61725.491
ETHYL VINYL ACETATE	KOREA RP	77599.85	87222.125
	SAUDI ARAB	42457.651	43580.793
	THAILAND	21230.975	24943.211
	BELGIUM	11585.893	12893.906
	U S A	4547.5	4639.94
	Product Total	157421.869	173279.975
NITRILE BUTADIENE RUBBER	KOREA RP	18344.012	31080.308
	JAPAN	3709.545	7794.129
	RUSSIA	3237.714	5331.923
	MALAYSIA	2481.427	4868.883
	FRANCE	2469.048	7303.582
	Product Total	30241.746	56378.825
BUTYL RUBBER	RUSSIA	46597.283	69759.835
	SINGAPORE	34378.999	61757.845
	U ARAB EMTS	13525.555	21204.823
	BELGIUM	7832.942	15048.227
	U S A	6177.703	11727.294
	Product Total	108512.482	179498.024
LINEAR ALKYL BENZENE	SAUDI ARAB	86809.12	83320.989
	QATAR	60166.63	53016.341
	THAILAND	41460.99	39081.221
	IRAN	17066.004	14261.592
	JAPAN	4552.23	4354.349
	Product Total	210054.974	194034.492

ETHYLENE OXIDE	U S A	24.5	397.995
	ARGENTINA	0.09	17.911
	SINGAPORE	0	0.01
	Product Total	24.59	415.916
ABS RESIN	KOREA RP	86097.869	124946.349
	THAILAND	7860.8	13700.01
	TAIWAN	7557.415	9811.179
	SAUDI ARAB	5282.25	5809.966
	MALAYSIA	4331.723	6344.78
	Product Total	111130.057	160612.284
NYLON-6	TAIWAN	68058.057	115215.902
	RUSSIA	33700.7	53418.03
	KOREA RP	31094.505	61206.177
	U S A	18442.79	39084.926
	CHINA P RP	16085.688	49068.26
	Product Total	167381.74	317993.295
POLYMETHYL METHACRYLATE	KOREA RP	10559.416	22697.737
	SINGAPORE	6821.856	10868.876
	JAPAN	3012.661	6278.068
	CHINA P RP	2754.845	3247.093
	SAUDI ARAB	942.5	1604.277
	Product Total	24091.278	44696.051
STYRENE ACRYLONITRILE	KOREA RP	5506.925	6820.225
	JAPAN	926.51	1117.94
	GERMANY	742.983	1048.568
	THAILAND	589.563	740.669
	CHINA P RP	504	586.209
	Product Total	8269.981	10313.611
POLYESTER CHIPS/PET CHIPS	CHINA P RP	154995.015	129937.149
	BANGLADESH PR	48750.088	18134.218
	U S A	12036.853	5315.545
	SINGAPORE	11033.96	6408.564
	PAKISTAN IR	10572.094	4098.372
	Product Total	237388.01	163893.848
POLYTETRAFLUOROETHYLENE(PTFE)	CHINA P RP	1037.278	7499.427
	KOREA RP	462.544	2605.922
	U S A	457.853	3941.909
	NETHERLAND	414.153	3729.88
	ITALY	262.298	1699.481
	Product Total	2634.126	19476.619
BUTADIENE	NETHERLAND	1000	1207.375
	TAIWAN	14.93	22.067
	CHINA P RP	14	56.97
	EGYPT A RP	13.05	7.67
	GERMANY	4.321	37.016
	Product Total	1046.301	1331.098
ETHYLENE	ITALY	17989.05	14537.893
	SAUDI ARAB	16199	13945.716
	SINGAPORE	9855.031	8235.348
	FRANCE	6629	5386.522
	INDONESIA	6501	5485.05
	Product Total	57173.081	47590.529
PROPYLENE	MALAYSIA	4709	2676.04
	U ARAB EMTS	3000	1683.016
	CHINA P RP	359.6	1504.223
	U S A	0.322	11.796
	HONG KONG	0.135	0.761
	Product Total	8069.057	5875.836

BENZENE	U ARAB EMTS	20166	11605.477
	IRAN	2029	1168.128
	BELGIUM	68	36.402
	U S A	0.75	6.239
	GERMANY	0.02	1.476
	Product Total	22263.77	12817.722
MIXED XYLENE	KOREA RP	455	243.208
	U ARAB EMTS	99.36	78.529
	BELGIUM	56.004	58.007
	NETHERLAND	28	28.569
	GERMANY	1.741	17.53
	Product Total	640.105	425.843
ORTHO-XYLENE	U ARAB EMTS	7147	4339.291
	IRAN	5168	3384.354
	U S A	3284.035	2438.804
	BRAZIL	3147	2440.294
	BELGIUM	1952.049	1217.942
	Product Total	20698.084	13820.685
TOLUENE	SINGAPORE	171172.001	91424.021
	THAILAND	108352	60248.106
	U ARAB EMTS	86120.7	46295.872
	IRAN	29737	15466.422
	MALAYSIA	22863	12650.619
	Product Total	418244.701	226085.04
PARAXYLENE	JAPAN	384464.656	296557.377
	SINGAPORE	294012.13	239885.33
	KUWAIT	70060	49507.365
	SAUDI ARAB	68997.39	47127.063
	KOREA RP	10401.192	7384.123
	Product Total	827935.368	640461.258
ETHYLENE DICHLORIDE	SAUDI ARAB	262372.15	64151.27
	U S A	160604.483	38473.396
	QATAR	126283	30516.904
	SWITZERLAND	14474	3176.342
	U ARAB EMTS	10609	3749.747
	Product Total	574342.633	140067.659
BUTANOL	MALAYSIA	12957	9425.939
	SINGAPORE	11954	8868.646
	SOUTH AFRICA	7875	5388.27
	TAIWAN	7197.95	5455.513
	RUSSIA	5124	3508.035
	Product Total	45107.95	32646.403
OXO ALCOHOL	SINGAPORE	1119.216	2954.596
	THAILAND	562.27	1479.828
	GERMANY	369.867	1058.822
	INDONESIA	177.07	479.998
	PHILIPPINES	168.1	443.505
	Product Total	2396.523	6416.749
2-ETHYL HEXANOL	SINGAPORE	18688.035	15703.625
	U S A	10674	8608.944
	MALAYSIA	10108.15	8199.733
	NETHERLAND	5599	4660.065
	INDONESIA	3209	2577.687
	Product Total	48278.185	39750.054
VINYL CHLORIDE MONOMER	QATAR	303778.943	165136.962
	JAPAN	68380	38838.645
	INDONESIA	35353.803	20292.433
	GERMANY	14202	7974.948
	CHINA P RP	13812	8227.884
	Product Total	435526.746	240470.872

EPICHLHYDRINE	THAILAND	39036.825	48884.747
	TAIWAN	7648.03	9787.971
	CHINA P RP	6449.258	8582.287
	KOREA RP	5298.566	7403.09
	NETHERLAND	2768.16	3498.551
	Product Total	61200.839	78156.646
ISO BUTYLENE	KOREA RP	19758.07	18158.347
	SINGAPORE	11278	10490.033
	QATAR	8945	7280.474
	TAIWAN	3560	3315.971
	THAILAND	992.624	936.437
	Product Total	44533.694	40181.262
METAXYLENE	JAPAN	2355.47	2676.797
	TAIWAN	549.75	583.151
	THAILAND	35.83	39.051
	KOREA RP	1.225	0.662
	CHINA P RP	0.36	0.334
	Product Total	2942.635	3299.995
METHYL ISOBUTYL KETONE	KOREA RP	19464.58	15980.448
	SOUTH AFRICA	5097	3764.516
	JAPAN	4509	3601.766
	U S A	2184.672	1831.207
	NETHERLAND	1044	921.363
	Product Total	32299.252	26099.3
PIB	KOREA RP	9874.874	11230.613
	U S A	4431.691	5192.18
	FRANCE	692.03	1189.215
	BRAZIL	345.49	361.014
	JAPAN	209.919	434.498
	Product Total	15554.004	18407.52
POLYCARBONATE	THAILAND	88633.211	169495.375
	KOREA RP	39311.453	82478.395
	SPAIN	13048.582	22716.033
	NETHERLAND	12322.336	22292.251
	SAUDI ARAB	10471.315	19982.917
	Product Total	163786.897	316964.971
PROPYLENE OXIDE	SINGAPORE	17842.45	19588.048
	SAUDI ARAB	4906	5276.632
	KOREA RP	2441.08	3436.249
	TAIWAN	1345.381	1949.383
	CHINA P RP	262	416.516
	Product Total	26796.911	30666.828
PROPYLENE GLYCOL	SINGAPORE	17385.475	18316.454
	CHINA P RP	16749.726	16454.686
	SAUDI ARAB	13076.78	12614.789
	KOREA RP	6426.949	7207.697
	THAILAND	5294.98	6156.668
	Product Total	58933.91	60750.294
POLYVINYL ACETATE RESIN	GERMANY	733.855	827.748
	BELGIUM	714.815	977.316
	CHINA P RP	609.975	834.099
	INDONESIA	303.43	253.076
	TAIWAN	104.9	184.183
	Product Total	2466.975	3076.422
UNSATURATED POLYSTER RESIN	CHINA P RP	11937.131	14998.915
	TAIWAN	9127.834	9974.307
	SINGAPORE	7754.028	6858.688
	U ARAB EMTS	4914.294	6761.569
	ITALY	3128.659	5352.21
	Product Total	36861.946	43945.689

ETHYL BENZENE	CHINA P RP	557.604	635.822
	GERMANY	59.981	81.812
	SINGAPORE	49	21.643
	KOREA RP	36	41.681
	NETHERLAND	16	23.454
	Product Total	718.585	804.412
CELLULOSE ACETATE BUTYRATE	GERMANY	0.201	0.48
	Product Total	0.201	0.48
CELLULOSE ACETATE SHEET	CHINA P RP	734.762	629.295
	ITALY	713.3	326.996
	HONG KONG	54.643	115.98
	TAIWAN	11.94	33.221
	U S A	0.95	12.819
	Product Total	1515.595	1118.311
CELLULOSE NITRATE SHEET	JAPAN	93.57	327.255
	CHINA P RP	11.757	36.077
	U S A	0.433	31.822
	NETHERLAND	0.002	0.628
	GERMANY	0	0.017
	Product Total	105.762	395.799
MELAMINE MOULDING POWDER	THAILAND	5972.015	6855.711
	TAIWAN	2107.637	2432.727
	CHINA P RP	2103.597	2396.886
	JAPAN	1655.395	2361.058
	U S A	956.323	1708.981
	Product Total	12794.967	15755.363
POLYACETAL RESIN	MALAYSIA	14308.971	17043.962
	KOREA RP	13459.973	16505.063
	THAILAND	7239.123	8196.711
	SINGAPORE	4003.406	5096.063
	U S A	2543.358	2860.903
	Product Total	41554.831	49702.702
PHTHALIC ANHYDRIDE	KOREA RP	49080.76	36430.412
	TAIWAN	20016	14962.652
	INDONESIA	16492	12652.389
	THAILAND	14839.12	11810.736
	RUSSIA	11171.4	7607.111
	Product Total	111599.28	83463.3
STYRENE	SINGAPORE	274172.347	254792.5
	KUWAIT	148564	142757.698
	SAUDI ARAB	113702	105447.618
	KOREA RP	106023	92628.925
	U S A	103145	86755.861
	Product Total	745606.347	682382.602
VINYL ACTATE MONOMER	SINGAPORE	94541.921	76987.085
	CHINA P RP	38496.44	28955.257
	SAUDI ARAB	37836	29622.003
	HONG KONG	400	237.6
	U S A	31.344	20.772
	Product Total	171305.705	135822.717
ISOPROPANOL	CHINA P RP	61536.4	41591.02
	KOREA RP	20054.004	13658.589
	TAIWAN	18633.025	13405.23
	U S A	16950.645	13043.516
	SINGAPORE	9915.007	6415.052
	Product Total	127089.081	88113.407
POLYOL	CHINA P RP	70229.795	86963.65
	KOREA RP	34501.637	50462.49
	SINGAPORE	28575.433	39540.292
	THAILAND	27042.342	34861.179
	TAIWAN	20091.415	24166.097
	Product Total	180440.622	235993.708

Note: Data sources in respect of Imports & Exports is DGCI, Kolkata M/o Commerce and industry.

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

MONTH	RS./US\$
November-19	71.45
October-19	71.04
September-19	71.33
August-19	71.15
July-19	68.81
June-19	69.44
May-19	69.77
April-19	69.43
March-19	69.48
February-19	71.22
January-19	70.73
December-18	70.73
November-18	71.85
October-18	73.63
September-18	72.22
August-18	69.55
July-18	68.69
June-18	67.79
May-18	67.54
April-18	65.64
March-18	65.02
February-18	64.37
January-18	63.64
December-17	64.24
November-17	64.86
October-17	65.08
September-17	64.44
August-17	63.97
July-17	64.46
June-17	64.44
May-17	64.42
April-17	64.51
March-17	65.88
February-17	67.08
January-17	68.08
December-16	67.90
November-16	67.63
October-16	66.75
September-16	66.74

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

MONTH	RS./US\$
August-16	66.94
July-16	67.21
June-16	67.30
May-16	66.91
April-16	66.47

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>
(information up to 17.12.2019)*

2. <https://www.fbil.org.in> (informtion from 17.12.2019)

Table 30:- World Exports of Chemicals by top 10 countries- 2018

Rank	Value in US\$ Million									
	HS Code									
	28		29		30		31		32	
	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value
1st	China	20183227097	China	59795622765	Germany	96944936152	Russian Federat	8225603849	Germany	13759689498
2nd	USA	13108725548	USA	41592451117	Switzerland	75199910701	China	7027789220	USA	8430478319
3rd	Germany	9593801758	Belgium	37661888987	Ireland	53490500696	Canada	5550110230	China	7782236841
4th	Japan	5849454528	Ireland	33127796555	USA	53393490963	USA	5168262211	Japan	4953119881
5th	Rep. of Korea	5500930363	Germany	27448484604	Belgium	47541519815	Belarus	3224706300	Belgium	4377804394
6th	Brazil	4185990922	Rep. of Korea	25339254470	Italy	38689817804	Morocco	3169660873	Netherlands	4015401658
7th	Netherlands	4108264269	Switzerland	20761280154	France	33851774643	Belgium	2270591545	United Kingdom	3692428734
8th	Belgium	4095775309	Netherlands	19504555261	United Kingdom	32261277197	Germany	2125344780	Italy	3660502360
9th	Canada	3745397440	Japan	18930141468	Netherlands	22121318692	Netherlands	1940293704	Spain	3296416165
10th	France	3662196402	India	17778489932	Denmark	14435688426	Qatar	1475836854	France	3238391055
World Export		122635084268		438729568179		600000309810		58008851726		85422032808

Table - 30 : World Exports of Chemicals by top 10 countries- 2018

Value in US\$ Million

Rank	HS Code									
	38		39		4002		54		55	
	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value
1st	USA	31727433430	China	80135877181	Rep. of Korea	3102833294	China	20499923882	China	12692241685
2nd	Germany	27209152970	USA	70342296763	USA	2781637366	Other Asia, nes	2954803200	USA	2352133380
3rd	China	18141958734	Germany	65637543033	Thailand	2464245439	Rep. of Korea	2942098970	Indonesia	2177394682
4th	France	13163719237	Rep. of Korea	34914801198	Japan	2455017456	India	2269470445	Rep. of Korea	1985745921
5th	Japan	11881095778	Belgium	32758443733	Russian Federation	1722378236	Italy	2179941009	India	1910151323
6th	Netherlands	11710609818	Japan	26134306547	Germany	1719441484	Japan	2164669512	Turkey	1516412732
7th	Belgium	9494169299	Netherlands	25583251308	Belgium	1406057565	USA	1917863256	Thailand	1401086598
8th	United Kingdom	6995652671	Italy	22902831539	Other Asia, nes	1254632748	Germany	1685658887	Austria	1304214746
9th	Italy	6353655796	France	22550933803	Singapore	1174522732	Turkey	1614480289	Japan	1210927639
10th	Singapore	6352647528	Other Asia, nes	22414684205	Malaysia	960955333	United Arab Emirates	1438686239	Italy	1146392238
World Export		212210428273		647181813937		24146118649		50249129656		37546419300

Table - 30 : World Exports of Chemicals by top 10 countries- 2018

Value in US\$ Million

HS Code				
All Chemicals			All Chemicals excluding Pharmaceuticals	
Rank	Country	Trade Value	Country	Trade Value
1st	Germany	247255487809	China	226975020142
2nd	China	235841162486	USA	177421281390
3rd	USA	230814772353	Germany	150310551657
4th	Belgium	141432992324	Belgium	93891472509
5th	Switzerland	105736468871	Rep. of Korea	81257590319
6th	Ireland	94054191790	Japan	73700971812
7th	France	90595701381	Netherlands	67763858570
8th	Netherlands	89885177262	France	56743926738
9th	Italy	86928007362	Italy	48238189558
10th	Rep. of Korea	84736611559	Other Asia, nes	46635815759
	World Export	2276129756606	World Export	1676129446796

@-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; Chapter 30: 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)

Date : 09.12.2019

Table 31:- World Imports of Chemicals by top 10 countries- 2018

Rank	Value in US\$ Million									
	HS Code									
	28		29		30		31		32	
	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value
1st	USA	13361	China	67713	USA	115635	Brazil	8619	Germany	7244
2nd	China	10889	USA	54598	Germany	58019	USA	7136	China	5062
3rd	Rep. of Korea	9259	Germany	46445	Belgium	40703	India	5929	USA	4567
4th	Japan	8528	Belgium	37332	United Kingdom	33137	China	2733	France	3929
5th	Germany	8137	India	22586	Switzerland	29985	France	2148	Italy	3009
6th	India	7269	Japan	18206	China	27907	Indonesia	1904	United Kingdom	2903
7th	Canada	4405	Italy	16917	Italy	26902	Thailand	1724	Belgium	2842
8th	France	4318	France	16328	Japan	25497	Australia	1634	Rep. of Korea	2805
9th	Russian Federation	3809	Rep. of Korea	14214	France	25447	Mexico	1567	Netherlands	2739
10th	United Kingdom	3389	Netherlands	13836	Spain	15703	Canada	1375	Mexico	2481
World Import		135395		474440		606203		63207		82274

Table - 31 : World Imports of Chemicals by top 10 countries- 2018

Rank	HS Code									
	38		39		4002		54		55	
	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value
1st	China	18283	China	76742	China	7647	China	3315	China	2651
2nd	Germany	16603	USA	61848	USA	1624	USA	2371	Turkey	2016
3rd	USA	15285	Germany	49005	Germany	1380	Turkey	2160	USA	1885
4th	France	9555	France	26285	Malaysia	1225	Germany	1832	Germany	1818
5th	Netherlands	8782	Mexico	25295	Thailand	1203	Indonesia	1745	Indonesia	1486
6th	Rep. of Korea	8611	Italy	22250	Belgium	1168	Italy	1666	Italy	1266
7th	Belgium	7047	Belgium	20064	India	1130	Brazil	1354	Brazil	989
8th	Italy	6796	United Kingdom	19535	Indonesia	721	Mexico	1152	Myanmar	933
9th	Other Asia, nes	6554	Canada	17083	Italy	695	Egypt	1152	India	923
10th	United Kingdom	6029	Japan	16902	France	641	Rep. of Korea	1080	Egypt	819
World Import		211094		636283		26841		37866		31931

Table - 31 : World Imports of Chemicals by top 10 countries- 2018

Value in US\$ Million

Rank	HS Code			
	All Chemicals		All Chemicals excluding Pharmaceuticals	
	Country	Trade Value	Country	Trade Value
1st	USA	278308	China	195035
2nd	China	222942	USA	162674
3rd	Germany	191576	Germany	133557
4th	Belgium	115113	Belgium	74410
5th	France	90262	France	64815
6th	Italy	82771	India	62080
7th	Japan	79382	Italy	55869
8th	United Kingdom	79070	Japan	53885
9th	India	64144	Rep. of Korea	49658
10th	Netherlands	60920	Mexico	49325
	World Import	2305534	World Import	1699332

@-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)

Date : 09.12.2019

Table 32:- India's share in World Exports and Imports of Chemicals-2018

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		
28	INORGANIC CHEMICALS	2031	122635	1.66	19	7269	135395	5.37	6
29	ORGANIC CHEMICALS	17778	438730	4.05	10	22586	474440	4.76	5
30	PHARMACEUTICAL PRODUCTS	14300	600000	2.38	11	2064	606203	0.34	42
31	FERTILISERS.	136	58009	0.23	47	5929	63207	9.38	3
32	TANNING OR DYEING	3234	85422	3.79	11	2179	82274	2.65	13
38	MISCELLANEOUS CHEMICAL PRODUCTS.	4422	212210	2.08	15	5938	211094	2.81	7
39	PLASTIC AND ARTICLES THEREOF.	7865	647182	1.22	22	15188	636283	2.39	13
4002	SYNTHETIC RUBBER AND FACTICE	108	24146	0.45	25	1130	26841	4.21	6
54	MAN-MADE FILAMENTS.	2269	50249	4.52	4	939	37866	2.48	11
55	MAN-MADE STAPLE FIBRES.	1910	37546	5.09	5	923	31931	2.89	9
All Chemicals @		54055	2276130	2.37	13	64144	2305534	2.78	9
Chemicals (excluding Pharmaceutical products)		39754	1676129	2.37	14	62080	1699332	3.65	6
Total of all HS code commodities		322492	19097410	1.69	19	507616	18937315	2.68	10

@-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; Chapter 30: 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)

Table 33:- Sectors Attracting Highest FDI Equity Inflows during 2017-18 to 2019-20 (March, 20)

Amount in Rs. crores (US\$ in million)

Ranks	Sector	2017-18 (April – March)	2018-19 (April – March)
1.	SERVICES SECTOR **	43,249 (6,709)	63,909 (9,158)
2.	COMPUTER SOFTWARE & HARDWARE	39,670 (6,153)	45,297 (6,415)
3.	TELECOMMUNICATIONS	39,748 (6,212)	18,337 (2,668)
4.	TRADING	28,078 (4,348)	30,963 (4,462)
5.	CONSTRUCTION DEVELOPMENT: Townships, housing, built-up infrastructure and construction- development projects	3,472 (540)	1,503 (213)
6.	AUTOMOBILE INDUSTRY	13,461 (2,090)	18,309 (2,623)
7.	CHEMICALS (OTHER THAN FERTILIZERS)	8,425 (1,308)	13,685 (1,981)
8.	CONSTRUCTION (INFRASTRUCTURE) ACTIVITIES	17,571 (2,730)	15,927 (2,258)
9.	DRUGS & PHARMACEUTICALS	6,502 (1,010)	1,842 (266)
10	HOTEL & TOURISM	7,279 (1,132)	7,590 (1,076)

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

(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.

Section – V

Index of Industrial Production

Table 34:- Monthly Production Growth in 'Chemicals and Chemical Products' vis-a-vis Manufacturing Sector during April 2018 to March 2019 (Based on Index of Industrial Production with Base year: 2011-12)

Period	Chemicals and chemical products	Manufacturing	General
Weight	7.87	77.63	100.00
Production Growth (%)			
Apr-18	-11.0	-12.2	-12.6
May-18	6.2	5.7	5.7
Jun-18	-2.8	-1.2	-1.5
Jul-18	-0.1	-0.8	-1.6
Aug-18	8.2	2.4	1.8
Sep-18	-4.5	0.8	0.6
Oct-18	-1.9	1.7	3.1
Nov-18	-6.0	-5.3	-5.0
Dec-18	10.4	7.1	6.2
Jan-19	1.1	-0.2	0.4
Feb-19	-9.8	-4.6	-5.1
Mar-19	15.5	11.8	12.9
Index of Industrial Production (Base : 2011-12=100)			
Mar-18	126.9	140.2	140.3
Apr-18	112.9	123.1	122.6
May-18	119.9	130.1	129.6
Jun-18	116.5	128.6	127.7
Jul-18	116.4	127.6	125.7
Aug-18	126.0	130.6	128.0
Sep-18	120.3	131.6	128.8
Oct-18	118.0	133.9	132.8
Nov-18	110.9	126.8	126.1
Dec-18	122.4	135.8	133.9
Jan-19	123.7	135.5	134.4
Feb-19	111.6	129.3	127.6
Mar-19	128.9	144.6	144.1

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation as on 11.12.2019

Table 35:- Annual Production Growth in Chemicals and Chemical Products Vis -a-Vis Manufacturing Sector during 2013-14 to 2018-19 (Based on Index on Industrial Production with Base year: 2011-12)

Years	Chemicals and Chemical Products	Manufacturing	General
Weight	7.87	77.63	100.00
Production Growth (%)			
2013-14	4.7	3.6	3.3
2014-15	0.4	3.8	4.0
2015-16	4.1	2.8	3.3
2016-17	2.5	4.4	4.6
2017-18	-0.3	4.6	4.4
2018-19	2.5	3.9	3.8
Index of Industrial Production (Base: 2011-12=100)			
2012-13	103.9	104.8	103.3
2013-14	108.8	108.6	106.7
2014-15	109.2	112.7	111.0
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

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation as on 11.12.2019

Table 36:- Weights of Products Covered Under Chemical and Chemical Products (Industry Division 20 of NIC- 2008)

NIC 2008	Item groups	Weights (in %)	Name of Source Agencies
20111	Oxygen	0.0423	DIPP
20112	Acetic Acid	0.0191	DCPC
20112	Phosphoric acid	0.0157	DIPP
20112	Purified Terephthalic Acid (PTA)	0.3512	DCPC
20112	Sulphuric Acid	0.0479	DIPP
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	DIPP
20118	Aromatic Chemicals	0.0806	DIPP
20119	Aniline	0.0154	DCPC
20119	Butadiene	0.0335	DCPC
20119	Catalyst, chemical	0.0415	DIPP
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	DIPP
20121	Urea	0.5590	D/o Fertilizers
20122	NPK fertilizers	0.3897	D/o Fertilizers
20123	Ammonia	0.2101	DIPP
20123	Ammonium nitrate	0.0118	DIPP
20123	Ammonium sulphate	0.0261	DIPP
20123	Formaldehyde	0.0121	DCPC
20123	Nitric Acid	0.0181	DIPP
20129	Diammonium Phosphate (DAP)	0.0761	D/o Fertilizers
20129	Superphosphate	0.0332	D/o Fertilizers

Table 36:- Weights of Products Covered Under Chemical and Chemical Products (Industry Division 20 of NIC- 2008)

NIC 2008	Item groups	Weights (in %)	Name of Source Agencies
20131	Polyester chips or Polyethylene terephthalate(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	DIPP
20211	Pesticides-technical grade	0.2116	DCPC
20221	Paints (all types)	0.3874	DIPP
20221	Varnish (all types)	0.0209	DIPP
20223	Printing ink	0.0795	DIPP
20229	Thinner	0.0110	DIPP
20231	Toilet soap (excl. baby soap)- incl. liquid soap and foam	0.6078	DIPP
20232	Organic surface active agents/ surfactants, except soap (incl. dishwashing soaps, wetting and cleansing agents)	0.1378	DIPP
20233	Detergent cake, washing soap cake/ bar	0.4607	DIPP
20235	Tooth paste	0.3223	DIPP
20236	Hair dye	0.0468	DIPP
20236	Hair oil	0.0556	DIPP
20236	Hair shampoo	0.0929	DIPP
20237	Creams and lotions for topical application	0.1255	DIPP
20238	Agarbatti	0.1706	DIPP
20291	Safety matches (match box)	0.0638	DIPP
20292	Fire works/pyrotechnic articles	0.0366	DIPP
20292	Gun powder, detonators/ prepared explosives	0.0397	DIPP
20293	Fragrances & Oil essentials	0.1967	DIPP
20295	Adhesive formulations other than natural gum	0.3985	DIPP
20295	Gelatin	0.0233	DIPP
20297	Methanol	0.0291	DCPC
20299	Hydrogen Peroxide	0.0500	DCPC
20299	Mosquito coil	0.0215	DIPP
20302	Man-made fibres (incl. Viscose and Artificial Fibres)	0.1614	DCPC & O/o Textile Commissioner

Source: Central Statistics Office (CSO), Ministry of Statistics and Programme Implementation

DIPP: Department of Industrial Policy and Promotion

DCPC: Department of Chemicals and Petrochemicals

Section – VI

Inflation Based on Wholesale Price Index

Table 37:- Annual Inflation of Chemicals & Chemical products vis-à-vis other commodities during 2013-14 to 2018-19 (Based on Wholesale Price Index with base year: 2011-12)

Year	All Commodities	Food Articles	Manufactured Products	Chemicals & Chemical Products
Weight	100	15.26	64.23	6.47
Inflation(%)				
2013-2014	5.24	12.26	3.04	4.62
2014-2015	1.24	5.62	2.49	2.47
2015-2016	-3.69	2.59	-1.80	-3.01
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
Wholesale Price Index(Base : 2011-12=100)				
2012-2013	106.90	110.90	105.30	108.30
2013-2014	112.50	124.50	108.50	113.30
2014-2015	113.90	131.50	111.20	116.10
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	119.8	143.7	117.9	119.1

Source :Office of the Economic Advisor (<http://eaindstry.nic.in>) as on 11.12.2019

Table 38:- Monthly Inflation of Chemicals & Chemical Products vis-a-vis Other Commodities during April, 2018 to March, 2019 (Based on Wholesale Price Index with base year: 2011-12)

Month	All Commodities	Food Articles	Manufactured Products	Chemicals & Chemical Products
Apr-18	0.86	1.82	0.43	0.69
May-18	0.85	0.36	0.52	0.95
Jun-18	0.68	1.07	0.34	0.17
Jul-18	0.67	2.12	0.34	0.60
Aug-18	0.17	0.00	0.08	0.42
Sep-18	0.67	-0.21	0.51	0.67
Oct-18	0.91	0.97	0.42	0.75
Nov-18	-0.33	0.21	-0.08	0.58
Dec-18	-1.56	-1.85	-0.42	-0.99
Jan-19	-0.42	0.49	-0.17	-0.33
Feb-19	0.25	-0.35	0.08	0.08
Mar-19	0.33	0.56	0.08	-0.08
Whole Sale Price Index (Base: 2011-12)				
Mar-18	116.3	137.3	115.8	115.5
Apr-18	117.3	139.8	116.3	116.3
May-18	118.3	140.3	116.9	117.4
Jun-18	119.1	141.8	117.3	117.6
Jul-18	119.9	144.8	117.7	118.3
Aug-18	120.1	144.8	117.8	118.8
Sep-18	120.9	144.5	118.4	119.6
Oct-18	122.0	145.9	118.9	120.5
Nov-18	121.6	146.2	118.8	121.2
Dec-18	119.7	143.5	118.3	120.0
Jan-19	119.2	144.2	118.1	119.6
Feb-19	119.5	143.7	118.2	119.7
Mar-19	119.9	144.5	118.3	119.6

Source :Office of the Economic Advisor (<http://eaindustry.nic.in>) as on 11.12.2019

Table 39 :- WPI (Base year 2011-12) of Chemicals & Chemical Products (Group Wise) during 2013-14 to 2018-19

DESCRIPTION	WEIGHT	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Chemicals and Chemical Products	6.47	113.30	116.10	112.60	111.00	112.50	119.10
Basic Chemicals	1.43	112.10	114.10	105.80	104.70	111.20	125.00
Fertilizers and Nitrogen Compounds	1.48	116.50	118.90	121.40	118.70	117.10	121.10
plastic and synthetic rubber in primary form	1.00	118.50	124.40	115.30	113.70	113.00	117.60
Pesticides and Other Agrochemical Products	0.45	111.10	120.70	122.60	116.80	115.30	120.20
paints, Varnishes and Similar Coatings, Printing Ink and Mastics	0.49	109.70	111.90	109.80	108.50	108.60	112.70
Soap and Detergents, Cleaning and Polishing Preparations, Perfumes and Toilet Preparations	0.61	111.50	112.40	112.30	113.70	115.20	116.80
Other Chemical Products	0.69	110.70	111.80	108.40	106.50	110.10	116.60
Man-Made Fibres	0.30	105.60	100.90	93.30	94.10	97.50	104.00

Source :Office of the Economic Advisor (<http://eaindustry.nic.in>) as on 11.12.2019

Section – VII

Miscellaneous

Table 40:- Selected Indicators of the Indian Economy

S.No.	Indicator	Unit/base	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
1	Human Population (mid FY)*	Million	1235	1251	1267	1283	1299	1316	1332
2	GDP*								
	(i) At current prices	Rs.'000 crore	9944	11234	12468	13772	15362	17095	19010
	(ii) At 2011-12 prices	Rs.'000 crore	9213	9801	10528	11369	12298	13180	14078
	at 2011-12 prices	Growth (%)		6.4	7.4	8.0	8.2	7.2	6.8
3	GVA at basic prices*								
	(i) At current prices	Rs.'000 crore	9203	10363	11504	12574	13936	15483	17200
	(ii) At 2011-12 prices	Rs.'000 crore	8546	9064	9712	10492	11319	12104	12907
	at 2011-12 prices	Growth (%)		6.1	7.2	8.0	7.9	6.9	6.6
4	Per capita Net National Income*								
	(i) At current prices	Rupees	70983	79118	86647	94797	104659	114958	126406
	(ii) At 2011-12 prices	Rupees	65538	68572	72805	77659	82931	87623	92565
5	Ratio of Gross Saving to Gross National Disposable Income at current prices*	Rates	33.8	33.1	31.4	31.6	30.7	29.6	
6	Ratio of Gross Capital Formation to GDP at current prices*	Rates	39	38.7	33.8	33.5	32.3	30.6	
7	Index of Industrial Production(base year 2011-12)*	Growth (%)	-	3.3	4	3.3	4.6	4.4	3.8
8	Foreign Trade**								
	(i) Exports	US \$ billion	300.4	314.4	310.4	262.3	275.9	303.5	330.1
	(ii) Imports	US \$ billion	490.7	450.2	448.0	381.0	384.4	465.6	514.0
	(iii) Trade Balance	US \$ billion	-190.3	-135.8	-137.7	-118.7	-108.5	-162.1	-184.0
9	Current Account Balance	US \$ million	-88163	-32296	-26859	-22151	-14417	-48717	-57256
10	Foreign Exchange Reserves(End of FY)	US \$ billion	292.0	304.2	341.6	360.2	370.0	424.5	412.9
11	Nominal Exchange Rate	Rs./US\$	54.41	60.50	61.14	65.47	67.07	64.45	69.92
12	Foreign Investment (Net FDI + net Portfolio Investment)	US \$ million	46711	26386	73456	31891	43224	52401	30094
13	Fiscal Deficit (Central Government)	Rs. Crore	490190	502858	510725	532791	535618	591062	634398
		% of GDP	4.9	4.5	4.1	3.9	3.5	3.5	3.3
14	WPI(Average of 12 months)(base year 2011-12) #	Inflation (%)	-	5.2	1.3	-3.7	1.7	2.9	4.3
15	Agricultural Production (Food grain)	MMT	257.1	265.0	252.0	251.6	275.1	285.0	285.0
									(4th AE)
16	Consumer Price Index ***								
	Industrial Workers	2001=100	215	236	251	265	276	284	300
	Agricultural Labourers	1986-87=100	672	750	800	835	870	889	907
	Rural Labourers	1986-87=100	673	751	802	839	875	895	915
	Rural	2010=100	124.5	136.4					
	Urban	2010=100	121.8	133.3					
	Combined	2010=100	123.3	135.0					
	Rural	2012=100		112.6	119.5	126.1	132.4	137.2	141.3
	Urban	2012=100		111.8	118.1	123.0	127.9	132.5	137.7
	Combined	2012=100		112.2	118.9	124.7	130.3	135.0	139.6

Source: * Central Statistics Office, Ministry of Statistics & PI, ** Reserve Bank of India, # office of Economic Adviser, Ministry of Commerce & Industry and *** Labour Bureau

AE: Advanced Estimate

Tab e 41:- Growth Rates of Core Industries (in %)(Base Year 2011-12)

Sector	Weight	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Apr-Jul 2018-19	Apr-Jul 2019-20
Coal	10.3335	1.0	8.0	4.8	3.2	2.6	7.4	12.1	1.8
Crude Oil	8.9833	-0.2	-0.9	-1.4	-2.5	-0.9	-4.1	-3.2	-6.2
Natural Gas	6.8768	-12.9	-5.3	-4.7	-1.0	2.9	0.8	-1.1	-0.8
Refinery Products	28.0376	1.4	0.2	4.9	4.9	4.6	3.1	8.0	-2.0
Fertilizers	2.6276	1.5	1.3	7.0	0.2	0.0	0.3	3.7	-0.4
Steel	17.9166	7.3	5.1	-1.3	10.7	5.6	5.1	3.4	10.9
Cement	5.3720	3.7	5.9	4.6	-1.2	6.3	13.3	15.0	2.7
Electricity	19.8530	6.1	14.8	5.7	5.8	5.3	5.2	5.3	6.4
Overall Index	100	2.6	4.9	3.0	4.8	4.3	4.4	5.9	3.0

#Refinery Products' yearly growth rate of 2012-13 is not comparable with other years on account of inclusion of RIL (SEZ) production data since April, 2012.

Source: Office of Economic Adviser,DIPP <http://eaindustry.nic.in/home.asp> Accessed on 20/10/2019

Table 41(A):- Index of Core Industries (Base year 2011-12)

Sector	Weight	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	Apr-Jul	Apr-Jul
								2018-19	2019-20
Coal	10.3335	104.2	112.6	118.0	121.8	124.9	134.1	118.0	120.2
Crude Oil	8.9833	99.2	98.4	97.0	94.5	93.7	89.8	92.2	86.4
Natural Gas	6.8768	74.5	70.5	67.2	66.5	68.4	69.0	67.9	67.4
Refinery Products	28.0376	108.6	108.8	114.1	119.7	125.2	129.1	129.7	127.0
Fertilizers	2.6276	98.1	99.4	106.4	106.6	106.6	107.0	104.5	104.0
Steel	17.9166	115.8	121.7	120.2	133.1	140.5	147.7	141.2	156.6
Cement	5.3720	111.5	118.1	123.5	122.0	129.7	147.0	145.3	149.2
Electricity	19.8530	110.3	126.6	133.8	141.6	149.2	156.9	160.1	170.4
Overall Index	100	106.5	111.7	115.1	120.5	125.7	131.2	129.1	133.1

Source: Office of Economic Adviser, DIPP <http://eaindustry.nic.in/home.asp> Accessed on 20/10/2019

Table-42: Consumption of Naphtha, Natural Gas and Fuel oil

Name of Product	Description	Unit	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19*
Naphtha	Production	K Tonnes	18505	17391	17861	19946	20006	19786
	Import	K Tonnes	1020	1034	2931	2777	2212	2082
		Value in Rs. Crore	6044	4592	9581	8374	8161	9665
	Export	K Tonnes	8322	7008	7116	8727	8951	6963
		Value in Rs. Crore	46059	31619	20057	24616	29075	28893
	Availability	K Tonnes	11204	11416	13676	13996	13266	14904
	Consumption	K Tonnes	11305	11082	13271	13241	12889	14131
Natural Gas¹	Gross Production	MMSCM	35407	33657	32249	31897	32649	32873
	Net Production	MMSCM	34574	32693	31129	30848	31731	32058
	Import\$	MMSCM	17801	18607	21388	24849	27439	28740
		Value in Rs. Crore	53455	58359	45038	41084	52122	72131
	Availability	MMSCM	52375	51300	52517	55697	59170	60798
	Consumption **	MMSCM	48994	46955	47849	50778	52832	53840
Fuel Oil	Production	K Tonnes	13405	11919	9727	9962	9486	10032
	Import	K Tonnes	1331	902	1170	925	1213	1419
		Value in Rs. Crore	5759	3659	2380	1848	3231	4782
	Export	K Tonnes	6159	4762	2806	2248	2525	2197
		Value in Rs. Crore	22407	14251	4471	3930	5291	6537
	Availability	K Tonnes	8578	8059	8091	8639	8174	9255
	Consumption	K Tonnes	6236	5961	6632	7150	6721	6564
Naphtha	Fertilizers Sector	K Tonnes	516	301	316	349	368	352
	Petrochemical Sector	K Tonnes	9464	9530	10350	10351	10011	10602
Natural Gas **	Fertilizer Industries	MMSCM	15869	15190	16135	15429	14676	14987
	Petrochemicals Industry	MMSCM	2405	2890	3733	4170	4024	3386
Fuel Oil (Furnace oil+LSHS)	Chemicals & allied	K Tonnes	204	212	214	243	248	309

*: Provisional **: Sectorial Sales \$: Imports of LNG Net Production=Gross Production-Flared/Losses

Note: 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.

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

Description	Rural	Urban	Rural + Urban
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 (Unincorporated) (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 Characteristics of Unincorporated Non-Agricultural Enterprises excluding constructions in India. NSS 73rd Round (July 2015- June 2016), NSSO

Table 44:- Employment in Chemicals and Chemicals products (Industry Division 20, NIC-2008) during 2011-12 to 2016-17							
S.No.	Industry	Number of Person Engaged					
		2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	Chemicals and Chemicals products (Industry Division 20, NIC 2008)	674018	633659	708401	712994	743438	790263
2	Industries Other than Chemicals and Chemicals products	12755938	12316366	12829713	13168392	13556272	14120926
3	All Industries	13429956	12950025	13538114	13881386	14299710	14911189
4	Share in Employment (%)						
	(a) Share of Chemicals and Chemicals products	5.02	4.89	5.23	5.14	5.20	5.30
	(b) Share of Other than C&PC	94.98	95.11	94.77	94.86	94.80	94.70
5	Growth Rate in Employment (%)						
	(a) Chemicals and Chemicals products	6.98	-5.99	11.80	0.65	4.27	6.30
	(b) Industries Other Than Chemicals and Chemicals products	5.73	-3.45	4.17	2.64	2.95	4.17
	(c) All Industries	5.79	-3.57	4.54	2.54	3.01	4.28
<i>Note: As per NIC- 2008, Chemical & Chemical products are covered under the industry division 20.</i>							
<i>Source : Annual Survey of Industries (Factory Sector), Ministry of Statistics & Programme Implementation, New Delhi.</i>							

Table 45:- Gross Value Added from Chemical 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	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Industry Division 20: Chemical and chemical products (Corporate)	126614	127623	133521	192668	209190	229170
Industry Division 20: Chemical and chemical products (Household)	1317	950	1067	1222	1020	1030
Industry Division 20: Chemical and chemical products (Corporate +Household)	127931	128573	134588	193890	210210	230200
Growth over previous year (%)		0.5	4.7	44.1	8.4	9.5
Industry Division 21: Pharmaceutical; medicinal chemicals and botanical products (Corporate)	85196	100555	112675	144319	159012	176628
Industry Division 21: Pharmaceutical; medicinal chemicals and botanical products (Household)	413	708	625	567	683	851
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	85609	101263	113300	144886	159695	177479
Total Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	213540	229836	247888	338776	369905	407679
Growth over previous year (%)		7.6	7.9	36.7	9.2	10.2
Manufacturing (Corporate)	1362291	1474509	1631823	1850139	2043279	2237121
Manufacturing (Household)	210546	238943	246546	296050	291788	304969
Manufacturing (Corporate +Household)	1572837	1713452	1878369	2146189	2335067	2542090
Growth over previous year (%)		8.9	9.6	14.3	8.8	8.9
GVA at basic prices for All Economic activities	9202692	10363153	11504279	12566646	13935917	15482715
Growth over previous year (%)		12.6	11.0	9.2	10.9	11.1
Share of GVA of Manufacturing sector in GVA for All Economic Activities	17.1	16.5	16.3	17.1	16.8	16.4
Share of GVA of Chemical and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)in GVA for All Economic Activities	1.39	1.24	1.17	1.54	1.51	1.49
Share of GVA of Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21) in GVA for All Economic Activities	2.32	2.22	2.15	2.70	2.65	2.63
Share of GVA of chemical and chemical products (Industry Division 20)in GVA for Manufacturing Sector	8.13	7.50	7.17	9.03	9.00	9.06
Share of GVA of chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)in GVA for Manufacturing Sector	13.58	13.41	13.20	15.79	15.84	16.04

Source: National Accounts Statistics 2019, CSO, Ministry of Statistics & Programme Implementation as on

Table 46:- Gross Value Added from Chemical 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	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Industry Division 20: Chemical and chemical products (Corporate)	116682	112375	115005	119330	119974	203706
Industry Division 20:Chemical and chemical products (Household)	1214	837	919	1085	919	916
Industry Division 20: Chemical and chemical products (Corporate +Household)	117896	113212	115924	120415	120893	204622
Growth over previous year (%)		-4.0	2.4	3.9	0.4	69.3
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products (Corporate)	81284	93090	98406	110119	136033	145733
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products (Household)	394	656	546	478	571	702
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	81678	93746	98952	110597	136604	146435
Total Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	199574	206958	214876	231012	257497	351057
Growth over previous year (%)		3.7	3.8	7.5	11.5	36.3
Manufacturing (Corporate)	1288919	1346108	1468900	1643539	1804094	1920242
Manufacturing (Household)	197954	214601	215038	260311	250949	256681
Manufacturing (Corporate +Household)	1486873	1560709	1683938	1903850	2055043	2176923
Growth over previous year (%)		5.0	7.9	13.1	7.9	5.9
GVA at basic prices for All Economic activities	8546275	9063649	9712133	10503348	11318972	12104165
Growth over previous year (%)		6.1	7.2	8.1	7.8	6.9
Share of GVA of Manufacturing sector in GVA for All Economic Activities	17.4	17.2	17.3	18.1	18.2	18.0
Share of GVA of Chemical and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)in GVA for All Economic Activities	1.38	1.25	1.19	1.15	1.07	1.69
Share of GVA of Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21) in GVA for All Economic Activities	2.34	2.28	2.21	2.20	2.27	2.90
Share of GVA of chemical and chemical products (Industry Division 20) in GVA for Manufacturing Sector	7.93	7.25	6.88	6.32	5.88	9.40
Share of GVA of chemical and chemical products, including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)in GVA for Manufacturing Sector	13.42	13.26	12.76	12.13	12.53	16.13

Source: National Accounts Statistics 2019, CSO, Ministry of Statistics & Programme Implementation as on 21.11.2019

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)

VALUE OF OUTPUT	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Manufacturing (Corporate)	6574610	7289565	7803213	7591834	8168021	9107450
Manufacturing (Household)	605579	678919	698250	825639	825062	870965
Manufacturing (Corporate +Household)	7180189	7968484	8501463	8417473	8993083	9978415
Chemical and chemical products (Corporate) (Industry Division 20)	509110	553764	626716	668344	668696	742594
Chemical and chemical products (Household) (Industry Division 20)	6578	4745	5327	6100	5095	5143
Total Chemical and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)	515688	558509	632043	674444	673791	747737
Pharmaceutical; medicinal chemicals and botanical products --Corporate (Industry Division 21)	204098	230764	257134	300519	321486	365636
Pharmaceutical; medicinal chemicals and botanical products --Household (Industry Division 21)	2063	3536	3121	2833	3410	4249
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	206161	234300	260255	303352	324896	369885
Total Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	721849	792809	892298	977796	998687	1117622

Source: National Accounts Statistics 2019, CSO, Ministry of Statistics & Programme Implementation as on 21.11.2019

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)*

VALUE OF OUTPUT	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Manufacturing (Corporate)	6210073	6615483	7057882	7245184	7675083	8247373
Manufacturing (Household)	569651	611979	612028	732581	712972	734179
Manufacturing (Corporate +Household)	6779724	7227462	7669910	7977765	8388055	8981552
Chemical and chemical products (Corporate) (Industry Division 20)	469170	487601	539807	593556	602429	660084
Chemical and chemical products (Household) (Industry Division 20)	6062	4178	4588	5417	4590	4571
Total Chemical and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)	475232	491779	544395	598973	607019	664655
Pharmaceutical; medicinal chemicals and botanical products -- Corporate (Industry Division 21)	194724	213633	224571	253175	268577	301680
Pharmaceutical; medicinal chemicals and botanical products -- Household (Industry Division 21)	1968	3274	2725	2387	2849	3506
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	196692	216907	227296	255562	271426	305186
Total Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	671924	708686	771691	854535	878445	969841

Source: National Accounts Statistics 2019, CSO, Ministry of Statistics & Programme Implementation as on 21.11.2019

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

Description	2012-13	2013-14	2014-15	2015-16	2016-17
Industry Division 20: Chemical and chemical products					
No of factories (no.)	11426	11465	11715	12015	12168
No of workers (no.)	463645	494253	519000	541343	588806
Total Output (Rs. crore)	472968	513903	557244	609216	583008
Total Inputs (Rs. crore)	383618	420686	461953	473764	446877
Gross Value Added (Rs. crore)	89350	93217	95292	135452	136131
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products					
No of factories (no.)	4907	4961	4908	5036	4946
No of workers (no.)	328437	381664	369196	395988	431732
Total Output (Rs. crore)	190282	214564	231834	265742	271959
Total Inputs (Rs. crore)	128906	142230	150713	174162	174414
Gross Value Added (Rs. crore)	61376	72333	81120	91581	97545
Industry Division 268:Manufacture of Magnetic and Optical Media					
No of factories (no.)	6	4	4	5	3
No of workers (no.)	221	28	48	491	200
Total Output (Rs. crore)	3303	875	1105	31259	7534
Total Inputs (Rs. crore)	2495	775	760	23350	5819
Gross Value Added (Rs. crore)	808	100	345	7909	1715

Source: Collated from Annual Survey of Industries, 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)			
	2013-14	2014-15	2015-16	2016-17	2013-14	2014-15	2015-16	2016-17	2013-14	2014-15	2015-16	2016-17
Andhra Pradesh	375	401	401	405	256195	241972	399763	331177	1710297	1709055	1940284	2130755
Assam	82	82	109	129	123235	123649	251355	216239	327554	280134	594954	495458
Bihar	45	48	51	61	2759	4850	3609	5813	38559	45252	44830	50286
Chhattisgarh	94	94	102	113	13741	12167	10499	16917	99698	90695	92515	137414
Goa	43	49	45	45	111388	185975	206736	162389	865753	873829	986279	659576
Gujarat	2160	2241	2316	2459	3048975	2310593	3685024	4233550	15899266	16377573	19313596	19379723
Haryana	203	258	257	305	109458	230883	253744	295782	829529	1144328	1059595	1375643
Himachal Pradesh	225	200	228	235	419399	811380	844599	585106	1815860	2902117	2255720	1723963
Jammu & Kashmir	131	155	131	126	145075	177220	212274	218570	629763	633314	843376	741058
Jharkhand	92	83	96	107	44009	52409	85458	121407	197773	204030	294274	301703
Karnataka	507	553	567	581	252251	308325	315071	295813	1349510	1627636	1540735	1419647
Kerala	141	140	149	141	109558	112723	100787	362628	661040	580152	529190	904458
Madhya Pradesh	271	259	278	268	168386	289811	190960	346909	1065138	1113758	1294751	1101147
Maharashtra	1851	1866	1898	1842	2227826	1805835	2711485	2278858	9639069	9148788	10805377	9566108
Meghalya	4	3	3	4	3839	3305	4452	4177	7968	7283	9496	8910
Odisha	78	78	82	95	231234	214559	71247	336314	1072839	1225941	995024	1041620
Punjab	154	158	156	147	97894	75556	64196	106447	804384	936265	724185	698169
Rajasthan	326	323	308	336	237822	235706	279905	486262	2081775	1920567	1994750	2799626
Sikkim	4	4	4	3	27236	121330	42560	24694	95497	32172	161410	150743
Tamil Nadu	2477	2495	2588	2521	359028	513454	628206	646481	2530250	3501312	3669539	2918077
Tripura	11	10	9	10	304	307	226	70	727	686	438	198
Uttarkhand	201	240	243	219	356180	626942	1276355	808699	1463263	2609193	3134378	2091798
Uttar Pradesh	646	688	675	685	450180	529410	502485	522193	2951198	3412604	2974091	2870926
West Bengal	297	291	322	342	31444	73656	336783	584589	2621475	2033195	2585047	2911301
Dadra & N Haveli	181	172	168	177	68725	204414	84365	202142	499422	1566385	702076	813926
Daman & Diu	140	113	108	118	114631	114664	144797	99930	947205	570041	693514	630760
Chandigarh	4	NA	NA	NA	379	NA	NA	NA	6024	NA	NA	NA
Delhi	78	75	77	72	61320	41718	20789	15696	288526	260479	103882	205669
Puducheery	134	106	91	97	130624	87953	182471	188074	399319	242372	503611	470007
Telagana	512	528	548	519	118521	106993	634399	115427	491508	579136	1066936	693463
All India	11465	11715	12015	12168	9321718	9529158	13545238	13613122	51390338	55724410	60921631	58300834

Source :Annual Survey of Industries (Factory Sector) 2013-14, 2014-15 & 2015-16 Ministry of Statistics & Programme Implementation as on date 11.12.2019.

NA: Not Available

Table 51:- Production, Import, Export, Consumption of Major Chemicals and Petrochemicals and Export as % of Production and Import as % of Consumption									
<i>(In Thousand Tonnes)</i>									
Group	Description	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Major Chemicals	Production	9409	9459	9643	9660	9884	10234	11069	11589
Major Petrochemicals									
A. Basic major Petrochemicals		12755	13050	13410	13448	14905	15510	15670	16269
B. Intermediates		15722	16138	16313	16816	18690	18743	19063	19057
C. Other Petro-based Chemicals		1940	1979	1970	1963	2159	2174	2080	2192
Total Major Chemicals and Petrochemicals		39827	40626	41336	41887	45638	46661	47882	49108
Major Chemicals	Exports	1429	1220	1221	1061	1138	1484	1496	1579
Major Petrochemicals									
A. Basic major Petrochemicals		2304	2298	2616	2254	2743	2956	3293	4095
B. Intermediates		1677	1795	1977	2034	2430	2190	3915	5377
C. Other Petro-based Chemicals		184	137	96	124	129	144	193	147
Total Major Chemicals and Petrochemicals		5594	5451	5909	5473	6440	6773	8897	11198
Major Chemicals	Imports	3397	4253	4333	5025	5360	5400	5937	6379
Major Petrochemicals									
A. Basic major Petrochemicals		3360	4233	4304	5080	5681	5938	6408	6284
B. Intermediates		2095	2405	2950	3253	3245	3540	3180	2845
C. Other Petro-based Chemicals		1785	2037	2204	2373	2740	2651	3255	3227
Total Major Chemicals and Petrochemicals		10637	12928	13791	15729	17025	17529	18780	18735

Table 51:- Production, Import, Export, Consumption of Major Chemicals and Petrochemicals and Export as % of Production and Import as % of Consumption									
(In Thousand Tonnes)									
Group	Description	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19
Major Chemicals	Consumption\$	11344	12521	12757	13642	14168	14279	15667	16615
Major Petrochemicals									
A. Basic major Petrochemicals		13811	14984	15099	16274	17842	18492	18785	18458
B. Intermediates		16141	16748	17286	18034	19505	20094	18328	16525
C. Other Petro-based Chemicals		3540	3879	4078	4211	4770	4680	5142	5272
Total Major Chemicals and Petrochemicals		44836	48132	49220	52162	56286	57545	57922	56871
Major Chemicals	Exports as % of Production	15.2	12.9	12.7	11.0	11.5	14.5	13.5	13.6
Major Petrochemicals									
A. Basic major Petrochemicals		18.1	17.6	19.5	16.8	18.4	19.1	21.0	25.2
B. Intermediates		10.7	11.1	12.1	12.1	13.0	11.7	20.5	28.2
C. Other Petro-based Chemicals		9.5	6.9	4.9	6.3	6.0	6.6	9.3	6.7
Total Major Chemicals and Petrochemicals		14.0	13.4	14.3	13.1	14.1	14.5	18.6	22.8
Major Chemicals	Imports as % of Consumption	237.7	348.6	355.1	473.5	470.9	363.9	396.9	403.9
Major Petrochemicals									
A. Basic major Petrochemicals		24.3	28.2	28.5	31.2	31.8	32.1	34.1	34.0
B. Intermediates		13.0	14.4	17.1	18.0	16.6	17.6	17.4	17.2
C. Other Petro-based Chemicals		50.4	52.5	54.0	56.3	57.4	56.6	63.3	61.2
Total Major Chemicals and Petrochemicals		23.7	26.9	28.0	30.2	30.2	30.5	32.4	32.9
Note: Product coverage under each group is given at page v and vi. \$ Derived consumption as Production+ Imports-Exports									

Table 52:- Exports of all Chemicals as % of Value of output and Imports of all Chemicals as % of Consumption

<i>(Rs. In Crore)</i>						
Item	Code	2013-14	2014-15	2015-16	2016-17	2017-18
Exports of Pharmaceutical products	HS code 30	67404	70815	84481	86705	85445
Exports of Fertilizers	HS code 31	492	555	673	466	685
Exports of all Chemicals (including Pharmaceutical products and Fertilizers)	HS codes 28,29,30,31,32,38,39,4002,54 and 55	245758	249183	266516	277364	305336
Imports of Pharmaceutical products	HS code 30	9371	9961	10742	11515	12241
Imports of Fertilizers	HS code 31	32639	39106	45973	28754	30108
Imports of Chemicals and Chemical products	HS codes 28,29,30,31,32,38,39,4002,54 and 55	283322	311790	318595	309458	360208
Value of Output of Chemicals and Chemical products at current prices	Industry Division 20 and 21: NIC 2008	792809	892298	977796	998687	1117622
Consumption of Chemicals and Chemical products	Value of Output + Imports - Exports	830373	954905	1029875	1030781	1172494
Exports of all Chemicals as % of Value of Output		31.0	27.9	27.3	27.8	27.3
Imports of all Chemicals as % of Derived Consumption		34.1	32.7	30.9	30.0	30.7

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

Note 1: Data source in respect of Imports, Exports (Chapter-wise) is DGCIS Portal as on 12.12.2019

Note 2: Data Source in respect of value of output is National Account Statistics, 2018 (CSO)

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Ministry of Chemicals and Fertilizers
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