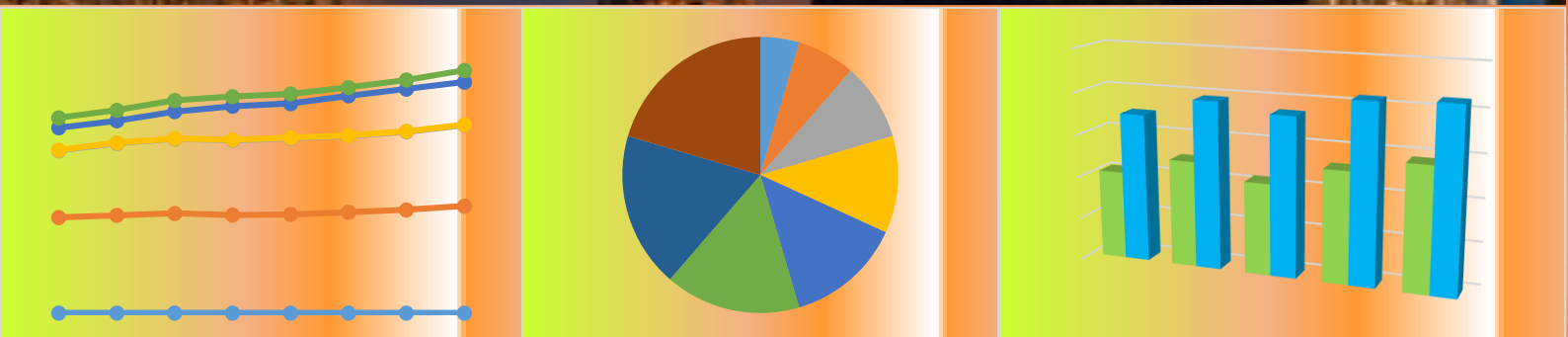




CHEMICAL AND PETROCHEMICAL STATISTICS AT A GLANCE – 2017



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



अनंतकुमार
ANANTHKUMAR
ಅನಂತಕುಮಾರ್



सत्यमेव जयते

अ.शा.सं...../मंत्री (सीएंडएफ)

D.O.No. 6468 /M(C&F)



रसायन एवं उर्वरक
तथा संसदीय कार्य मंत्री
भारत सरकार

MINISTER OF CHEMICALS & FERTILIZERS
AND PARLIAMENTARY AFFAIRS
GOVERNMENT OF INDIA



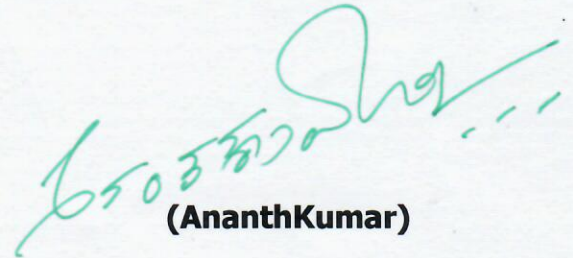
Message

Department of Chemicals and Petrochemicals under the Ministry of Chemicals & Fertilizers is responsible for monitoring one of the pioneering sector of the economy catering to the day to day needs of the society at large. The importance of Chemicals and Petrochemicals in day to day life needs no elaboration. Particularly plastic which is one of the petrochemical has its utility right from household level to the scientific field in innovations, Research & Development including Space research. Although Chemical & Petrochemical Sector is a decontrolled and deregulated Sector but due to its relevance in social spectrum, the Department has the promotional role by way of planning, development and control of, and assistance to, all Industries dealt with by the Department.

2. I am glad that Department of Chemicals & Petrochemicals is striving hard to provide more conducive atmosphere to the Industry for achieving higher and sustainable growth. I am sure that these efforts of the Department will definitely pave way for realization of our dream 'Make in India' and 'Skill India' for better tomorrow. I am indeed happy to know that Statistical Publication 'Chemical & Petrochemical Statistics at a Glance' is being brought out by the Department this year with new features and ambience.

3. I appreciate the excellent work done by the Department of Chemicals & Petrochemicals.

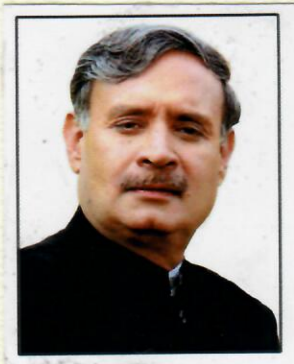
My best wishes to all.


(AnanthKumar)

29 November, 2017



राव इन्द्रजीत सिंह
RAO INDERJIT SINGH



राज्य मंत्री (स्वतंत्र प्रभार)
योजना मंत्रालय तथा राज्य मंत्री,
रसायन एवं उर्वरक मंत्रालय
भारत सरकार, नई दिल्ली-110001
Minister of State (Independent Charge) for
Ministry of Planning and
MoS for Ministry of Chemicals & Fertilizers
Government of India, New Delhi-110001

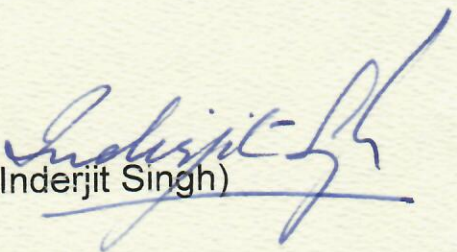
MESSAGE

The Department of Chemicals and Petrochemicals, Ministry of Chemicals & Fertilizers is devoted to the service of the nation and actively contributing towards promotion of the Chemical and Petrochemical Sector. The share of this sector in manufacturing is quite significant, therefore, contribution of the sector to National Economy is very important.

2. I am very happy to note that the Department of Chemicals & Petrochemicals is bringing out Annual Statistical Publication 'Chemical & Petrochemical Statistics at a Glance' this year with added new features making it more informative.

3. I appreciate the excellent work done by the Department of Chemicals & Petrochemicals in bringing out this Publication.

My best wishes to all concerned.


(Inderjit Singh)

राजीव कपूर
सचिव
RAJEEV KAPOOR
Secretary



भारत सरकार
रसायन और उर्वरक मंत्रालय
रसायन और पेट्रोसायन विभाग
कक्ष संख्या 501, 'ए' विंग, शास्त्री भवन
डॉ राजेन्द्र प्रसाद रोड़, नई दिल्ली - 110 001
Government of India
Ministry of Chemicals & Fertilizers
Department of Chemicals & Petrochemicals
Room No. 501, 'A' Wing, Shastri Bhavan
Dr. Rajendra Prasad Road, New Delhi - 110 001
Tel.: 23384196/ 23382467/Fax : 23387892
E-mail : sec.cpc@nic.in



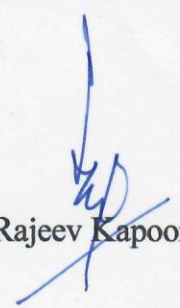
MESSAGE

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 under promotional role is committed to support industry through perspective planning for achieving excellence and sustainable growth of the sector to boost National Economy.

2. I am indeed happy to know that Statistical Publication 'Chemical & Petrochemical Statistics at a Glance' is being brought out by the Statistics and Monitoring Division this year with added features and with new outlook.

3. I appreciate the commendable work done by the Statistics and Monitoring Division led by Shri Ghan Shyam, Deputy Director General, Department of Chemicals & Petrochemicals.

Congratulations to all.


(Rajeev Kapoor)

घन श्याम

उप महानिदेशक

GHAN SHYAM

Dy. Director General

Tel. : 011-23386752

E-mail : ghan.shyam64@nic.in



सत्यमेव जयते

भारत सरकार
रसायन और उर्वरक मंत्रालय
रसायन और पेट्रोरसायन विभाग
तृतीय तल, शास्त्री भवन,
नई दिल्ली – 110 001

Government of India
Ministry of Chemicals & Fertilizers
Department of Chemicals & Petrochemicals
3rd Floor, Shashtri Bhawan,
New Delhi-110001



Foreword

Statistics & Monitoring Division under the Department of Chemicals and Petrochemicals, Ministry of Chemicals and Fertilizers is responsible for collection, compilation and management of Statistical data. 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 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. Initiative and direction of Shri Rajeev Kapoor, Secretary, Department of Chemicals & Petrochemicals has been stimulating factor to reshape the publication by including new chapters facilitating users of this publication for better insight of the data presented. The inclusion of Graphs/ Charts capturing important trends has added another dimension to the publication, which will definitely be enhancing utility of the publication.

3. I express my sincere thanks to all the data providers to this Department. I sincerely acknowledge and express my gratitude to Ministries / Departments/ Organizations viz. M/o Statistics & PI, M/o Commerce & Industry, M/o PNG, DGFT, DGCI&S and DIPP, etc. for providing valuable input for this publication through their websites.

4. I also place on record my appreciation for the efforts put in by Shri Karan Singh Tanwar Research Officer, Shri Rajat, Research Officer (Trainee), Shri Darshan Singh, Senior Statistical Officer, Shri Rakesh Kumar and Shri Manoj Kumar, Junior Statistical Officers under the dynamic guidance of Shri Dinesh Kumar, Director. My thanks are also due to Divisions of this Department for providing valuable inputs and cooperation towards compilation of this publication.

5. The finalization of this Publication in the present form is attributable to inspiration and guidance given by Shri Rajeev Kapoor, Secretary, and Department of Chemicals & Petrochemicals.

Suggestions/ Comments from users of this publication are most welcome for future improvement of the compilation.

November 9, 2017
New Delhi

(Ghan Shyam)
Deputy Director General

CONTENTS

Description	Page No.
Message from Hon'ble Minister	
Message from Hon'ble MoS	
Message from Secretary	
Foreword	
Introduction	i–ii
Acronyms	iii-iv
Coverage, Data Sources , Definitions & Limitations	v-xii
Chapter 1: An Overview of Chemical and Petrochemical Sectors	1-5
Chapter 2: Global Scenario	6
Chapter 3: Important Economic Indicators	7-10
Chapter 4: Indian Trade Classification (Harmonized System)[ITC(HS)]- 2017– An Abstract	11-12
Chapter 5: National Industrial Classification (NIC) – A Digest	13-14
Chapter 6: Indices released by Government of India	15-20
Chapter 7: Alcohol (Produced from Molasses) and Molasses	21-23
Chapter 8: Glimpses of Important Trends during 2012-13 to 2016-17	24-65

Appendices :

Section – I Chemical Sector

Table -1	Performance of Selected Major Chemicals (Group-wise) during 2009-10 to 2016-17 at a Glance	66
Table -2	Production, Installed Capacity & Growth of Selected Major Chemicals (Group –wise) during 2009-10 to 2016-17	67
Table -3	Production, Capacity Utilization & Growth of Major Chemicals (Product–wise) during 2009-10 to 2016-17	68-73
Table -4	Installed Capacities of Selected Chemicals (Group-wise) during 2009-10 to 2016-17	74
Table -5	Consumption of Selected Major Chemicals (Product -wise) during 2009-10 to 2016-17	75-76
Table -5A	Consumption of Selected Pesticides (Tech. Grade) (State -wise) during 2009-10 to 2016-17	77-78

Section – II Petrochemical Sector

Table - 6	Performance of Selected Basic Major Petrochemicals (Group-wise) during 2009-10 to 2016-17 at a Glance	79
Table- 7	Production, Installed Capacity & Growth of Selected Basic Major Petrochemicals (Group- wise) during 2009-10 to 2016-17	80
Table – 8	Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-wise) during 2009-10 to 2016-17	81- 85
Table – 9	Installed Capacities of Selected Major Petrochemicals (Group-wise) from 2009-10 to 2016-17	86
Table - 10	Consumption of selected Major Petrochemicals (Product wise) during 2009-10 to 2016-17	87-89

Section-III Foreign Trade

Table – 11	Exports and Imports of Chemicals (excluding Pharmaceutical Products and Fertilizers) during 2009-10 to 2016-17	90
Table – 12	Exports and Imports of Chemicals and Petrochemical Products (including Pharmaceutical Products and Fertilizers) during 2009-10 to 2016-17	91

Table –12A	Net Imports of Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers) during 2009-10 to 2016-17	92
Table – 13	Exports of Major Chemicals (Group-wise) during 2009-10 to 2016-17	93
Table – 14	Imports of Major Chemicals (Group-wise) during 2009-10 to 2016-17	94
Table – 15	Net Imports of Major Chemicals (Group-wise) during 2009-10 to 2016-17	95
Table – 16	Exports of Major Chemicals (Product-wise) during 2009-10 to 2016-17	96-100
Table – 17	Imports of Major Chemicals ((Product-wise) during 2009-10 to 2016-17	101-105
Table – 18	Net Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17	106-110
Table – 19	Top Five Export Destinations of Selected Chemicals During 2016-17	111-119
Table – 20	Top Five Sources (countries) of Import of selected Chemicals to India During 2016-17	120-127
Table – 21	Exports of Major Petrochemicals (Group-wise) during 2009-10 to 2016-17	128
Table – 22	Imports of Major Petrochemicals (Group-wise) during 2009-10 to 2016-17	129
Table – 23	Net Imports of Major Petrochemicals (Group-wise) during 2009-10 to 2016-17	130
Table – 24	Exports of Major Petrochemicals (Product-wise) during 2009-10 to 2016-17	131-135
Table – 25	Imports of Major Petrochemicals ((Product-wise) during 2009-10 to 2016-17	136-140
Table – 26	Net Imports of Major Petrochemicals (Product-wise) during 2009-10 to 2016-17	141-146
Table – 27	Top Five Export Destinations of Selected Petrochemicals During 2016-17	147-155
Table – 28	Top Five Sources (countries) of Import of selected Petrochemicals to India During 2016-17	156-164
Table – 29	Exchange Rates of Indian Rupee vis-a-vis US\$	165-166
Table – 30	World Exports of Chemicals by top 10 countries-2016	167-169

Table – 31	World Imports of Chemicals by top 10 countries-2016	170-172
Table – 32	India's share in World Exports and Imports of Chemicals -2016	173

Section-IV Foreign Direct Investment (FDI)

Table – 33	Sector Attracting Highest FDI Equity Inflows During 2015-16 to 2017-18(June 17)	174
Table – 34	Sector-wise FDI Inflows (in US \$ million)	175

Section-V Index of Industrial Production

Table – 35	Monthly Production Growth in 'Chemicals and Chemical Products' vis-a-vis Manufacturing Sector during April 2016 to March 2017 (Based on Index of Industrial Production: 2004-05)	176
Table – 35A	Monthly Production Growth in 'Chemicals and Chemical Products' vis-a-vis Manufacturing Sector during April 2015 to May 2016 (Based on Index of Industrial Production: 2011-12)	177
Table – 36	Annual Production Growth in Chemicals and Chemical Products vis -a-vis Manufacturing Sector during 2005-06 to 2016-17 (Based on Index of Industrial Production: 2004-05)	178
Table – 36A	Annual Production Growth in Chemicals and Chemical Products Vis -a-Vis Manufacturing Sector during 2012-13 to 2016-17 (Based on Index on Industrial Production: 2011-12)	179
Table – 37	Weights of Products Covered Under Chemical and Chemical Products (Industry Division 24 of NIC- 2004)	180
Table – 37A	Weights of Products Covered Under Chemical and Chemical Products (Industry Division 20 of NIC- 2008)	181

Section-VI Inflation Based on Wholesale Price Index

Table – 38:	Annual Inflation of Chemicals & Chemical products vis-à-vis other commodities during 2005-06 to 2016-17 (Based on Wholesale Price Index: 2004-05)	182
Table – 38A	Annual Inflation of Chemicals & Chemical products vis-à-vis other commodities during 2012-13 to 2016-17 (Based on Wholesale Price Index: 2011-12)	183
Table –39	Monthly Inflation of Chemicals & Chemical Products vis-a-vis Other Commodities during April 16 to March 17 (Based on Wholesale Price Index: 2004-05)	184

Table –39A	Monthly Inflation of Chemicals & Chemical Products vis-a-vis Other Commodities during April 16 to March 17 (Based on Wholesale Price Index: 2011-12)	185
Table –40	WPI (Base year 2004-05) of Chemicals & Chemical Products (Group Wise) during 2005-06 to 2016-17	186
Table –40A	WPI (Base year 2011-12) of Chemicals & Chemical Products (Group Wise) during 2012-13 to 2016-17	187

Section-VII Miscellaneous

Table –41	Selected Indicators of the Indian Economy	188
Table –42	Growth Rates of Core Industries (%) (Base Year: 2011-12)	189
Table –42A	Index of Core Industries (Base Year: 2011-12)	190
Table –43	Consumption of Naphtha, Natural Gas and Fuel oil during 2009-10 to 2016-17	191
Table –44	Persons in workforce in Industry Division 20,21 and Industry Group 222 (according to usual status) in 2011-12	192
Table –45	Production of Molasses in India during 2008-09 to 2015-16	193
Table –46	State-wise/Year-wise Production of Alcohol from Molasses in India during 2008-09 to 2015-16	194
Table –47	Export and Import of Ethanol (ITC HS code no. 22072000) during 2006-07 to 2016-17	195
Table –48	Employment in Chemicals and Chemicals products (Industry Division 24, NIC 2004) during 2003-04 to 2014-15	196
Table –49	Employment in Chemicals and Chemicals products (Industry Division 20, NIC-2008) during 2010-11 to 2014-15	197
Table –50	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	198
Table –51	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	199

Table –52	Value of Output from Chemicals and Chemical products (Industry Division 20: NIC 2008) and Pharmaceutical; medicinal chemicals and botanical product (Industry Division 21: NIC 2008) vis-a-vis Manufacturing sector (At Current prices)	201
Table –53	Value of Output from Chemicals and Chemical products (Industry Division 20: NIC 2008) and Pharmaceutical; medicinal chemicals and botanical product (Industry Division 21: NIC 2008) vis-a-vis Manufacturing sector (At constant prices (2011-12)	201
Table –54	All India Estimate of Selected Characteristics of Factory Sector for Industry Division 24: NIC 2004: Chemicals and Chemical Products	202
Table –54A	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)	203
Table –55	State wise Estimate of Selected Characteristics of Factory Sector for Industry Division 20: NIC 2008: Chemicals and Chemical Products	204
Table –56	Exports of Major Chemicals and Petrochemicals as % of Production and Imports of Major Chemicals and Petrochemicals as % of Consumption	205-206
Table –57	Exports of all Chemicals as % of Value of output and Imports of all Chemicals as % of Consumption	207

Introduction

Ghan Shyam^a
Dinesh Kumar^b

a : Dy. Director General, Head – S&M Division, b : Director, S&M Division

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. The share of GVA of this sector in manufacturing sector is about **7.21%** and about **1.2%** in National G.V.A.

2. The Statistics and Monitoring Division of this Department compiles statistics on selected Chemicals and Petrochemicals on the basis of Large and Medium Scale units supplying monthly data on production and installed capacity. S&M Division also derives estimates of consumption with the help of production and foreign trade data. The data in respect of Export and Import is derived in respect of Chemicals and Petrochemical items monitored by DCPC from the statistics compiled by DGCIS under the Ministry of Commerce and Industry. Alcohol (Produced from Molasses) and Molasses is also compiled on the basis of data supplied by State Excise Departments of 11 Major Sugarcane producing States in the country.

3. The publication for better insight of the sector also includes a chapter “Overview of the Chemicals and Petrochemicals Sector”, Global Scenario and Important Economic Indicators. As a new initiative and with a view to make the publication more informative and user friendly chapters on Indian Trade Classification (Harmonized System) [ITC (HS)] -2017, National Industrial Classification, Indices released by Government of India along with a separate chapter on Alcohol and Molasses have been appended for the first time. Graphical presentation of important trends of the performance of the sector during the last five years i.e. 2012-13 to 2016-17 along with brief comments have also been included under Chapter “Glimpses of important trend during 2012-13 to 2016-17”. 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 2009-10 to 2016-17 have also been appended. Foreign Trade, FDI and important indicators related to Chemical and Petrochemical Sector have also been included in the tabular form in the Appendices Section.

4. The trends emerging from graphical presentation are indicative of concerns /issues which need to be addressed for achieving higher and sustainable growth, which is necessity of the time.

5. The production of Chemical and Petrochemical products generally found growing consistently over the years. The annual growth during 2016-17 is 3.54% over preceding year with CAGR of 2.75 % over a period of 8 years in case of Major Chemicals. The annual growth of Basic Major Petrochemicals is 4.06 over preceding year with CAGR of 5.17% during the same period.

The growth is higher in Production of Basic Major Petrochemicals as compared to growth in production of Major Chemicals.

6. It is further observed that there is still scope to increase production, as substantial installed capacity is unutilized in both the subsectors. The utilization of installed capacity is in the range of **80% in Major Chemicals like Alkali and Inorganic Chemicals** whereas it is in the range of **60- 70% in case of Organic Chemicals, Pesticides (Technical Grade) and Dyes and Pigments**. Micro study of the sector indicate that huge unutilized installed capacity is seen in case of **Organic Chemicals (38%), Pesticides (Technical Grade) (33%), Synthetic Rubber (33%) and Dyes and Pigments (31%)**. The statistics reveals that capacity is lying unutilized more in case of Organic Chemicals, Pesticides (Technical Grade) and Dyes and Pigments compared to products like Alkali and inorganic chemicals.

7. It appears that there is need to look in to the reasons for high unutilized Installed capacity in case of some of the products in the sector. In-depth study of the reasons for unutilized capacity may highlight other relevant issues viz. Specifications, Standardization and Mandation etc. along with enhanced requirement of Research and Development facilities.

8. The trade deficit in Chemical and Petrochemical Sector (comprising chapter 28, 29,30,31,32,38,39,4002,54,55 of HS code) is 71,429 Crore (INR) as per figures available on DGCIS, portal as on 21.07.2017. The trade deficit in respect of Major Chemical and Petrochemical Products being monitored by DCPC is around 39,730 Crore (INR) as per figures derived from the data received from DGCIS, Kolkata.

9. In respect of Major Chemicals at group level, it is observed on the basis of products monitored by this Department that Alkali Chemicals, Organic Chemicals and Inorganic Chemicals are trade deficit, whereas Pesticides (Technical Grade and formulation both) and Dyes & Pigments are trade surplus during 2016-17. However in respect of Major Petrochemicals at group level Polymers, Fibre Intermediates, Synthetic rubber, Synthetic Detergent Intermediates and Other Petro-based Chemicals are trade deficit, whereas Synthetic Fibre, Performance Plastics, Aromatics and Olefins are trade surplus during the same period. This aggregates to overall trade surplus in Major Chemicals and overall trade deficit in Major Petrochemicals resulting in to net trade deficit in Chemical and Petrochemical sector.

10. The need for more cohesive interaction amongst potential manufacturers in the sector is felt to take care of the issues such as unutilized Installed capacity and for promoting integrated growth of the sector for achieving excellence and for better contribution to the National Economy.

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	Polyestyrene
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

Sl.No.	Group	Products
	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	

Sl.No.	Group	Products
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	
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) Resin	Polytetrafluoroethylene(PTFE)
		Polyester Chips/PET Chips	

B. Intermediates		
I	Fibre Intermediates	Acrylonitrile
		Caprolactum
		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	Epichlorohydrine	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	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 fiber.
(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.

Limitations:

The data presented in this publication heavily draws on the narrow definition of chemicals and petrochemicals. The choice of adopting this narrow definition is guided by the availability of authentic detailed data with the Department of Chemicals and Petrochemicals.

Disclaimer :

Though due care has been taken in compiling this Publication, the possibility of errors and omissions remains. Users of the information contained in this Publication are urged to verify it independently. The Department of Chemicals and Petrochemicals will not bear any liability for any loss or injury arising out of the use of the information contained in this.

An Overview of Chemical and Petrochemical Sector

The chemical industry is the main stay 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 and a host of other articles of daily and specialized usage amidst other emerging areas.

2. 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 fibers, 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, paint, adhesives, electronic chemicals, water management chemicals, oilfield chemicals, flavors and fragrances, rubber additives, paper additives, industrial cleaners and fine chemicals. Sealants, coatings, catalysts come under this category.

iii. Agro - Chemicals

Chemicals which essentially are meant for protecting agriculture crops against insects and pests are covered under this sub-group.

3. 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 275.68 million MT in 2016-17 (as per 4th Advance Estimates of 2016-17). 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 only with the assistance of the Chemicals Industry. It plays a crucial role in housing development.

4. 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 include dental fills, contact lenses and dialyses also depend on the Chemicals Industry.

5. 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 5.7 million tonne in 2009-10 to 9.16 million tonne in 2016-17 (CAGR of 7.03%) while its consumption has increased from 7.19 million tonne to 12.7 million tonne (CAGR of 8.46%).

6. 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 represented 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. Examples 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

7. Chemical sector is predominantly based on feedstock derived from crude oil, natural gas, salt and minerals. Naphtha (used for production of Urea, Aromatics and Olefins), Heavy Gas oil (propylene and ethylene) and Kerosene (Linear Alkyl Benzene) are derived from crude oil. Steam cracking/ Catalytic Reforming of low and high aromatic naphtha in oil refineries provide Olefins (Ethylene, Propylene and Butadiene) and Aromatics (benzene, toluene and xylenes). Natural gas contains Methane (CH_4), Ethane (C_2H_6), Propane (C_3H_8) and Butane (C_4H_{10}). Rich natural gas, which contains C_2 and C_3 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 10134 thousand tonne in 2009-10 to 13254 thousand tonne in 2016-17. Off take of natural gas for petrochemical sector has increased from 1264 million standard cubic meter to 4170 million standard cubic meter during the same period.

8. 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.

9. There are four naphtha and four gas based cracker complexes in the country with a combined annual ethylene capacity of 4.65 million MT. Besides, two dual feed naphtha crackers with ethylene capacity 2.6 million MT/Year has been commissioned and started production. So ethylene capacity of the crackers would be 7.25 million MT/Year. There are five aromatic

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

complexes with a combined Xylene (para and ortho) capacity of 6.1 million MT. The present total installed capacity of Propylene in the Petrochemical segment is 4.74 million MT.

10. Innovations in additives, alloys, blends, compounds, composites and high grade reinforcement materials such as glass, nano-clays, carbon nano-tubes and carbon fibers 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 product and make it safe for environment and human health.

11. Commissioning of new installed Capacity

11.1 IOCL Refinery at Paradip, Odhisa has been commissioned on 8th February 2016 with capacity at 15 MMTPA. IOCL is building a Fluid Catalytic Cracker (FCC), which is integrated with Paradip Refinery. The Propylene unit to produce 680 KTA of PP is expected to be completed and made operational by 2018-19. Indmax Technology (FCC) installed at Paradip Refinery will produce both Ethylene & propylene streams, which will be further processed in the upcoming petrochemical units to produce Mono Ethylene Glycol & Polypropylene. Polypropylene project is under construction phase and installation of Mono Ethylene Glycol facilities at Paradip Refinery is under feasibility stage.

11.2 Assam Gas Cracker Project (AGCP), approved in 2006 and implemented by Brahmaputra Cracker and Polymer Limited (BCPL), was commissioned on 2nd January 2016. BCPL has built a dual feed Cracker Complex to produce 220 KTA of ethylene, 60 KTA of propylene, 226 KTA of LLDPE-HDPE and 60 KTA of PP.

11.3 ONGC Petro additions Ltd. (OPaL), a JV of ONGC, GAIL, and Gujarat State Petroleum Corp., has commissioned a grassroots mega petrochemical complex at the Dahej PCPIR. The complex's main Dual Feed Cracker Unit has the capacity to produce 1100 KTPA Ethylene, 400 KTPA Propylene and the Associated Units consists of Pyrolysis Gasoline Hydrogenation Unit, Butadiene Extraction Unit and Benzene Extraction Unit. The Polymer plants of OPaL has 2X360 KTPA of LLDPE/HDPE Swing unit, 340 KTPA of Dedicated HDPE and 340 KTPA of PP.

11.4 Reliance Industries has commissioned a dual feed off gas cracker with 1.5-million m.t./year ethylene plant recently which will crack refinery off-gases. The new Jamnagar cracker will raise Reliance's total ethylene capacity to 3.4 million MT/Year. Reliance industries are expected to commence commercial production of IIR/HBR by December 2018, which will be import substitution activity.

12. According to National Sample Survey Office (NSSO)'s latest survey (July 2011-June 2012 NSS 68th round), 20.6 lakh persons (0.44% of the total work force) were engaged in Chemicals and Chemical Products Sector (Industry Division 20 and 21 of NIC 2008) as per their usual status in the country. This includes 8.3 lakh person in Industry Division 21 of NIC 2008 (manufacture of pharmaceutical, medical chemicals and botanical products). The survey reflects that 8 lakh persons were engaged in manufacturing of plastic products (Industry Group 222: NIC 2008).

Global Scenario

As per the European Chemical Industry Council (Cefic 2016) world chemicals (excluding pharmaceuticals) sales in 2015 are valued at 3534 Euro billion. India ranks 4th in Asia and 6th in world with chemicals sales valued at 77.3 Euro billion in 2015. India's share of world chemicals market sales in 2015 marginally to 2.2% as compared to 2.1% in 2005. India's Capital spending in World Chemicals (excluding pharmaceuticals) valued at 3.5 Euro billion in 2015 as compared to 2.3 Euro billion in 2005. As per UN Comtrade Database for 2016, India ranks 17th in the world exports of chemicals (excluding pharmaceutical products) and ranks 7th in the world imports of chemicals (excluding pharmaceutical products). India's exports of chemicals (excluding pharmaceutical products) was 27.45 US\$ billion in 2016. India's share in World exports of chemicals (excluding pharmaceutical products) was 2.08% as compared to 1.77 % for all HS code Commodities in 2016. India's imports of chemicals (excluding pharmaceutical products) was 43.66 US\$ billion in 2016. India's share in World imports of chemicals (excluding pharmaceutical products) was 3.32% as compared to 2.55 % for all HS code Commodities in 2016.

Important Economic Indicators

According to National Accounts Statistics 2017, brought out by the Central Statistics Office (CSO), chemical and chemical products sector excluding pharmaceuticals (industry division 20 of NIC 2008) accounted for 1.27% of the GVA (at 2011-12 prices) in 2015-16, compared to 1.19% in 2014-15. The share of this sector in the GVA of manufacturing sector at 2011-12 prices was 7.11% during 2015-16 as compared to 6.85% in 2014-15. The average Indices of Industrial Production (IIP) for the Chemical and Chemical products (industry division 24: NIC 2004) for the year 2016-17 stand at 147.6, which is 2.86% higher as compared to the previous year. The average Indices of Industrial Production (IIP) for the Chemical and Chemical products (Industry division 20 of NIC 2008) for the year 2016-17 stand at 116.5, 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 2015-16 was Rs. 654,990 crore. 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 2015-15 was Rs. 922,908 crore.

2. The exports and imports data of 2016-17 shows that in the chemical sector, comprising chapter 28,29,30,31,32,38,39,4002,54,55 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. 75,429 crore, Man-made staple fibers accounted Rs. 9,890 crore, Man-Made Filaments accounted Rs. 8,337 crore and Tanning or Dyeing accounted Rs. 7,430 crore in **net exports** while Fertilizers (chapter 31 HS code) accounted Rs 28,286 crore, Plastic and Articles thereof (Chapter 39 HS code) accounted Rs. 35,756 crore, Organic Chemicals (Chapter 29 HS code) accounted Rs. 29,603 crore, Inorganic Chemicals (Chapter 28 HS code) accounted Rs 21,895 crore, Miscellaneous Chemical Products (Chapter 38 HS code) accounted Rs. 3,618 crore and Synthetic Rubber and Factice (4002 HS code) accounted Rs.6,214 crore in the **net imports** during 2016-17.

3. As per Annual Survey of Industries (Factory Sector), 2014-15, top seven States, namely, Gujarat (24.2%), Maharashtra (19.0%), Himachal Pradesh (8.5%), Uttarkhand (6.6%), Uttar Pradesh (5.6%), Tamil Nadu (5.4%) and Karnataka (3.2%) contributed 72.5% in the Gross Value Added (GVA) for the chemical & chemical products sector (Industry Division 20 of NIC 2008) and the same seven States, namely, Gujarat (29.4%) Maharashtra (16.4%), Tamil Nadu (6.3%), Uttar Pradesh (6.1%), Himachal Pradesh (5.2%), Uttarkhand (4.7%) and West Bengal (3.6%), contributed 71.8% in the Value of Output.

4. The exports of chemicals & petrochemicals (excluding pharmaceuticals products and fertilizers) has increased from Rs.83,788 crore in 2009-10 to Rs. 191,294 crore in 2016-17. The percentage share of the exports of chemicals & petrochemicals (excluding pharmaceuticals products and fertilizers) in the total national exports increased from 9.9% to 10.3% during the same period.

At the product level, the following products accounted more than Rs. thousand crore in the exports in 2016-17.

(Rs. Crore)

POLYESTER FILAMENT YARN	6908	OTHER FUNGICIDE NES	3446
POLYESTER CHIPS/PET CHIPS	5572	OTHER INSECTICIDES	3113
PARAXYLENE	4397	OTHER PESTICIDES	2086
PIGMENT EMULSION	3927	AZO DYES	1625
POLYPROPYLENE (INC. CO-POLYMER)	3827	POLYESTER STAPLE FIBRE	1503
REACTIVE DYES	3794	MENTHOL	1252
BENZENE	3668	HIGH DENSITY POLYTHYLENE	1178
OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	3620	PURIFIED TEREPHTHALIC ACID	1067

5. The imports of chemicals & petrochemicals (excluding pharmaceuticals products and fertilizers) has increased from Rs.110,113 crore in 2009-10 to Rs. 262,722 crore in 2016-17. The percentage share of the imports of chemicals & petrochemicals (excluding pharmaceuticals products and fertilizers) in the total national imports increased from 8.1% to 10.2% during the same period. At the product level, the following products accounted more than Rs. thousand crore in the imports in 2016-17.

(Rs. Crore)

POLY VINYL CHLORIDE	10158	NYLON-6	2337	PHENOL	1766
HIGH DENSITY POLYTHYLENE	8244	POLYOL	2254	STYRENE BUTADIENE RUBBER	1554
PARAXYLENE	6670	OTHER INSECTICIDES	2088	ETHYL VINYL ACETATE	1417
POLYPROPYLENE (INC. CO-POLYMER)	6119	POLYCARBONATE	2042	BUTYL RUBBER	1369
MONO EHYLENE GLYCOL	6048	ACETIC ACID	1940	ABS RESIN	1142
STYRENE	5576	TOLUENE	1831	CAUSTIC SODA	1124

LINEAR LOW DENSITY POLYTHYLENE	3814	PURIFIED TEREPHTHALIC ACID	1785	ACRYLONITRILE	1082
LOW DENSITY POLYETHYLENE	3301	LINEAR ALKYL BENZENE	1777	OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	1046
METHANOL	2958	VINYL CHLORIDE MONOMER	1774	SODA ASH	1025

6. The net imports of chemicals & petrochemicals (excluding pharmaceuticals products and fertilizers) has increased from Rs.26,325 crore in 2009-10 to Rs. 71,429 crore in 2016-17. The percentage share of the net imports of chemicals & petrochemicals (excluding pharmaceuticals products and fertilizers) in the total national net imports increased from 5.1% to 9.9% during the same period. At the product level, the following products accounted more than Rs. thousand crore in the net imports in 2016-17.

(Rs. Crore)

POLY VINYL CHLORIDE	10097	POLYOL	1926
HIGH DENSITY POLYTHYLENE	7065	ACETIC ACID	1877
MONO EHYLENE GLYCOL	5589	TOLUENE	1793
STYRENE	5534	VINYL CHLORIDE MONOMER	1774
LINEAR LOW DENSITY POLYTHYLENE	3398	LINEAR ALKYL BENZENE	1729
LOW DENSITY POLYETHYLENE	3028	PHENOL	1684
METHANOL	2926	ETHYL VINYL ACETATE	1399
POLYPROPYLENE (INC. CO-POLYMER)	2292	BUTYL RUBBER	1353
PARAXYLENE	2273	STYRENE BUTADIENE RUBBER	1280
NYLON-6	2041	ABS RESIN	1137
POLYCARBONATE	2009	ACRYLONITRILE	1082

The following products accounted more than Rs. thousand crore in the total net exports:

		(Rs. Crore)	
POLYESTER FILAMENT YARN	5983	OTHER HERBICIDES-ANTI SPROUTING PRODUCTS	2574
POLYESTER CHIPS/PET CHIPS	4882	AZO DYES	1589
BENZENE	3668	OTHER PESTICIDES	1170
REACTIVE DYES	3506	MENTHOL	1150
PIGMENT EMULSION	3449	OTHER INSECTICIDES	1024
OTHER FUNGICIDE NES	2592		

7. According to estimates of the CSO, during 2015-16 the share of corporate sector in chemical and chemical products (Industry division 20 and 21 NIC) is 99.35% as against share of corporate sector in respect of all industries together is 87.41%. 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 2013-14 and 2014-15 are given in the table below:

Class	Description	Total Output (Rs. Crore)	
		2013-14	2014-15
2011	Manufacture of basic chemicals	108217.83	129393.98
2012	Manufacture of fertilizers and nitrogen compounds	106807.15	110441.99
2013	Manufacture of plastics and synthetic rubber in primary forms	89700.01	70231.42
2021	Manufacture of pesticides and other agrochemical products	36786.17	39873.48
2022	Manufacture of paints, varnishes and similar coatings, printing ink and mastics	34268.9	41019.67
2023	Manufacture of soap and detergents, cleaning and polishing preparations, perfumes and toilet preparations	60435.93	98316.47
2029	Manufacture of other chemical products n.e.c.	50263.93	50378.07
2030	Manufacture of man-made fibres	27423.46	17589.08
Total		513903.38	557244.16

Source: Annual Survey of Industries 2013-14 and 2014-15 (Factory sector), Ministry of Statistics & Programme Implementation

INDIAN TRADE CLASSIFICATION (HARMONISED SYSTEM)

[ITC (HS)] 2017- An abstract

Indian Trade Classification (Harmonized System), 2017 has been compiled and notified by Directorate General of Foreign Trade, Ministry of Commerce and Industry, Government of India in January 2017. It has different sector of Economy / Trade divided in to 21 sections and 98 Chapters.

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	SECTION XI.
Chapter 55	Man-made staple fibres	

Illustration of 8 digit Product Code:

Chapter	Exim Code	Item Description
28		Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of; isotopes
	2801	FLUORINE, CHLORINE, BROMINE AND IODINE
	28011000	Chlorine
39		Plastics and articles thereof
	3902	POLYMERS OF PROPYLENE OR OF OTHER OLEFINS, IN PRIMARY FORMS
	39021000	Polypropylene

**Source: 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.*

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. The subsequent versions of this document were brought out by CSO as NIC- 70, NIC- 87 and NIC- 1998. It is during 1998 that 4 digit system of International Standard Industrial Classification (ISIC- 3) was followed in toto 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 to of NIC-2004 have been replaced by sections to 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 ofNIC-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.*

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

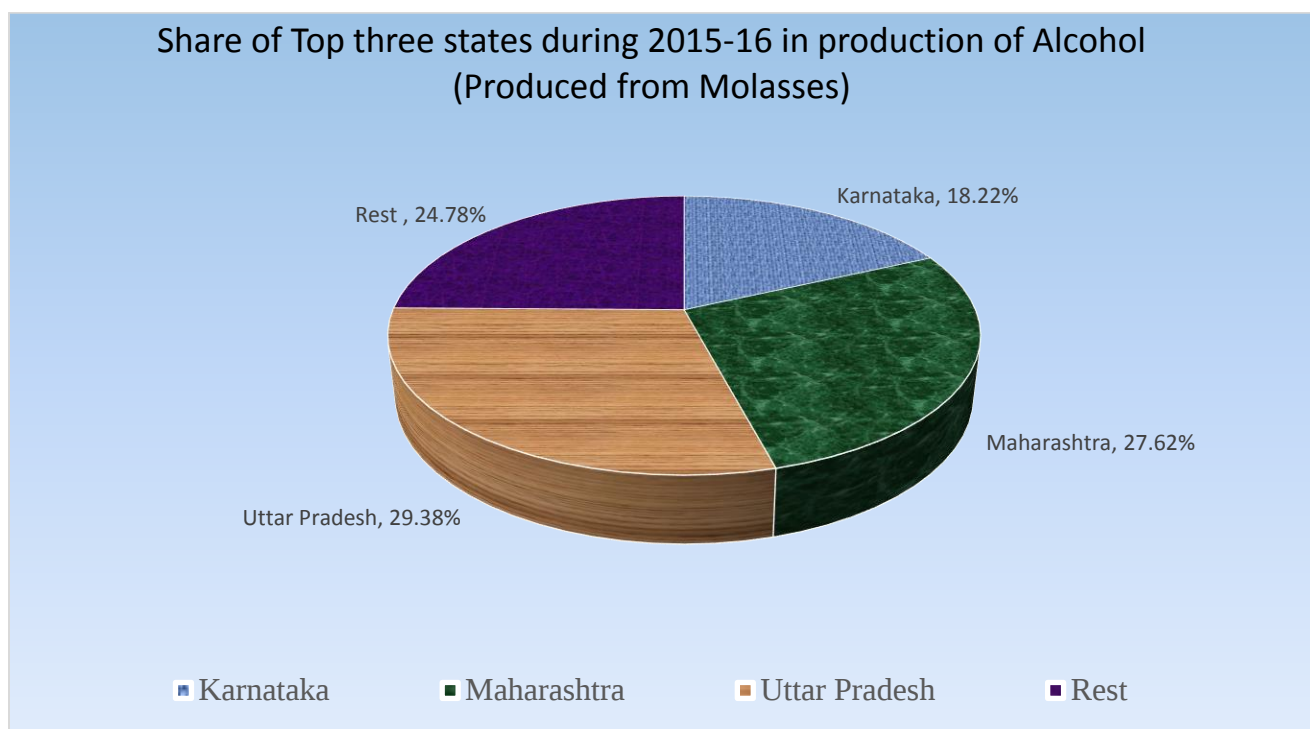
Alcohol (Produced from Molasses) and Molasses

Department of Chemicals and Petrochemicals collates information on Molasses and Alcohol (Produced from Molasses) from State Excise Departments of 11 Major sugarcane producing states on yearly basis. 11 Major sugarcane producing states are as under:

1.	Andhra Pradesh
2.	Bihar
3.	Gujarat
4.	Haryana
5.	Karnataka
6.	Maharashtra
7.	Punjab
8.	Tamil Nadu
9.	Uttar Pradesh
10.	Uttarakhand
11.	Telagana

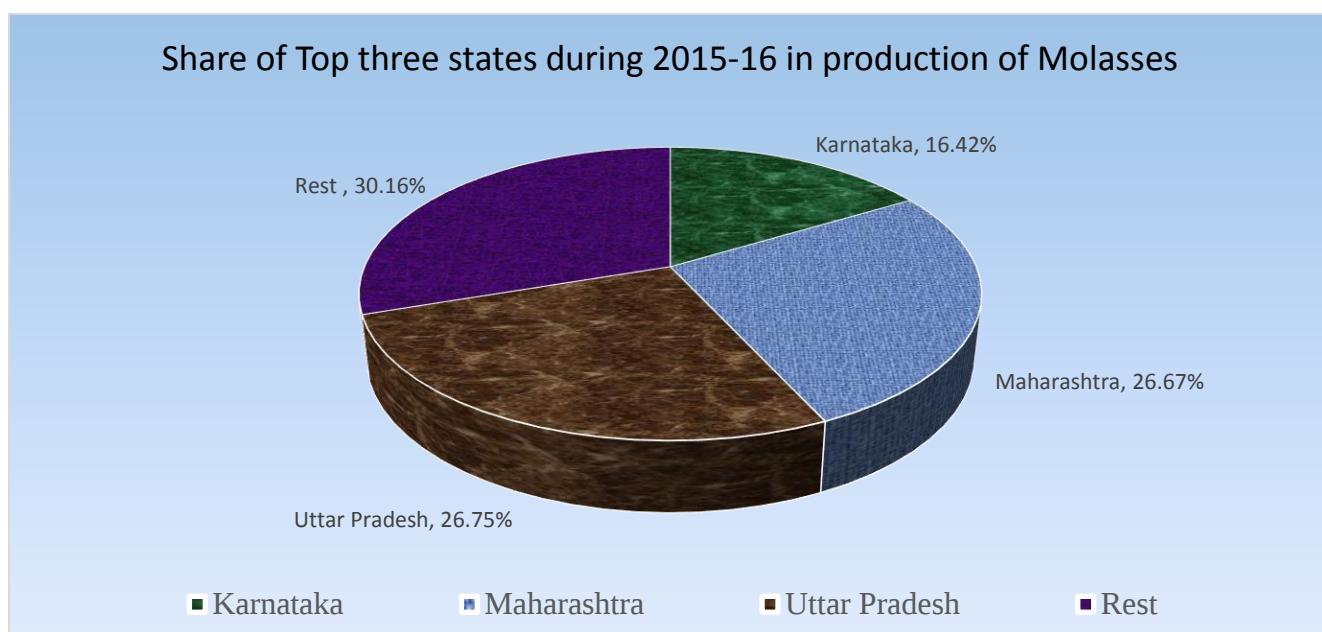
2. Production of Alcohol (produced from molasses) is 26486.60 lakh liters during 2015-16 with 4 % growth as compared to the previous year, while Production of Molasses is 115.32 lakh MT during 2015-16 with 5.9% negative growth as compared to the previous year. Top three states namely Uttar Pradesh (29.38 %) , Maharashtra (27.62 %) and Karnataka (18.22 %) contributes 75.22% during 2015-16 in Alcohol (produced from Molasses) produced by 11 Major Sugar cane producing states and the same three states namely Uttar Pradesh (26.75 %) , Maharashtra (26.67 %) and Karnataka (16.42 %) contributes 69.84 % during the same period in Molasses produced by 11 Major Sugar cane producing states.

GRAPHICAL PRESENTATION:



Source: Table 46

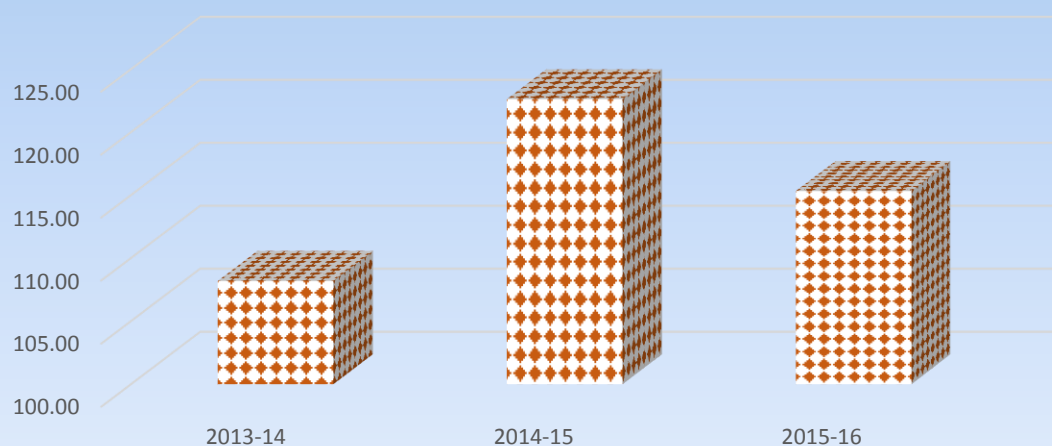
*Rest: Andhra Pradesh, Bihar, Gujarat, Punjab, Telangana, Tamil Nadu, Uttarakhand



Source: Table 45

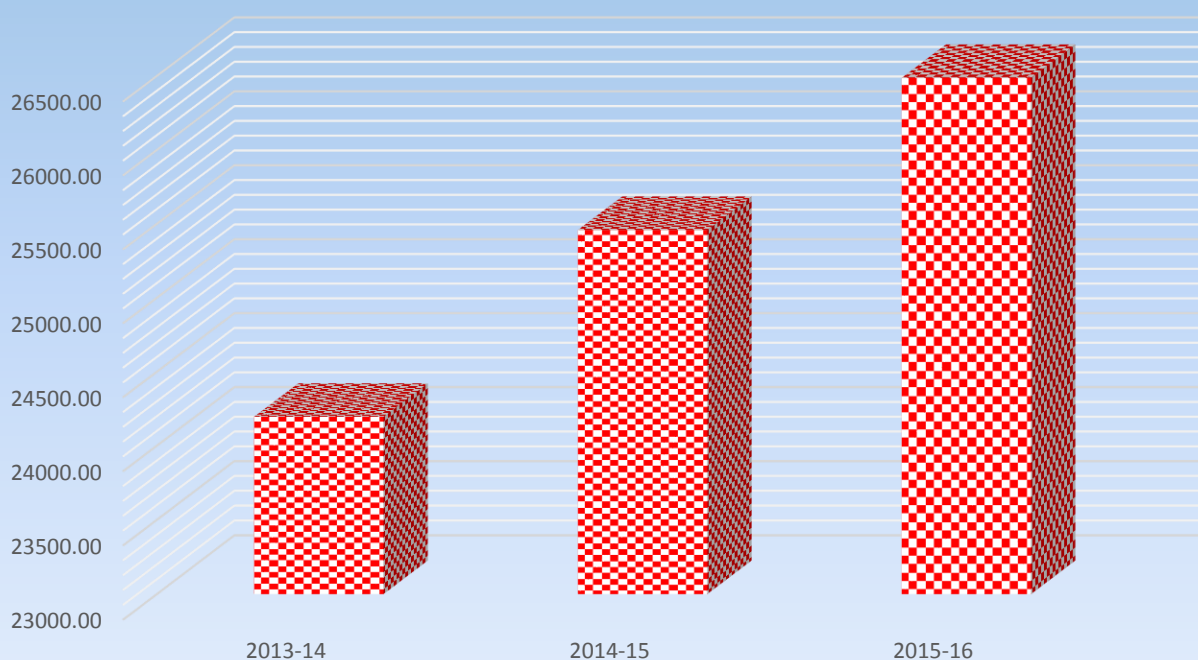
*Rest: Andhra Pradesh, Bihar, Gujarat, Punjab, Telangana, Tamil Nadu, Uttarakhand

Production of Molasses from 11 Major Sugarcane Producing States during 2013-14 to 2015-16



Source: Table 45

Production of Alcohol From Molasses from 11 Major Sugarcane Producing States during 2013-14 to 2015-16



Source: Table 46

Glimpses of Important Trends during 2012-13 to 2016-17

This Chapter has been included in this publication to highlight important trends of the sector during the last five years i.e. 2012-13 to 2016-17, 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 annual growth during 2016-17 and compound annual growth rate (CAGR) during the period from 2012-13 to 2016-17. 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 2016-17.

2. The trends of Production of Alcohol (produced from Molasses) and Molasses during 2013-14 to 2015-16 have also been included in this publication. The share of top three Major sugarcane producing states in Alcohol (produced from Molasses) and Molasses during 2015-16 has also been presented in the chapter dealing with Alcohol (produced from Molasses) and Molasses.

3. However, for broader perspective 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 -2016, sectors attracting highest FDI equity inflows etc. are also included.

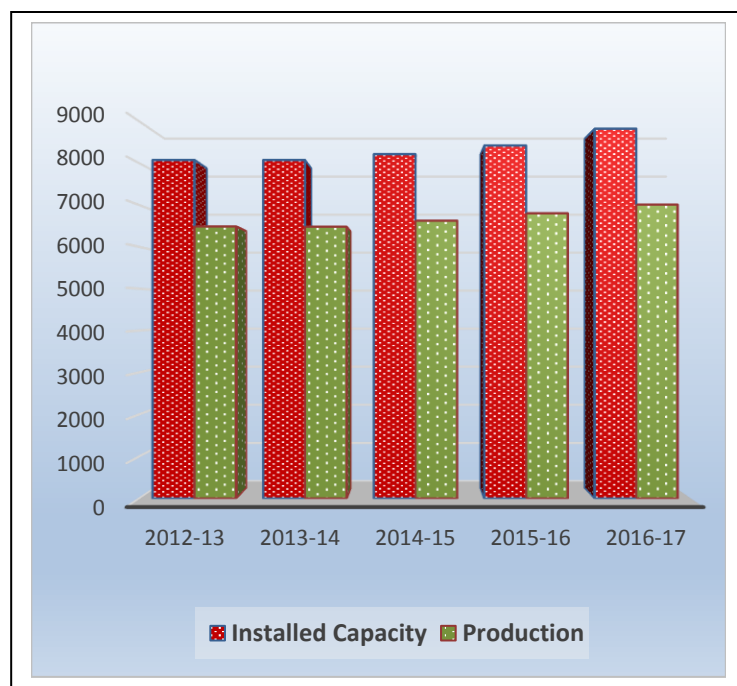
4. The statistical tables appended in the Publication present comparable data with previous years. For easy reference and comparability, the table numbers have been retained to the extent possible same as in earlier years. The data contained in these tables pertain to the period 2009-10 to 2016-17. Accordingly CAGR in these tables has also been reflected over the period of 8 years.

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

Alkali Chemicals

Installed Capacity-Production

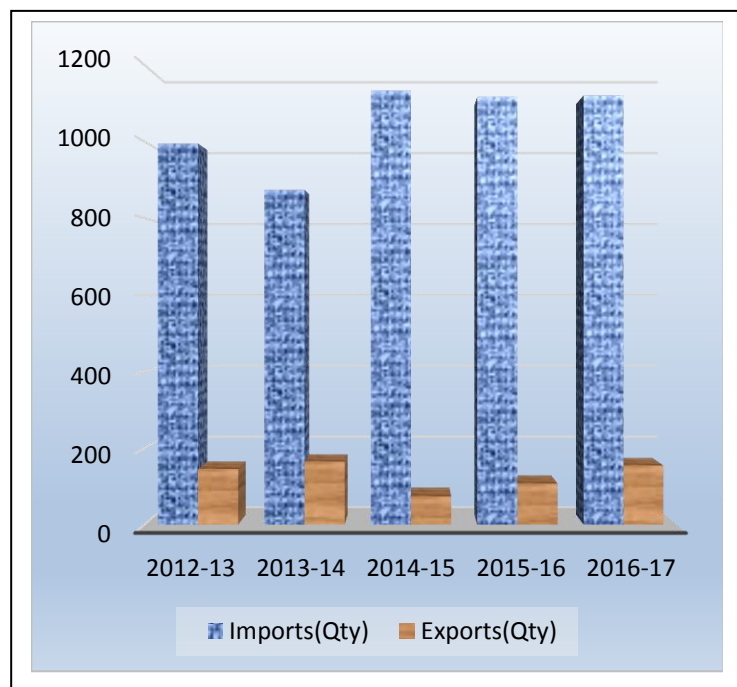
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	8075	6487
2013-14	8075	6481
2014-15	8214	6625
2015-16	8422	6802
2016-17	8822	7009
Annual Growth During 2016-17	4.7	3.0
CAGR (%)	2.2	2.0



Production of Alkali Chemicals during the year 2016-17 is 7009 (Thousand) MT as against installed capacity of 8822 (Thousand) MT. It is evident that installed capacity and production is consistently increasing except slight dip in production during 2013-14.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	995	145
2013-14	874	164
2014-15	1134	74
2015-16	1118	107
2016-17	1121	154
Annual Growth During 2016-17	0.3	44.5
CAGR (%)	3.0	1.6

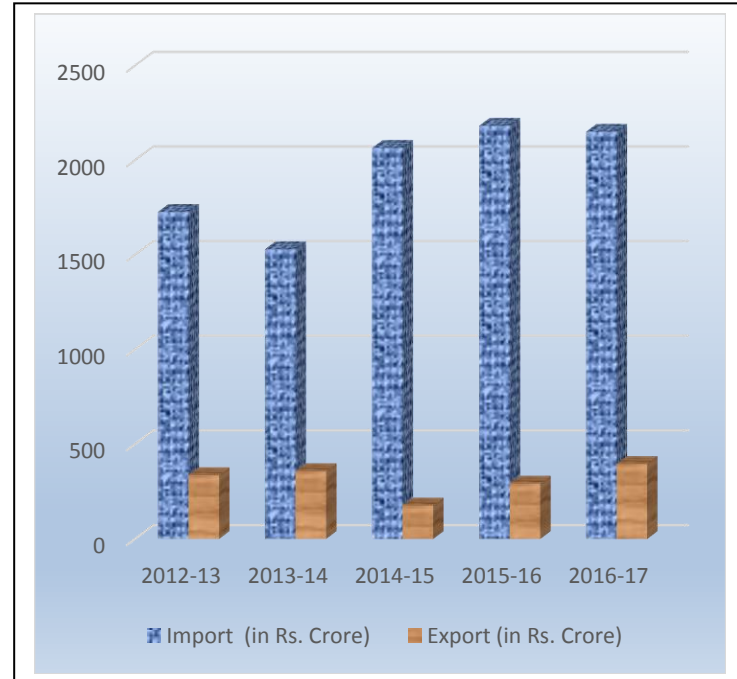


It is observed that during the period Export of Alkali Chemicals is very low compared to its Import. It is also seen that Export of Alkali slumped suddenly during 2014-15 and thereafter picking up gradually.

Alkali Chemicals

Value of Import- Value of Export

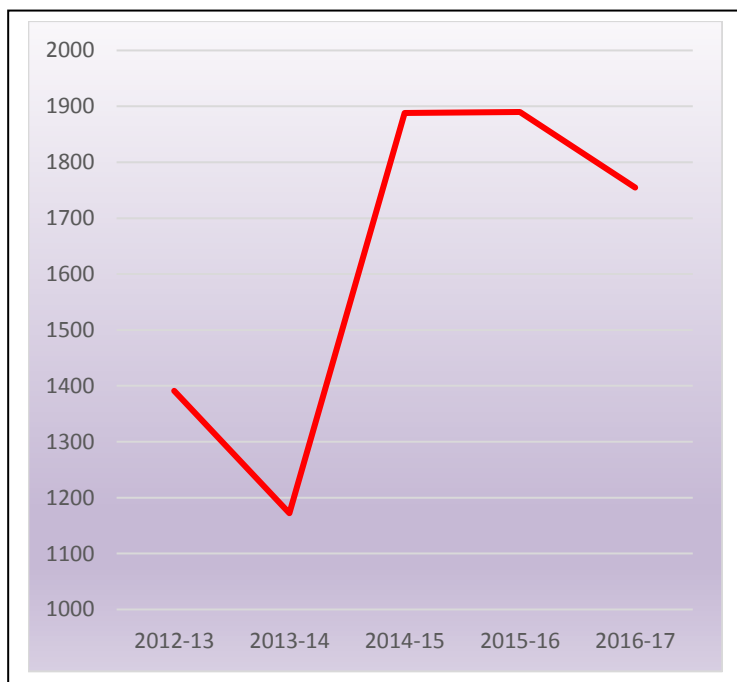
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	1727	336
2013-14	1530	357
2014-15	2065	177
2015-16	2182	292
2016-17	2151	396
Annual Growth During 2016-17	-1.4	35.5
CAGR (%)	5.64	4.19



Value of Export of Alkali Chemicals is extremely low as compared to Value of Import during the entire period. It is observed that during the year 2014-15 export has abnormally declined but thereafter picking up gradually.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	1391
2013-14	1172
2014-15	1888
2015-16	1890
2016-17	1755
Annual Growth During 2016-17	-7.2
CAGR (%)	5.98

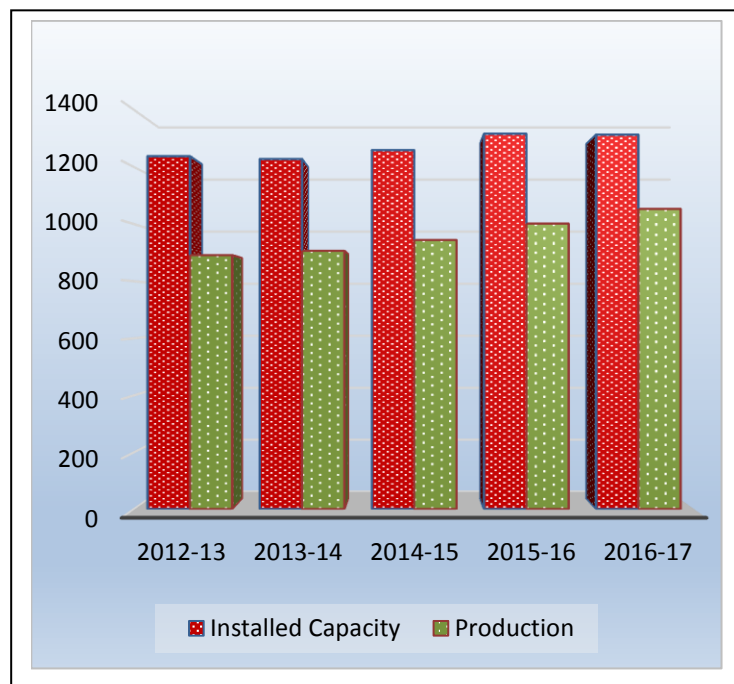


It is observed that the Net Import of Alkali Chemicals is declined during to 2013-14 minimizing trade deficit. However, there is a sharp increase observed during 2014-15, after that it is stable during 2015-16 and again showing declining trend.

Inorganic Chemicals

Installed Capacity-Production

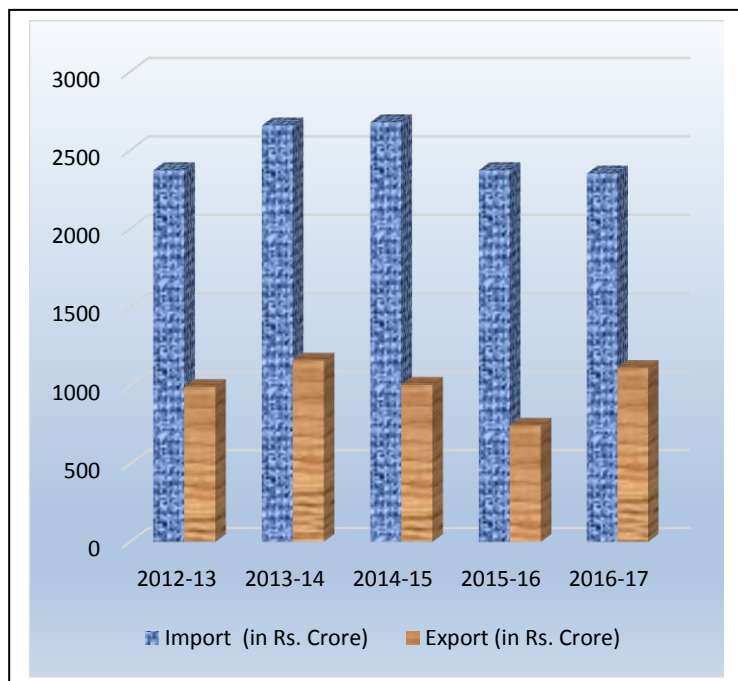
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	1238	891
2013-14	1228	906
2014-15	1259	944
2015-16	1316	1002
2016-17	1313	1053
Annual Growth During 2016-17	-0.3	5.1
CAGR (%)	1.5	4.3



Production of Inorganic Chemicals during the year 2016-17 is 1053 in (Thousand) MT as against installed capacity of 1313 in (Thousand) MT. It is seen that installed capacity during the period has shown slight ups and downs over the years. However, production is consistently increasing over the years.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	689	163
2013-14	874	167
2014-15	912	164
2015-16	1010	157
2016-17	1010	378
Annual Growth During 2016-17	0.0	141.0
CAGR (%)	10.0	23.4

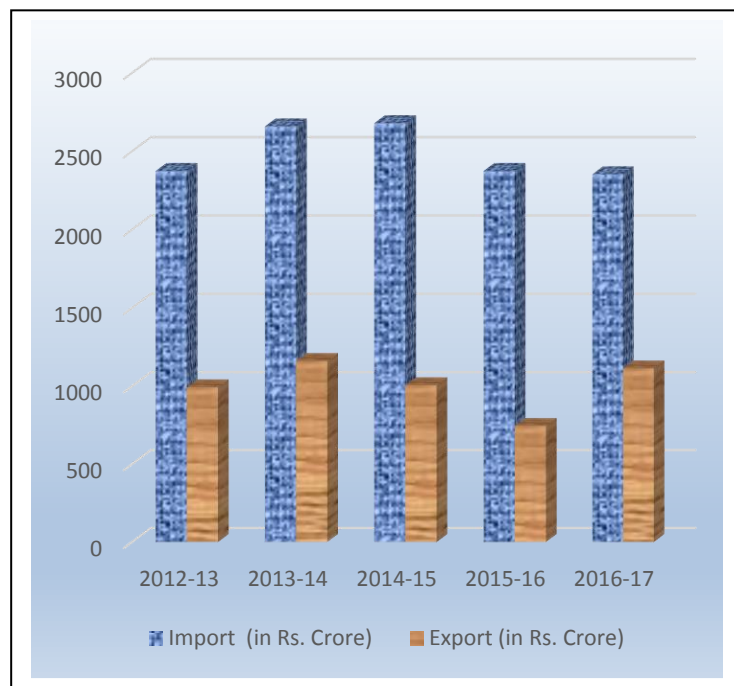


Export of Inorganic Chemicals like Alkali Chemicals is very low compared to its Import. It is also seen that Export of Inorganic Chemicals fluctuated marginally till 2015-16 but suddenly picked up in a big way during 2016-17.

Inorganic Chemicals

Value of Import- Value of Export

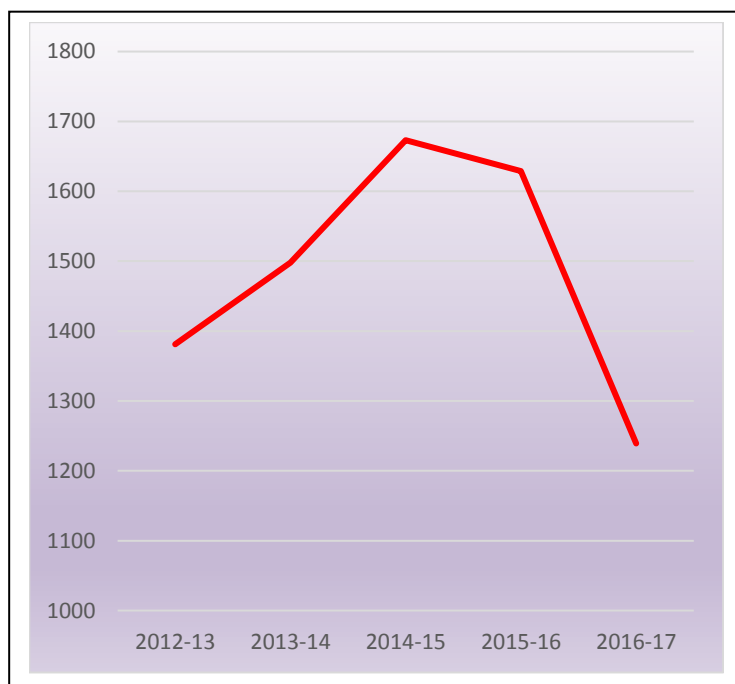
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	2374	992
2013-14	2658	1160
2014-15	2679	1006
2015-16	2374	745
2016-17	2352	1113
Annual Growth During 2016-17	-0.9	49.5
CAGR (%)	-0.22	2.92



Value of Export of Inorganic chemicals is very low as compared to Value of Import during the entire period. It is observed that after 2013-14 value of export declined during two consecutive years but thereafter picked up.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	1381
2013-14	1498
2014-15	1673
2015-16	1629
2016-17	1239
Annual Growth During 2016-17	-23.9
CAGR (%)	-2.68

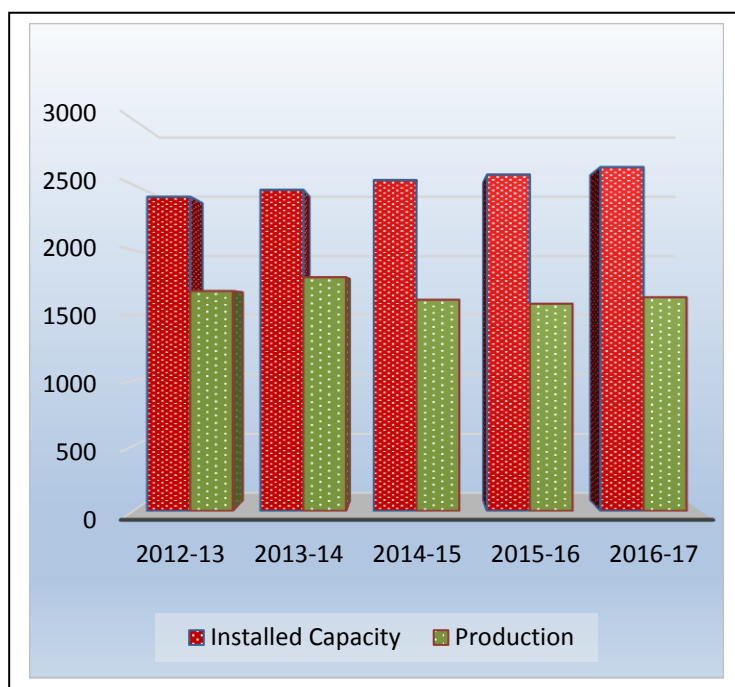


It is apparent that Net Import of Inorganic Chemicals during 2012-13 to 2014-15 is showing increasing trend and started declining 2015-16 with sharp decline during 2016-17 bridging gap of trade deficit.

Organic Chemicals

Installed Capacity-Production

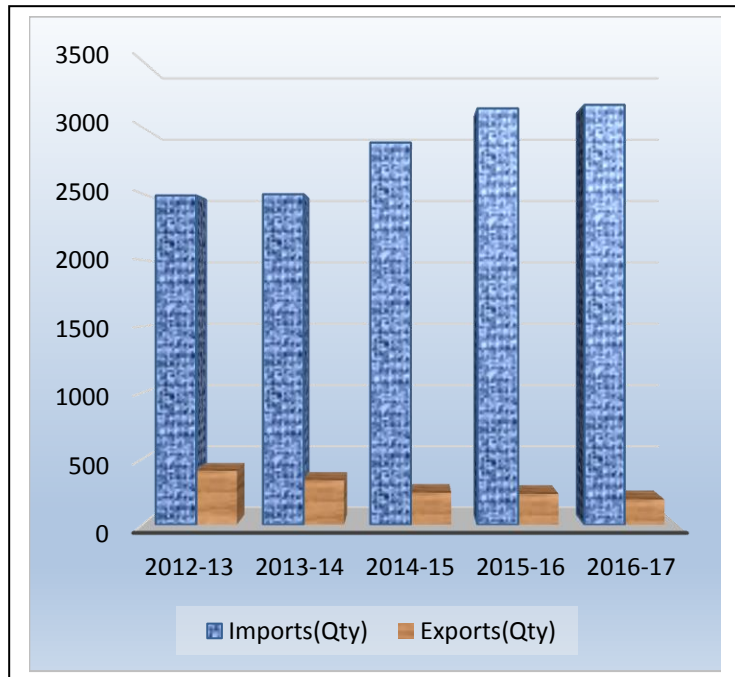
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	2409	1686
2013-14	2463	1792
2014-15	2537	1619
2015-16	2580	1589
2016-17	2637	1638
Annual Growth During 2016-17	2.2	3.1
CAGR (%)	2.3	-0.7



Production of Organic Chemicals during the year 2016-17 is 1638 in (Thousand) MT as against installed capacity of 2637 in (Thousand) MT. It is apparent that installed capacity is consistently increasing over the years and production is fluctuating over the years.

Quantity Imported-Quantity Exported

Year	Imports (In Thousand MT)	Export (In Thousand MT)
2012-13	2487	407
2013-14	2496	335
2014-15	2886	241
2015-16	3143	232
2016-17	3170	190
Annual Growth During 2016-17	0.9	-17.9
CAGR (%)	6.3	-17.3

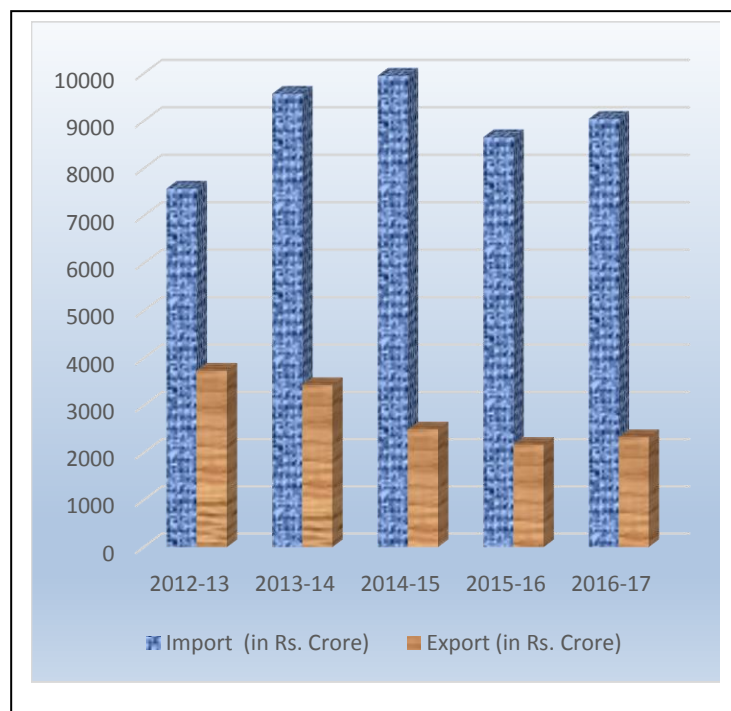


The Export of Organic Chemicals is very low compared to its Import during the period. It is also seen that Export of Organic chemicals is decreasing consistently over the period, whereas Import is gradually increasing widening the gap of trade deficit.

Organic Chemicals

Value of Import- Value of Export

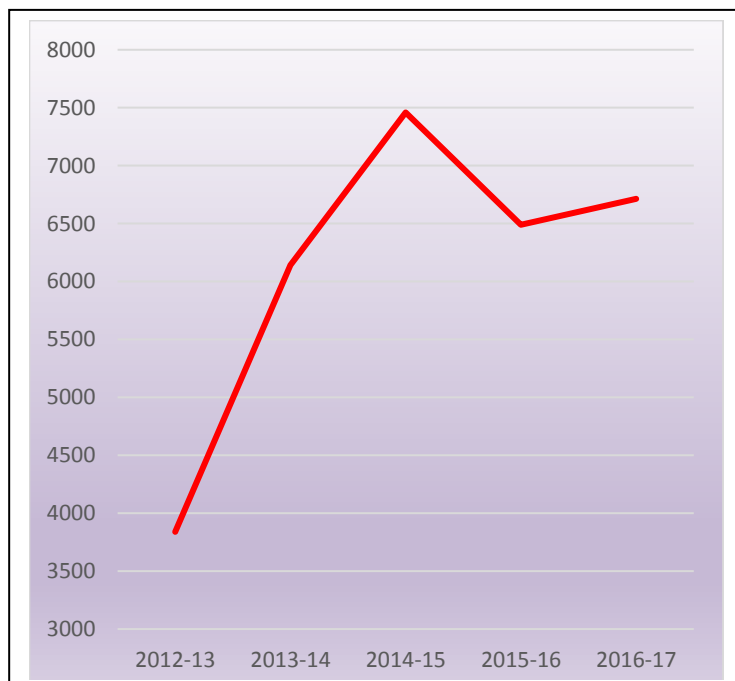
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	7574	3735
2013-14	9572	3431
2014-15	9954	2495
2015-16	8657	2168
2016-17	9044	2329
Annual Growth During 2016-17	4.5	7.5
CAGR (%)	4.53	-11.14



The Export of Organic Chemicals is very low compared to its Import during the period causing trade deficit. It is also seen that value of Export of Organic Chemicals is decreasing consistently till 2015-16 but picking up during 2016-17.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	3839
2013-14	6142
2014-15	7459
2015-16	6489
2016-17	6714
Annual Growth During 2016-17	3.5
CAGR (%)	15.00

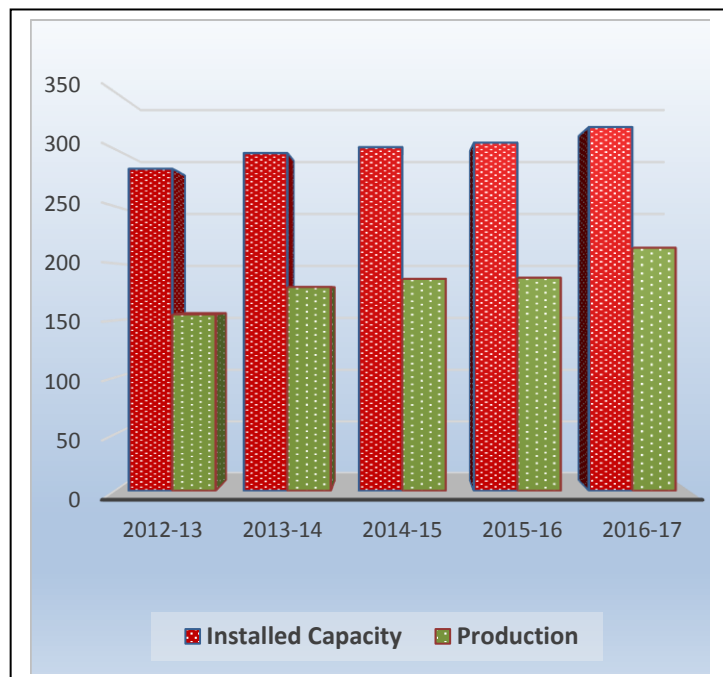


It is clear that Net imports of Organic Chemicals showing increasing trend till 2014-15, declined during 2015-16 and again showing increasing trend during 2016-17. The situation of minimizing trade deficit is taking reversal trend again.

Pesticides (Technical Grade)

Installed Capacity-Production

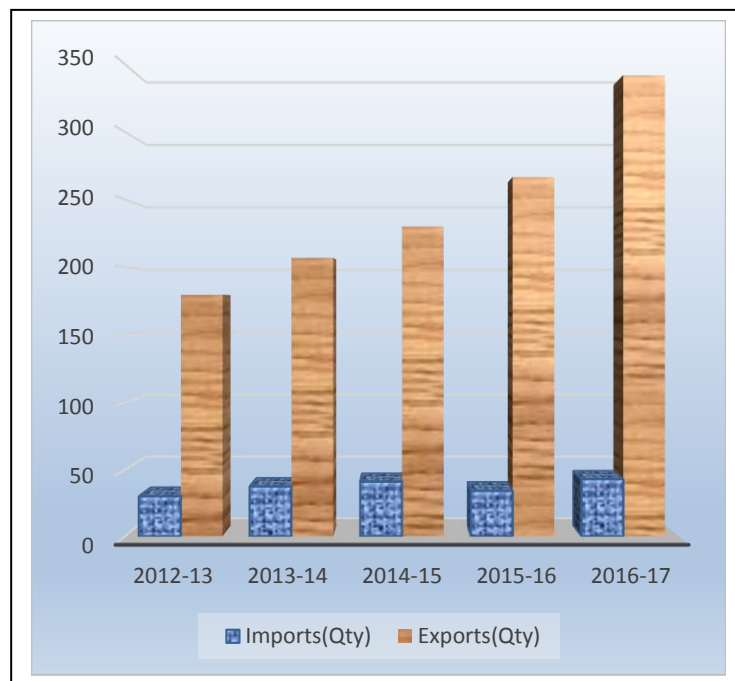
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	283	155
2013-14	297	179
2014-15	302	186
2015-16	306	188
2016-17	319	214
Annual Growth During 2016-17	4.5	14.0
CAGR (%)	3.1	8.3



Production of Pesticides (Technical Grade) during the year 2016-17 is 214 in (Thousand) MT as against installed capacity of 319 in (Thousand) MT. It is evident that installed capacity and production both are gradually increasing over the years.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	30	180
2013-14	37	207
2014-15	41	230
2015-16	34	267
2016-17	43	342
Annual Growth During 2016-17	25.8	28.3
CAGR (%)	9.3	17.5

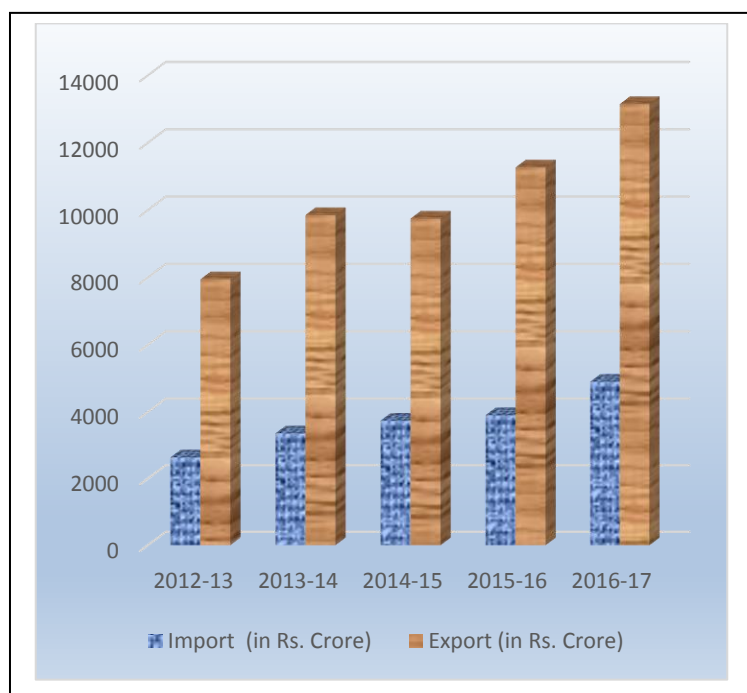


It is pleasant to note that during the period Export of Pesticides (Technical and formulations both) is very high compared to its Import and consistently rising over the years.

Pesticides (Technical Grade)

Value of Import- Value of Export

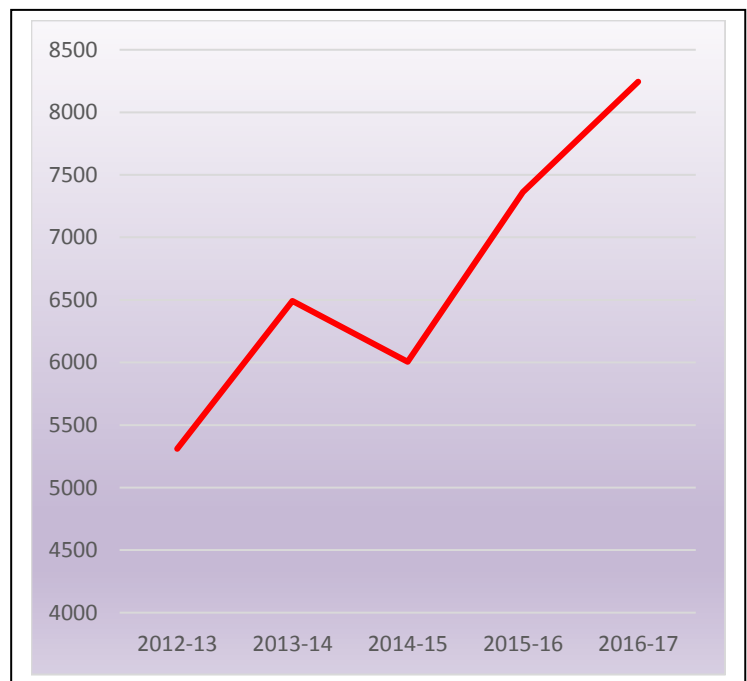
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	2636	7946
2013-14	3360	9852
2014-15	3741	9747
2015-16	3907	11269
2016-17	4906	13150
Annual Growth During 2016-17	25.6	16.7
CAGR (%)	16.79	13.42



It is pleasant to note that during the period value of Export of Pesticides (Technical and formulations both) is very high compared to Import and consistently rising over the years except slight dip during 2014-15 resulting into trade Surplus.

Net Export

Year	Net Export (Rs. in Crore)
2012-13	5310
2013-14	6492
2014-15	6006
2015-16	7362
2016-17	8244
Annual Growth During 2016-17	12.0
CAGR (%)	11.63

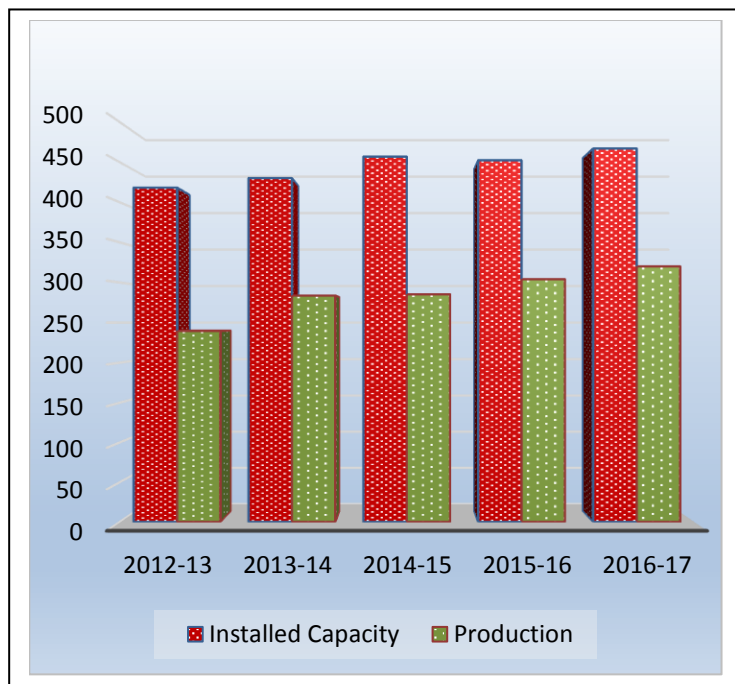


It is pleasant to note that Net Export of Pesticides (Technical and Formulation both) continuously increasing during entire period except a slight decrease in 2013-14. The trend of Export of Pesticides (Technical and Formulation both) is playing a significant role to counter situation of trade deficit in Chemical Sector.

Dyes and Pigments

Installed Capacity-Production

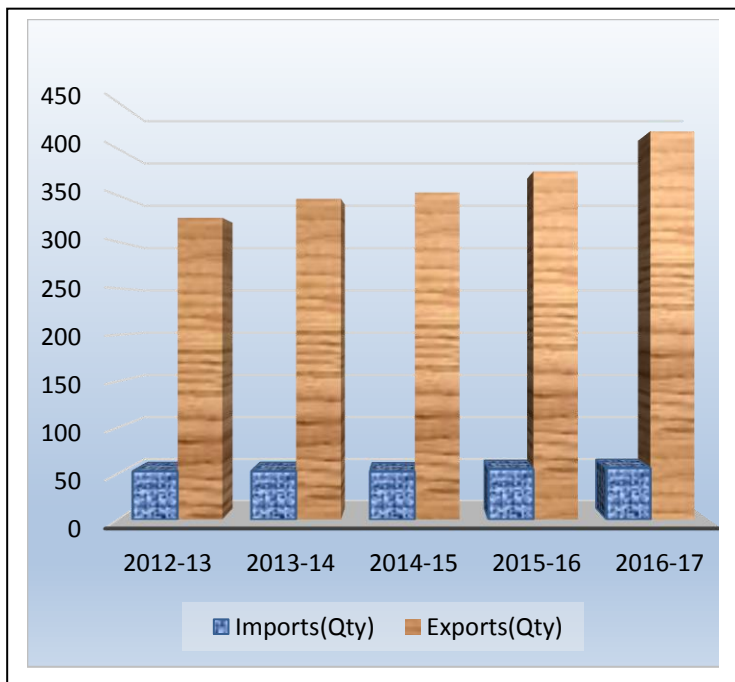
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	418	240
2013-14	430	284
2014-15	457	285
2015-16	452	304
2016-17	467	320
Annual Growth During 2016-17	3.2	5.3
CAGR (%)	2.8	7.5



Production of Dyes and Pigments during the year 2016-17 is 320 in (Thousand) MT as against installed capacity of 467 in (Thousand) MT. It is evident that installed capacity is more or less increasing with a slight dip during 2015-16. Production is however consistently observed increasing over the years.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Exports (In Thousand MT)
2012-13	52	326
2013-14	52	347
2014-15	52	353
2015-16	55	376
2016-17	56	419
Annual Growth During 2016-17	2.2	11.5
CAGR (%)	1.7	6.5

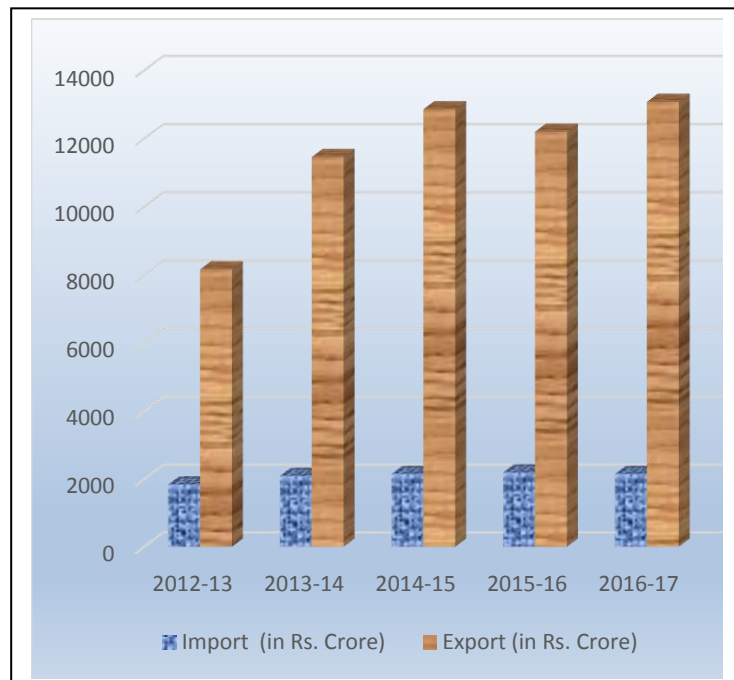


It is encouraging to note that during the period Export of Dyes and Pigments is very high compared to its Import and consistently increasing over the years.

Dyes and Pigments

Value of Import- Value of Export

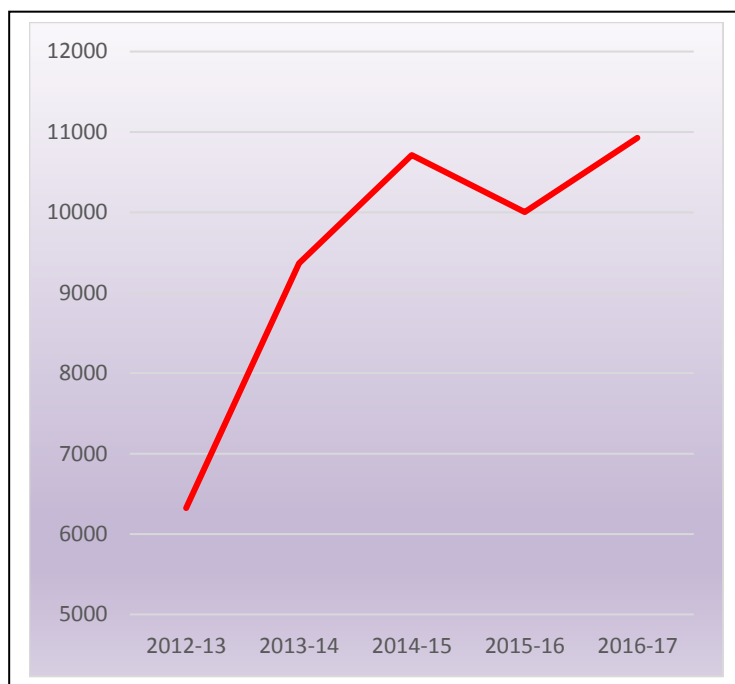
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	1837	8160
2013-14	2090	11456
2014-15	2147	12858
2015-16	2193	12198
2016-17	2149	13075
Annual Growth During 2016-17	-2.0	7.2
CAGR (%)	4.00	12.51



It is encouraging to note that during the period Export of Dyes and Pigments is very high compared to its Import and consistently increasing over the years except slight dip during 2015-16, resulting into trade Surplus.

Net Export

Year	Net Export (Rs. in Crore)
2012-13	6323
2013-14	9366
2014-15	10711
2015-16	10005
2016-17	10926
Annual Growth During 2016-17	9.2
CAGR (%)	14.65

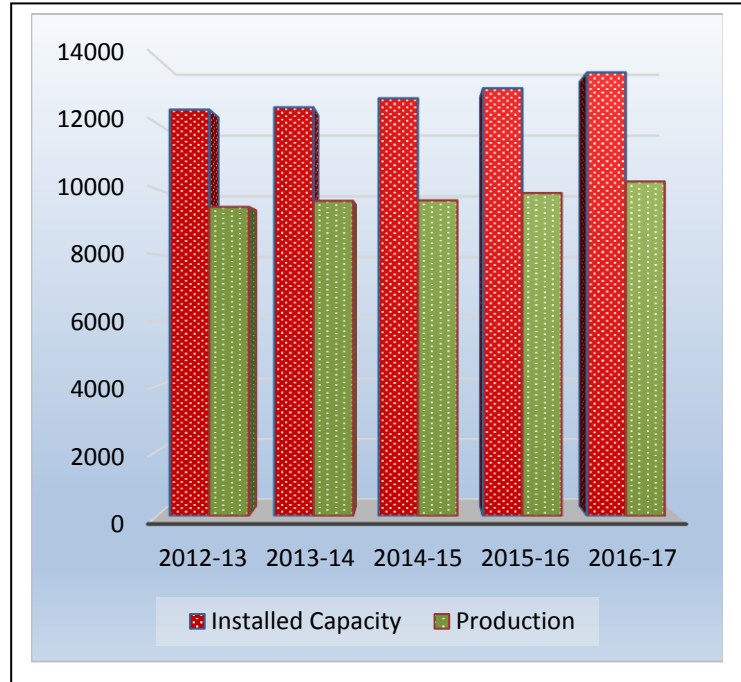


It is encouraging to note that during the period Net Export of Dyes and Pigments is showing consistent upward trend except a dip during 2015-16. It is also observed that Dyes and Pigment Group is trade surplus during entire period and contributing to counter the situation of trade deficit faced by the other groups of the sector.

Total Major Chemicals

Installed Capacity-Production

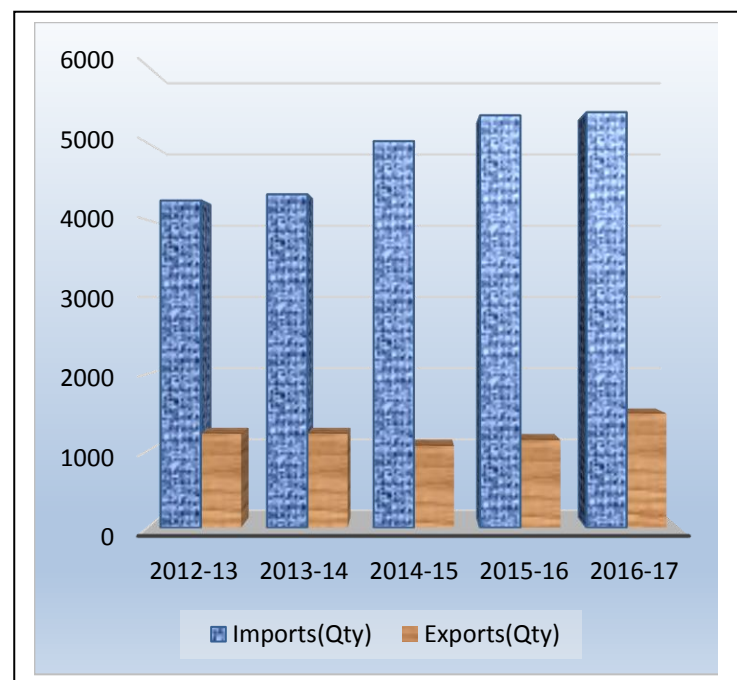
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	12423	9459
2013-14	12493	9643
2014-15	12768	9660
2015-16	13076	9884
2016-17	13558	10234
Annual Growth During 2016-17	3.7	3.5
CAGR (%)	2.2	2.0



Production of Total major Chemicals during the year 2016-17 is 10234 in (Thousand) MT as against installed capacity of 13558 in (Thousand) MT. It is apparent that installed capacity and production both are consistently increasing over the years.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	4253	1220
2013-14	4333	1221
2014-15	5025	1061
2015-16	5360	1138
2016-17	5400	1484
Annual Growth During 2016-17	0.8	30.4
CAGR (%)	6.1	5.0

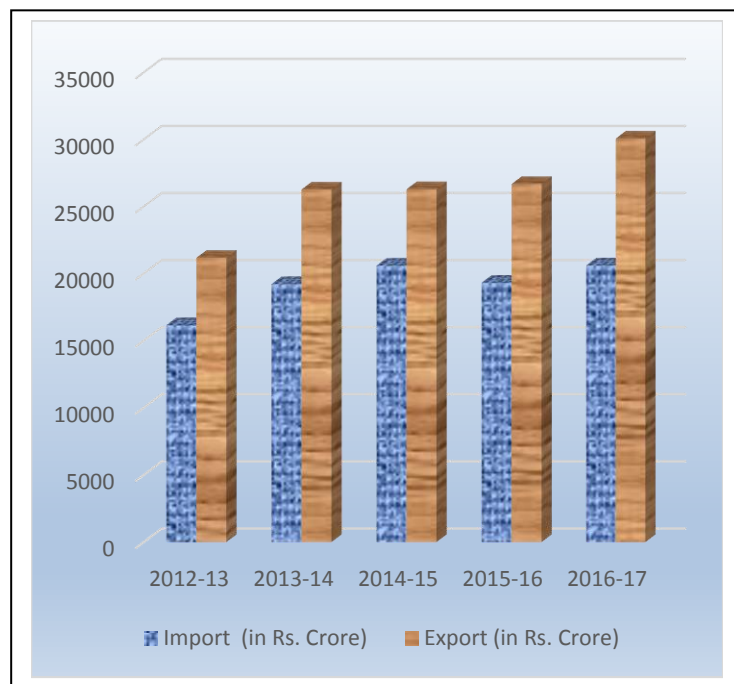


It is clear that during the period export of Total Chemicals is very low compared to its Import. It is also seen that there is a dip in Export of Total Major Chemicals during 2014-15 and 2015-16 and again picked up during 2016-17.

Total Major Chemicals

Value of Import- Value of Export

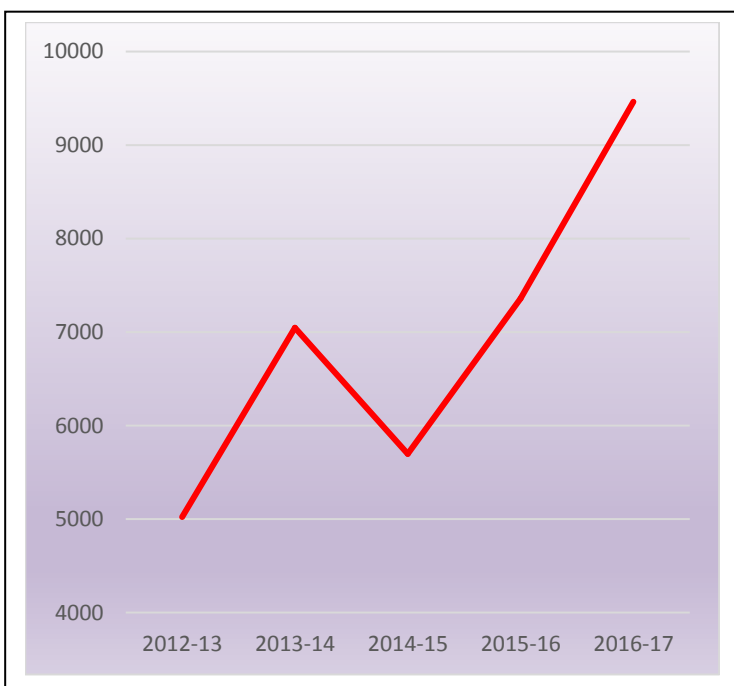
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	16148	21170
2013-14	19210	26256
2014-15	20585	26282
2015-16	19313	26671
2016-17	20601	30064
Annual Growth During 2016-17	6.7	12.7
CAGR (%)	6.28	9.16



It is pleasant to note that during the period Export of Total Major Chemicals is consistently rising compared to its Import resulting into situation of trade surplus.

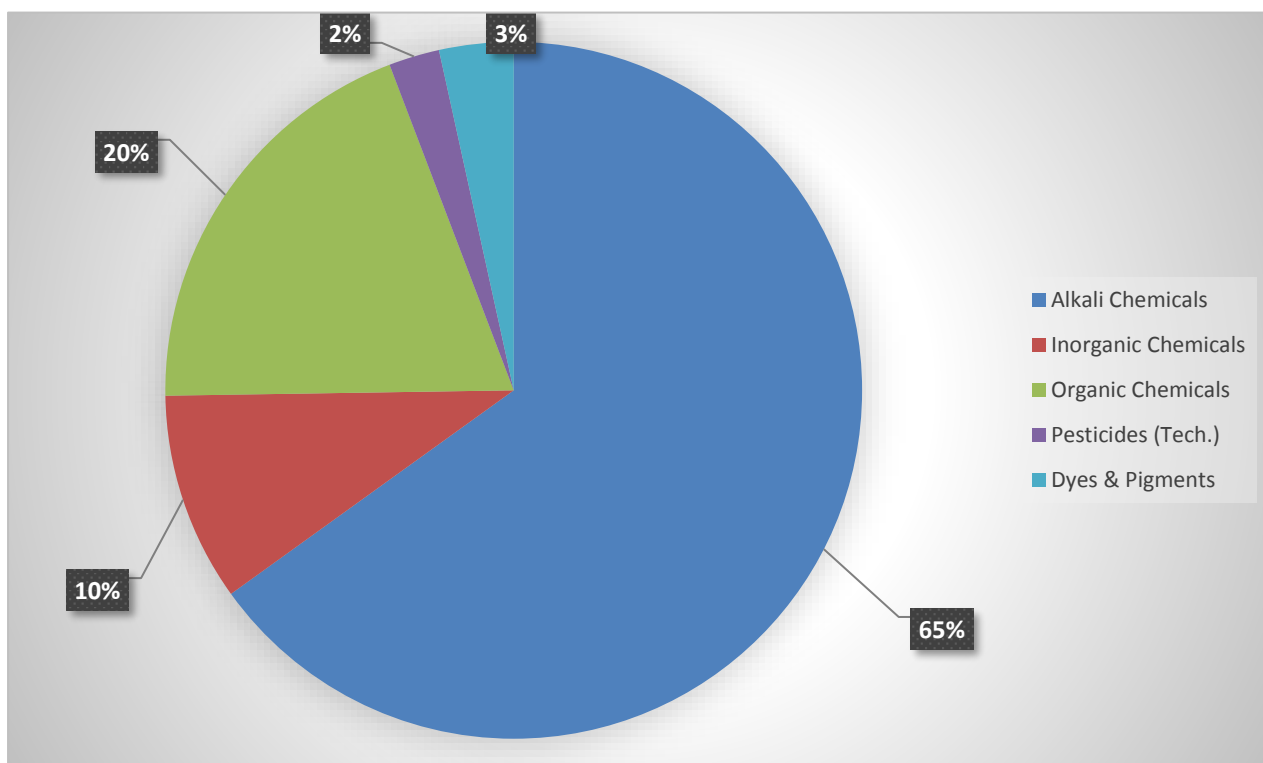
Net Export

Year	Net Export (Rs. in Crore)
2012-13	5022
2013-14	7046
2014-15	5697
2015-16	7359
2016-17	9463
Annual Growth During 2016-17	28.6
CAGR (%)	17.16

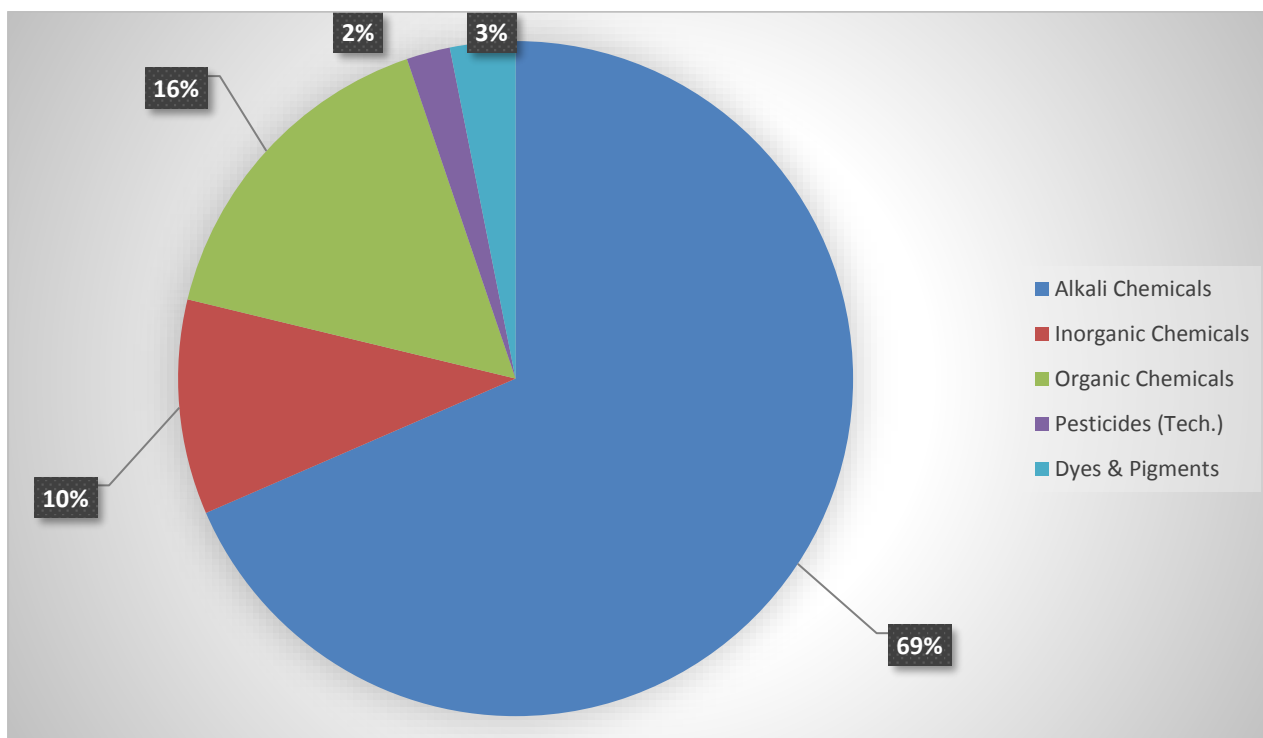


It is apparent that during the period Net Export of Total Chemicals is showing increasing trend except a dip during 2014-15. The trend of Total Chemical Sector is trade surplus and helpful in balancing to some extent the trade deficit situation in Chemical and Petrochemical sector as a whole.

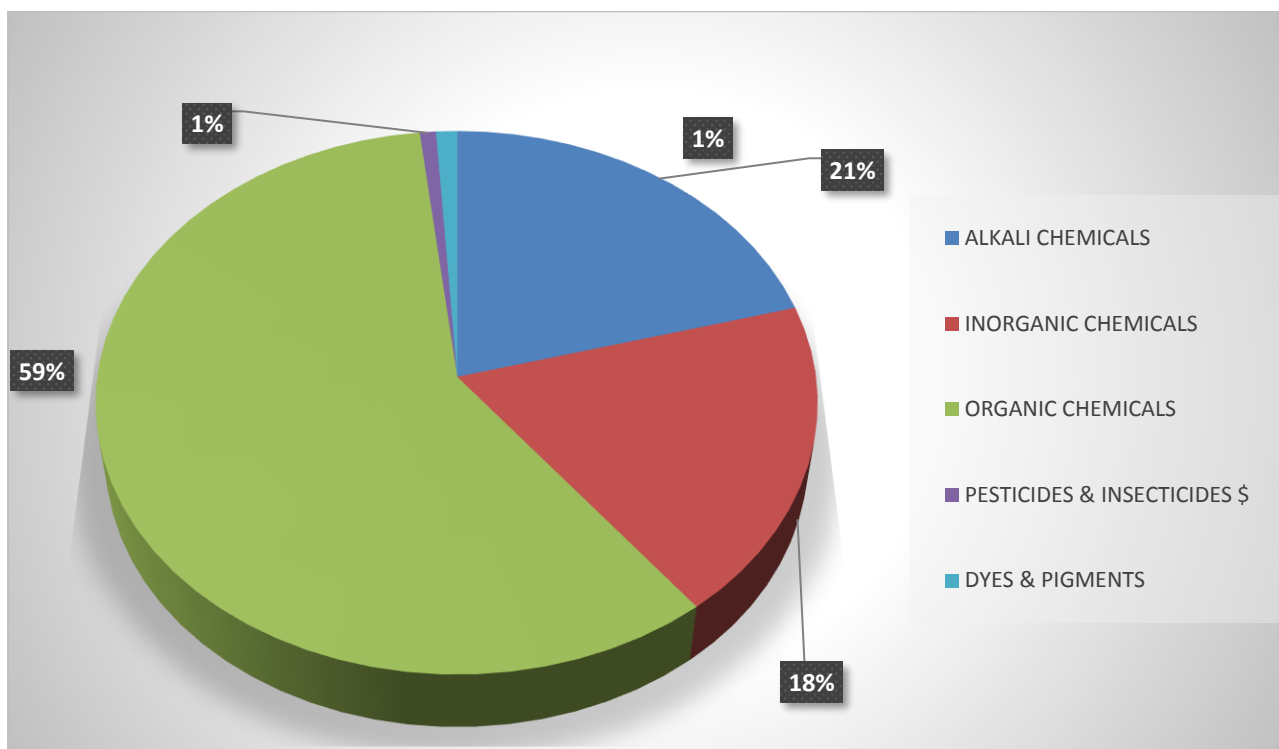
Share of Installed Capacity of Major Chemical Groups during year 2016-17



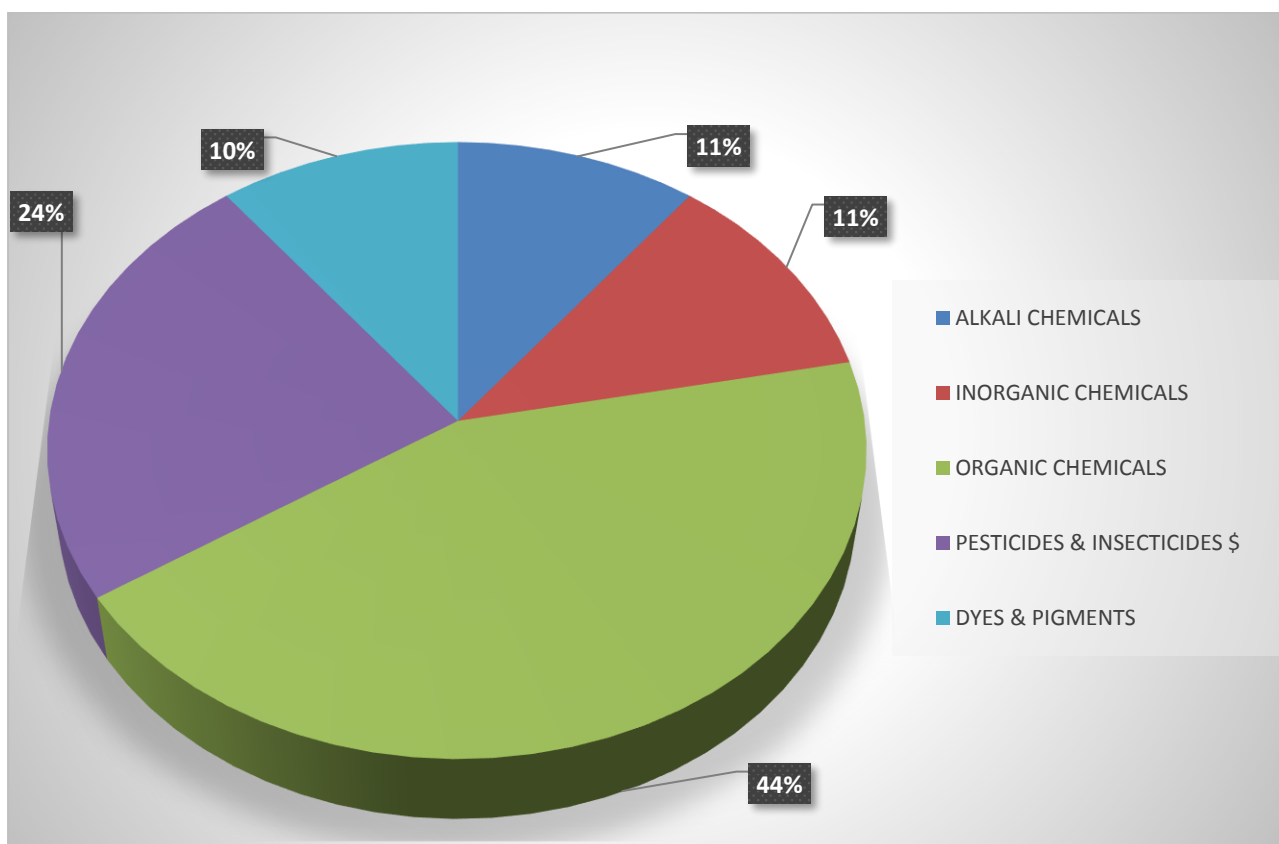
Share of Production of Major Chemical Groups during year 2016-17



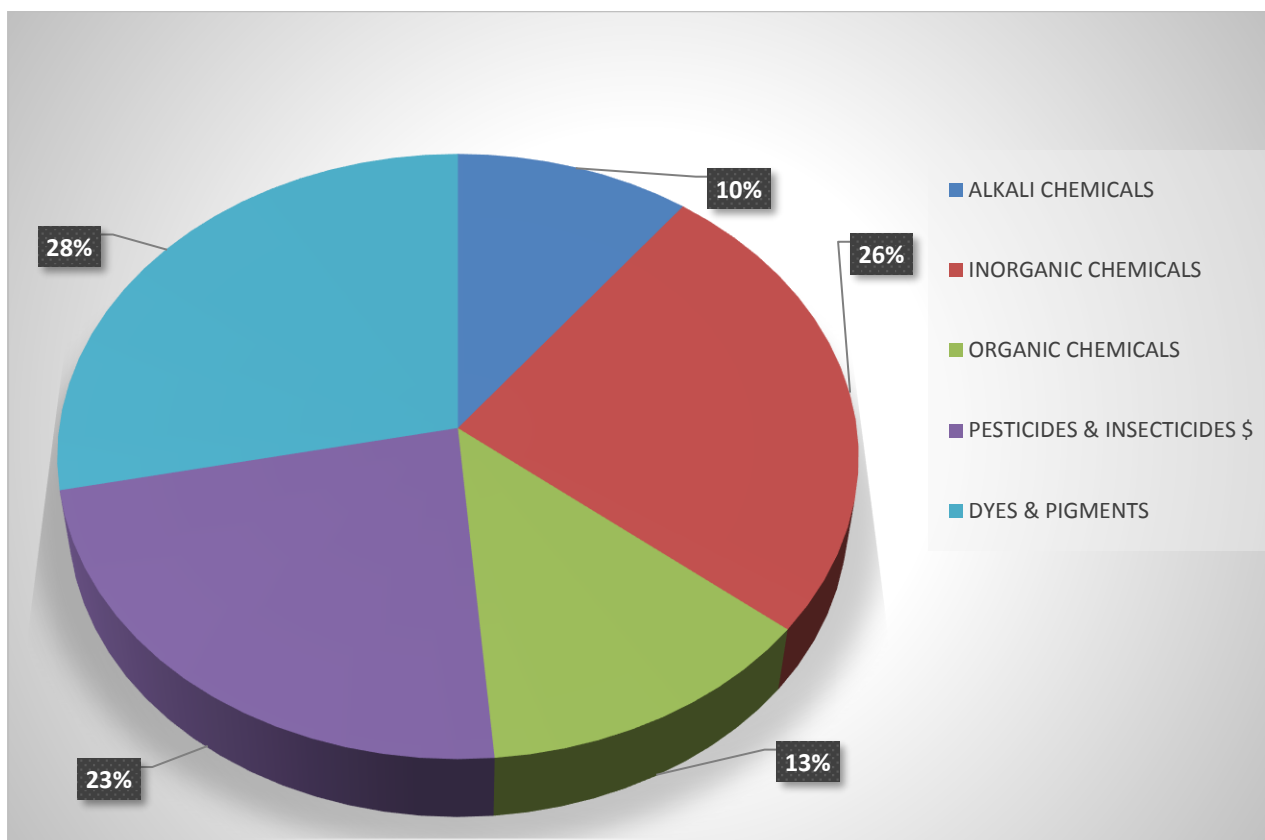
Share of groups under total Import (Qty.) of Major Chemicals during 2016-17



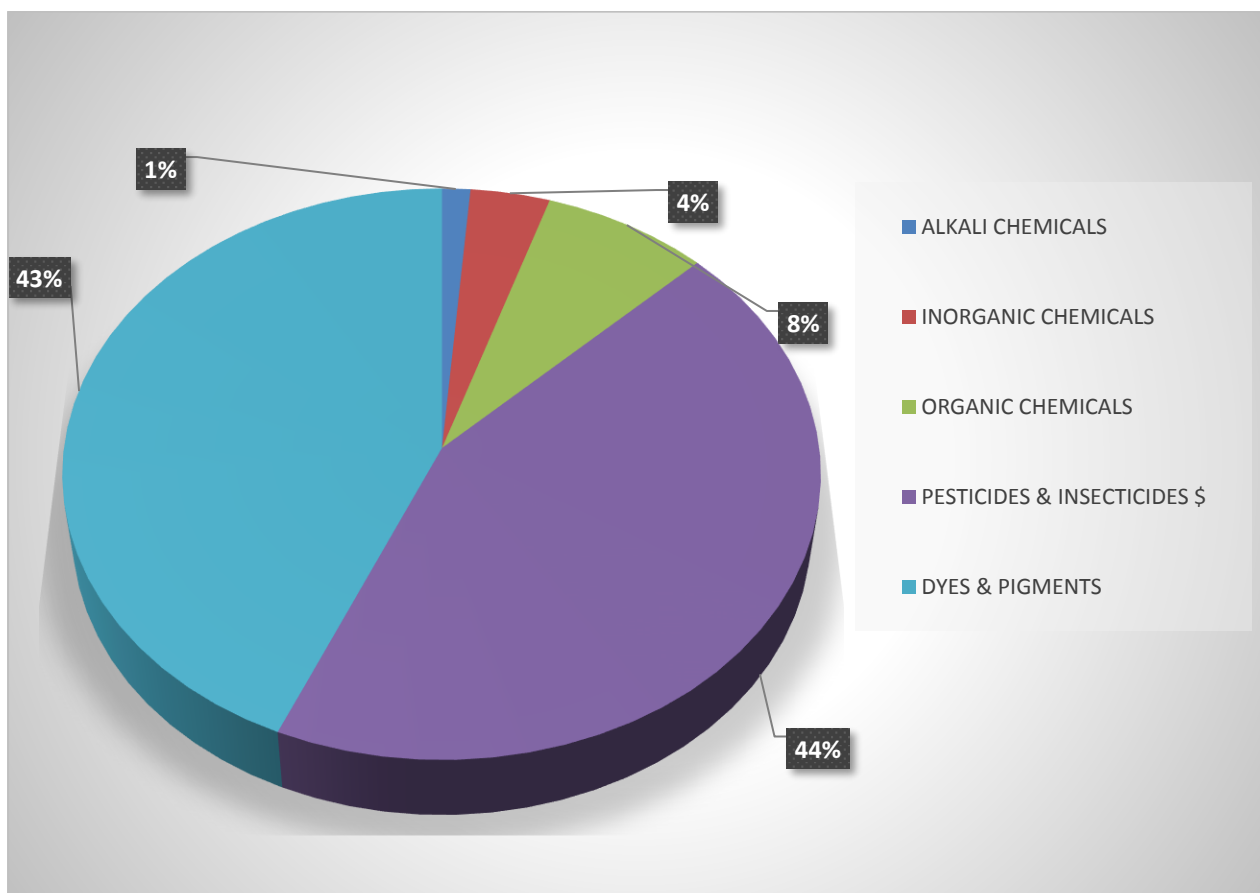
Share of groups under total Import (Value) of Major Chemicals during 2016-17



Share of groups under total Export (Qty.) of Major Chemicals during 2016-17



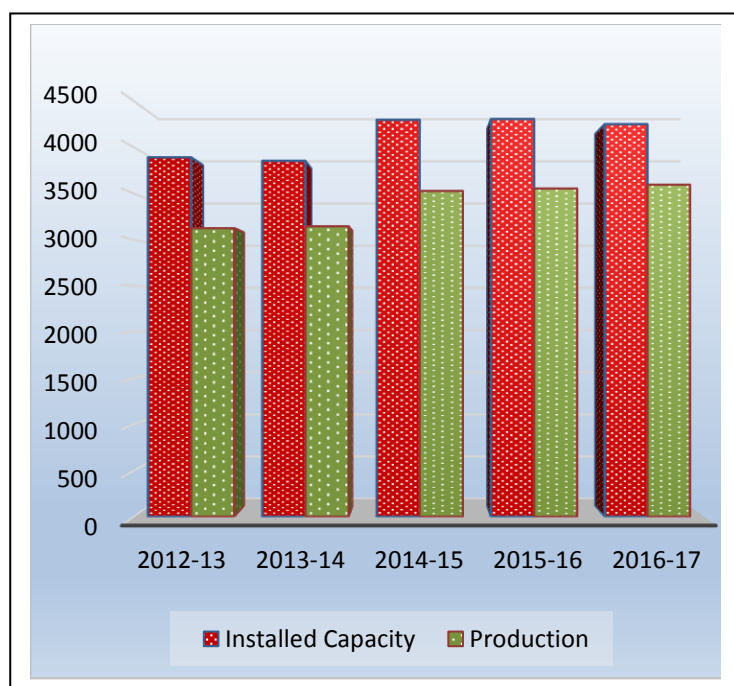
Share of groups under total Export (Value) of Major Chemicals during 2016-17



Synthetic Fibres/Yarn

Installed Capacity-Production

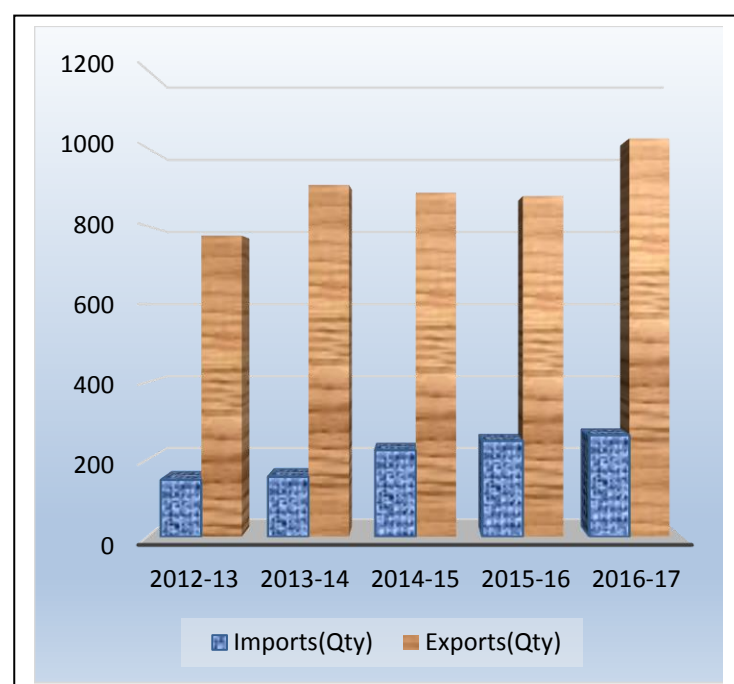
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	3892	3124
2013-14	3854	3144
2014-15	4298	3527
2015-16	4307	3554
2016-17	4251	3595
Annual Growth During 2016-17	-1.3	1.2
CAGR (%)	2.2	3.6



Production of Synthetic Fibres/Yarn during the year 2016-17 is 3595 in (Thousand) MT as against installed capacity of 4251 in (Thousand) MT. It is observed that installed capacity fluctuated but production is consistently increasing.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	147	776
2013-14	155	906
2014-15	224	886
2015-16	248	878
2016-17	262	1025
Annual Growth During 2016-17	6.0	16.8
CAGR (%)	15.6	7.2

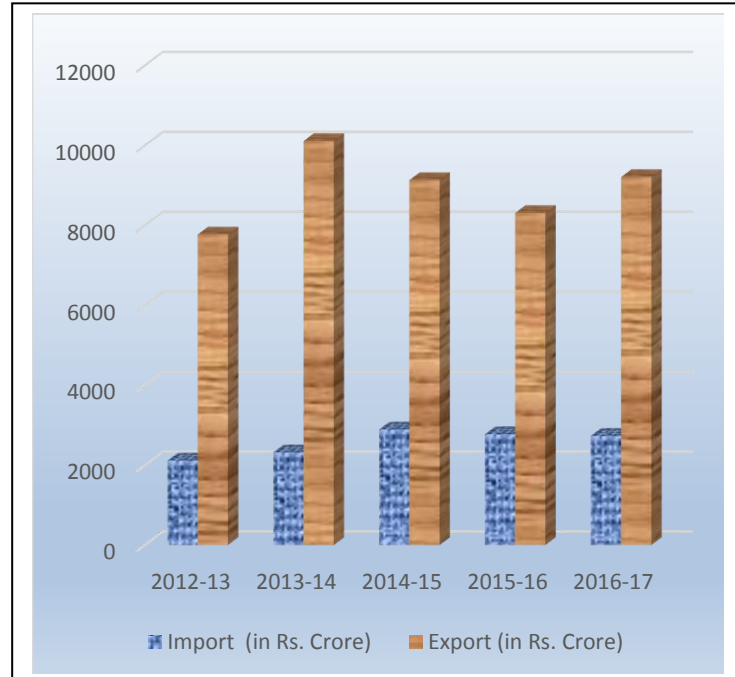


It is pleasant to note that during the period Export of Synthetic Fibre/Yarn is very high compared to its Import. It is also seen that export of Synthetic Fibre/Yarn is unstable during 2012-13 to 2015-16 but picked up during 2016-17.

Synthetic Fibres/Yarn

Value of Import- Value of Export

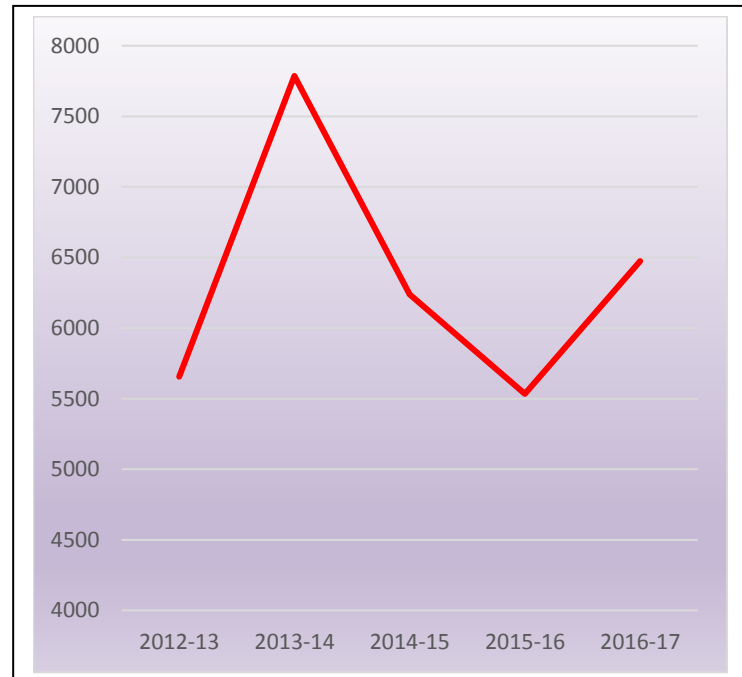
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	2117	7773
2013-14	2323	10109
2014-15	2896	9134
2015-16	2776	8310
2016-17	2736	9210
Annual Growth During 2016-17	-1.4	10.8
CAGR (%)	6.62	4.33



It is evident that during the period export of Synthetic Fibre/Yarn is very high compared to its import resulting into trade Surplus. It is also seen that export of Synthetic Fibre/Yarn risen faster during 2013-14 but declined for next two years and again picked up during 2016-17.

Net Export

Year	Net Export (Rs. in Crore)
2012-13	5656
2013-14	7786
2014-15	6239
2015-16	5534
2016-17	6474
Annual Growth During 2016-17	17.0
CAGR (%)	3.43

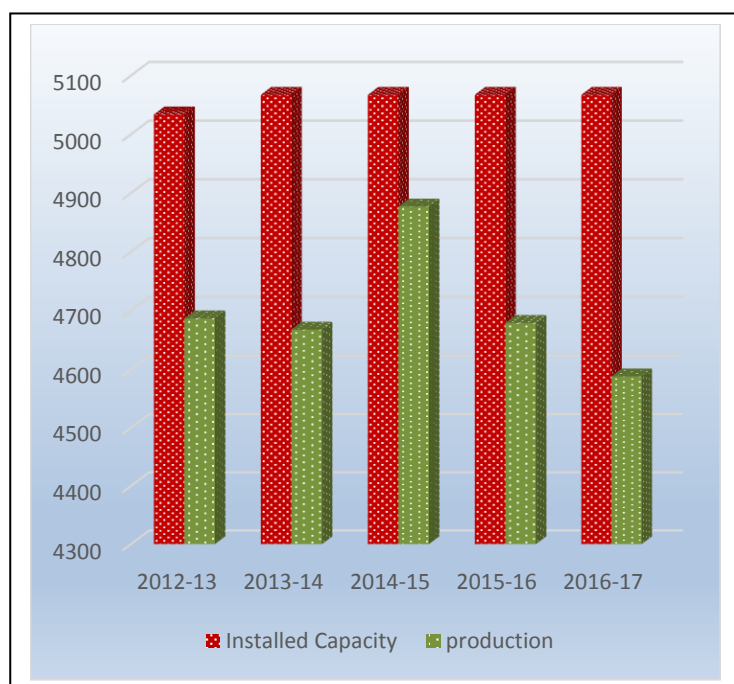


It is seen that during the period Net Export of Synthetic Fibre/Yarn is showing rise initially but declining during 2013-14 till 2015-16 and again started rising during 2016-17. Synthetic Fibre/Yarn is trade surplus group during the period.

Fibre Intermediates

Installed Capacity-Production

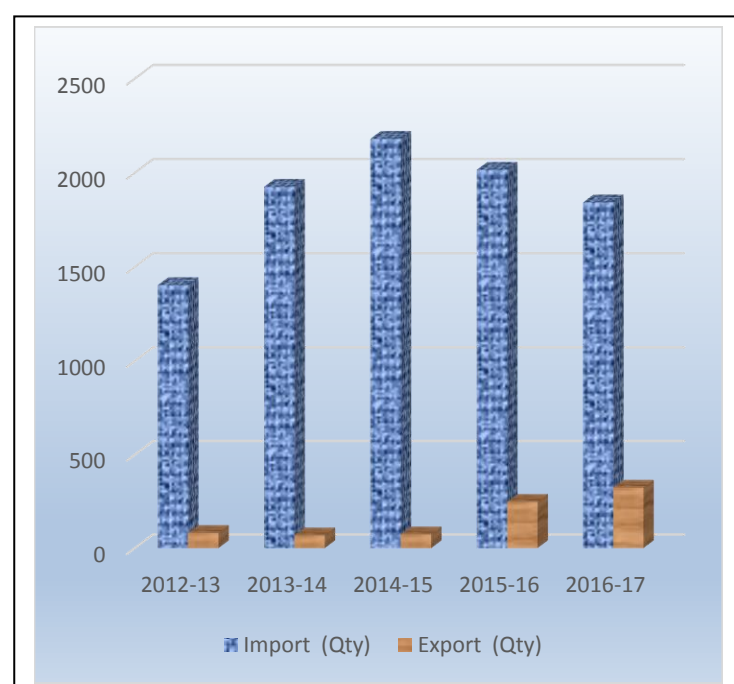
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	5034	4687
2013-14	5067	4668
2014-15	5067	4877
2015-16	5067	4679
2016-17	5067	4588
Annual Growth During 2016-17	0.0	-1.9
CAGR (%)	0.17	-0.53



Production of Fibre Intermediates during the year 2016-17 is 4588 in (Thousand) MT as against installed capacity of 5067 in (Thousand) MT. It is observed production of Fibre Intermediates is fluctuating during the years.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	1403	81
2013-14	1925	68
2014-15	2180	73
2015-16	2015	248
2016-17	1842	323
Annual Growth During 2016-17	-8.6	30.5
CAGR (%)	7.05	41.40

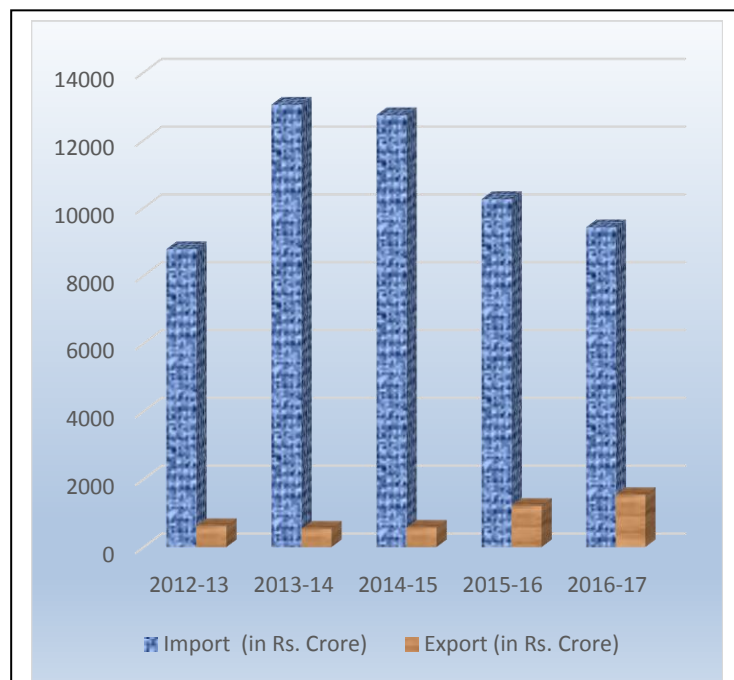


It is clear that during the period Import of Fibre Intermediates is consistently increasing till 2014-15 and showing decline thereafter. It is also seen that Export of Fibre Intermediates is showing high increase after 2014-15.

Fibre Intermediates

Value of Import- Value of Export

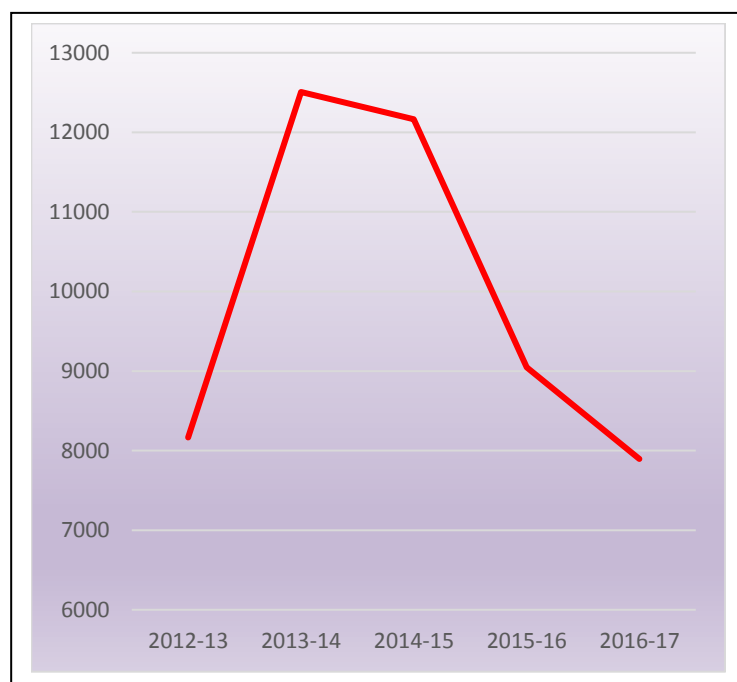
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	8785	619
2013-14	13047	540
2014-15	12737	573
2015-16	10261	1214
2016-17	9431	1536
Annual Growth During 2016-17	-8.1	26.5
CAGR (%)	1.79	25.49



It is evident that during the period Import of Fibre Intermediates is very high compared to its Export resulting into trade deficit. It is also observed that Import of Fibre Intermediates showing sharp increase during 2013-14 but declining thereafter.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	8166
2013-14	12507
2014-15	12163
2015-16	9047
2016-17	7896
Annual Growth During 2016-17	-12.7
CAGR (%)	-0.84

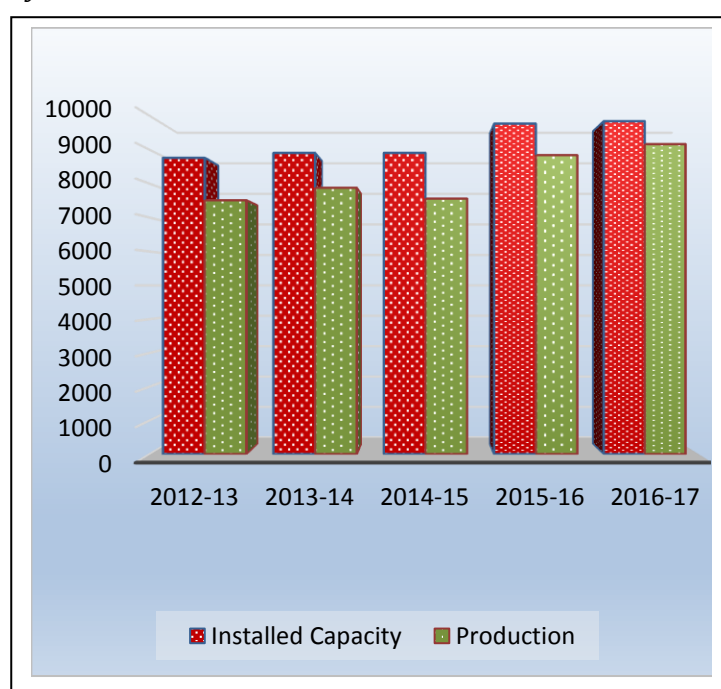


It is clearly seen that Net Import of Fibre Intermediates during the period is showing sharp rise during 2013-14 and started declining thereafter causing bridging gap of trade deficit.

Polymers

Installed Capacity-Production

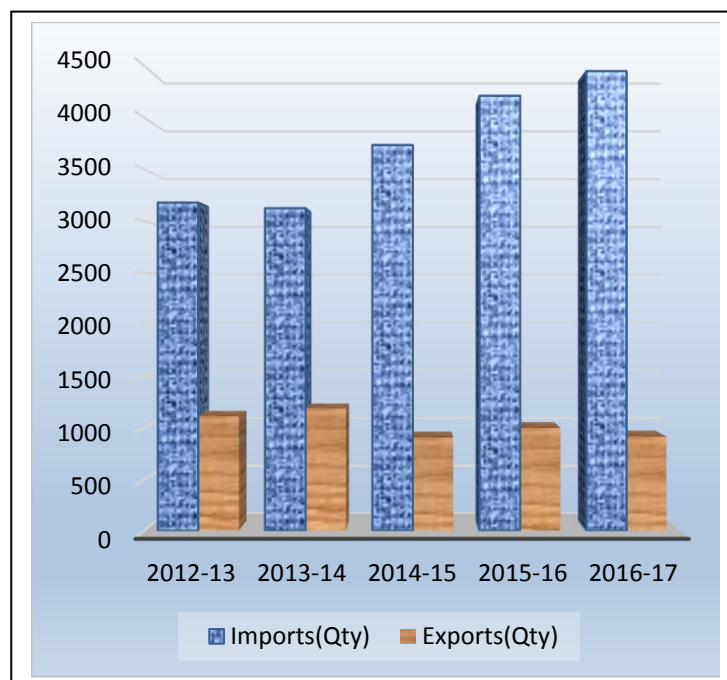
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	8761	7509
2013-14	8905	7876
2014-15	8905	7558
2015-16	9768	8839
2016-17	9839	9163
Annual Growth During 2016-17	0.7	3.7
CAGR (%)	2.9	5.1



Production of Polymers during the year 2016-17 is 9163 in (Thousand) MT as against installed capacity of 9839 in (Thousand) MT. It is evident that installed capacity is increasing over the years, however stable in 2014-15. Production is increasing during the period except a dip during 2014-15.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	3180	1113
2013-14	3125	1188
2014-15	3737	903
2015-16	4214	998
2016-17	4452	912
Annual Growth During 2016-17	5.7	-8.6
CAGR (%)	8.8	-4.8

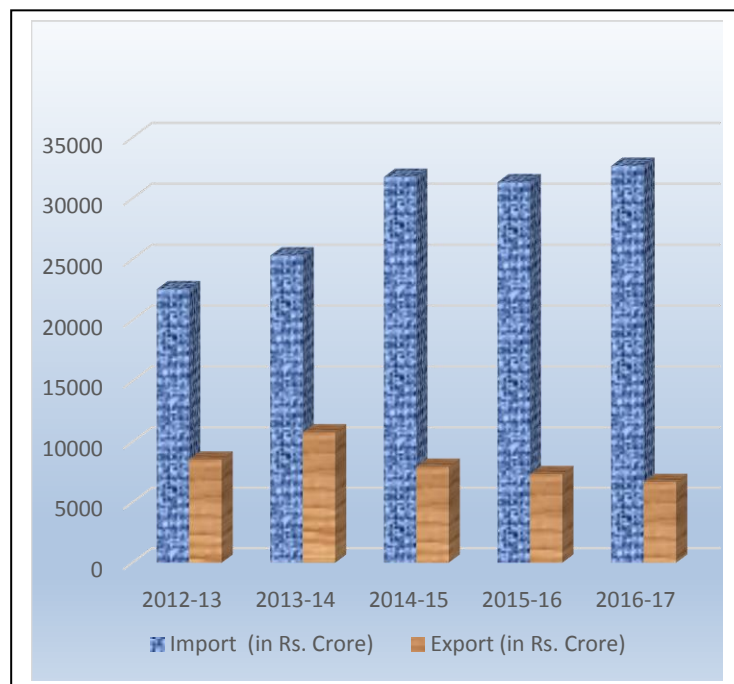


It is observed that during the period Export of Polymers is very low compared to its Import. It is also seen that Export of Polymers is overall decreasing over the years.

Polymers

Value of Import- Value of Export

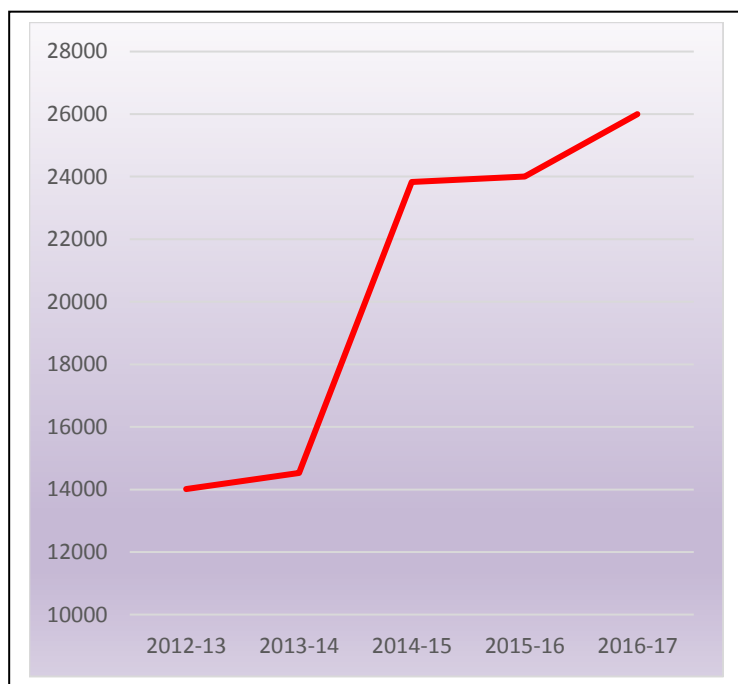
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	22549	8536
2013-14	25310	10783
2014-15	31771	7936
2015-16	31325	7325
2016-17	32672	6674
Annual Growth During 2016-17	4.3	-8.9
CAGR (%)	9.71	-5.96



It is observed that during the period Import of Polymers is very high compared to its export resulting into trade deficit. It is also seen that Export is constantly declining after 2013-14.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	14013
2013-14	14528
2014-15	23835
2015-16	24000
2016-17	25998
Annual Growth During 2016-17	8.3
CAGR (%)	16.71

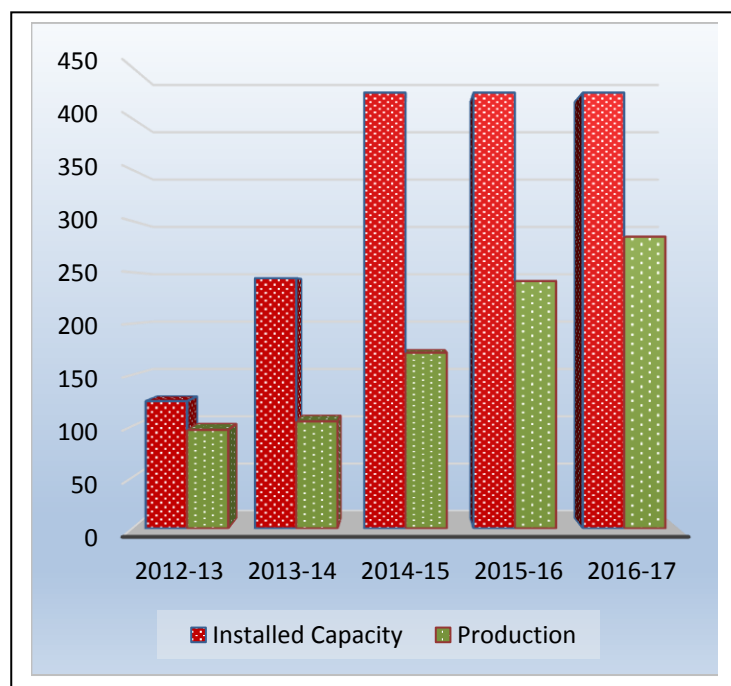


It is apparent that Net Import of Polymers is consistently increasing during the period with a steep rise during 2014-15.

Synthetic Rubber

Installed Capacity-Production

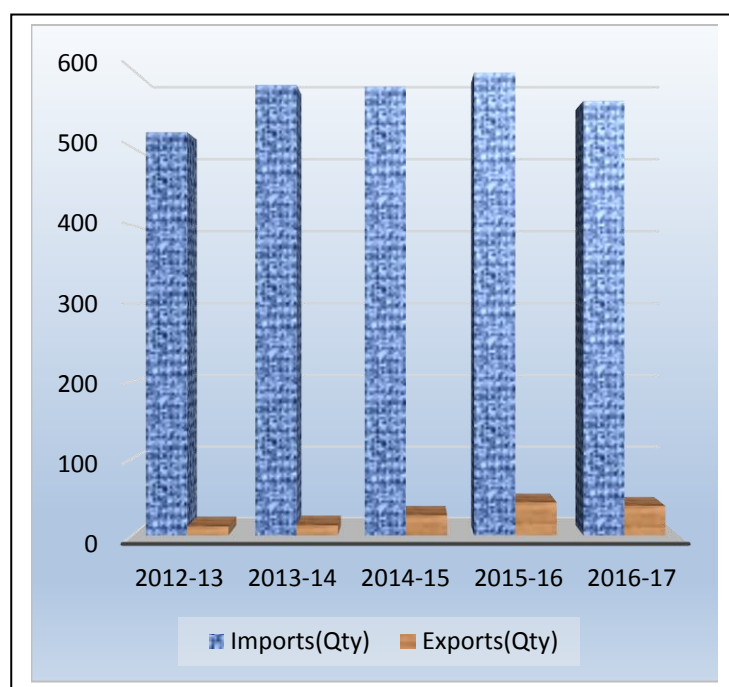
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	124	96
2013-14	244	105
2014-15	425	172
2015-16	425	242
2016-17	425	285
Annual Growth During 2016-17	0.0	17.9
CAGR (%)	36.0	31.2



Production of Synthetic Rubber during the year 2016-17 is 285 in (Thousand) MT as against installed capacity of 425 in (Thousand) MT. Installed capacity as well as Production both are increasing during the period.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	520	11
2013-14	580	13
2014-15	578	26
2015-16	596	43
2016-17	560	38
Annual Growth During 2016-17	-6.1	-10.5
CAGR (%)	1.9	35.0

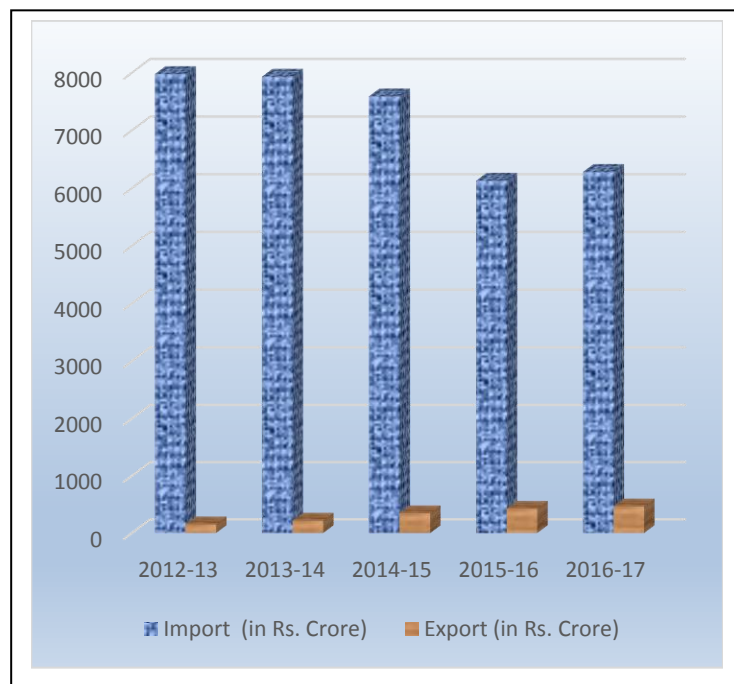


It is observed that during the period Export of Synthetic Rubber is very low compared to Import. It is also seen that Export of Synthetic Rubber is increasing from 2012-13 to 2015-16 and then decreasing in 2016-17.

Synthetic Rubber

Value of Import- Value of Export

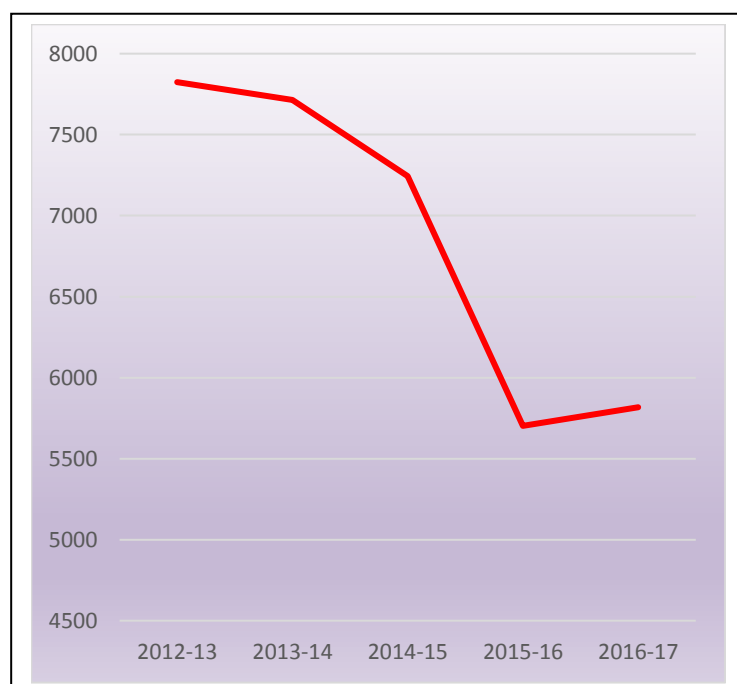
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	7975	151
2013-14	7930	216
2014-15	7589	345
2015-16	6127	424
2016-17	6280	464
Annual Growth During 2016-17	2.5	9.3
CAGR (%)	-5.80	32.43



It is apparent that during the period Export of Synthetic Rubber is very low compared to import causing trade deficit. It is also seen that Import of Synthetic Rubber gradually decreased over the years but started picking up during 2016-17.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	7824
2013-14	7714
2014-15	7245
2015-16	5703
2016-17	5817
Annual Growth During 2016-17	2.0
CAGR (%)	-7.14

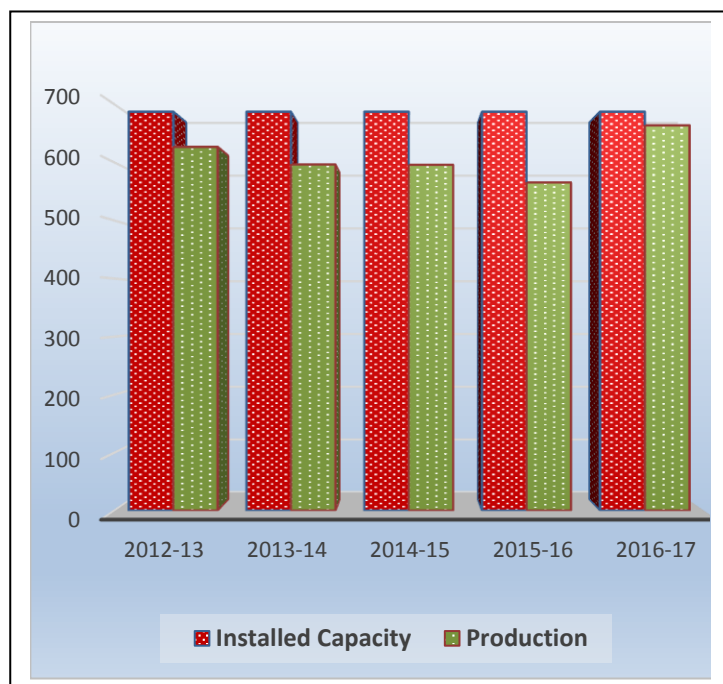


It is clear that Net Import of Synthetic Rubber is consistently decreasing till 2015-16 and started picking up during 2016-17.

Synthetic Detergent Intermediates

Installed Capacity-Production

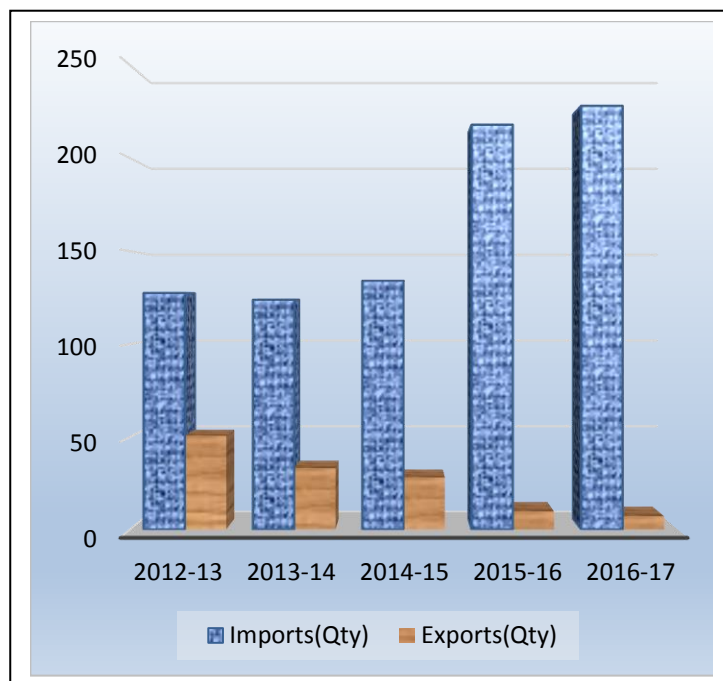
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	687	627
2013-14	687	597
2014-15	687	596
2015-16	687	566
2016-17	687	664
Annual Growth During 2016-17	0.0	17.4
CAGR (%)	0.0	1.4



Production of Synthetic Detergent Intermediates during the year 2016-17 is 664 in (Thousand) MT as against installed capacity of 687 in (Thousand) MT. It is observed that installed capacity is stable over the years while Production is decline till 2015-16 and shown pick up during 2016-17.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	127	50
2013-14	124	33
2014-15	134	28
2015-16	218	10
2016-17	228	7
Annual Growth During 2016-17	4.6	-26.7
CAGR (%)	15.7	-38.9

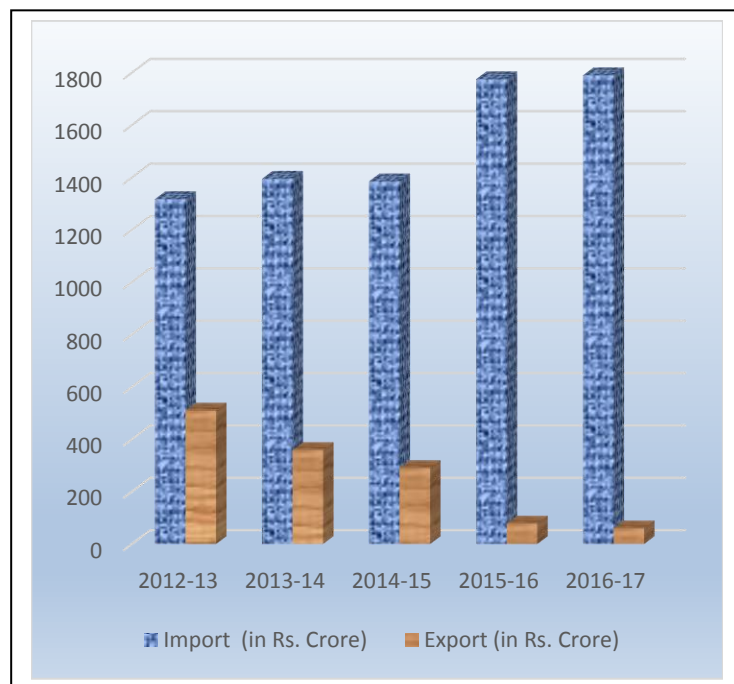


It is clear that during the period Export of Synthetic Detergent Intermediates is very low compared to its Import. It is also seen that Export of Synthetic Detergent Intermediates is decreasing consistently over the years causing rise in trade deficit.

Synthetic Detergent Intermediates

Value of Import- Value of Export

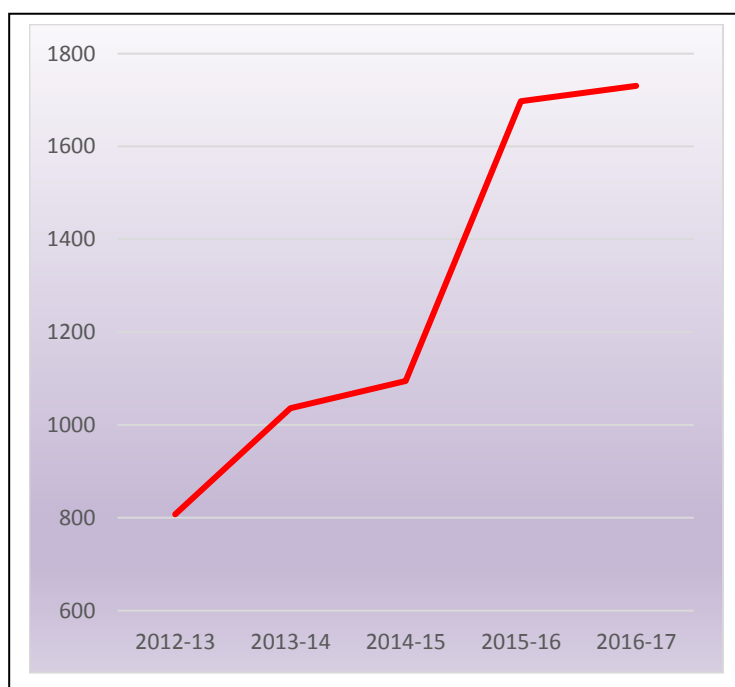
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	1317	509
2013-14	1395	358
2014-15	1385	290
2015-16	1775	78
2016-17	1790	59
Annual Growth During 2016-17	0.9	-23.5
CAGR (%)	7.98	-41.56



It is noted that during the period Export of Synthetic Detergent Intermediates is low compared to its Import. It is also noted that Import of Synthetic Detergent is showing increasing trend but Export is declining resulting in to widening of trade deficit.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	808
2013-14	1036
2014-15	1095
2015-16	1697
2016-17	1731
Annual Growth During 2016-17	2.0
CAGR (%)	20.99

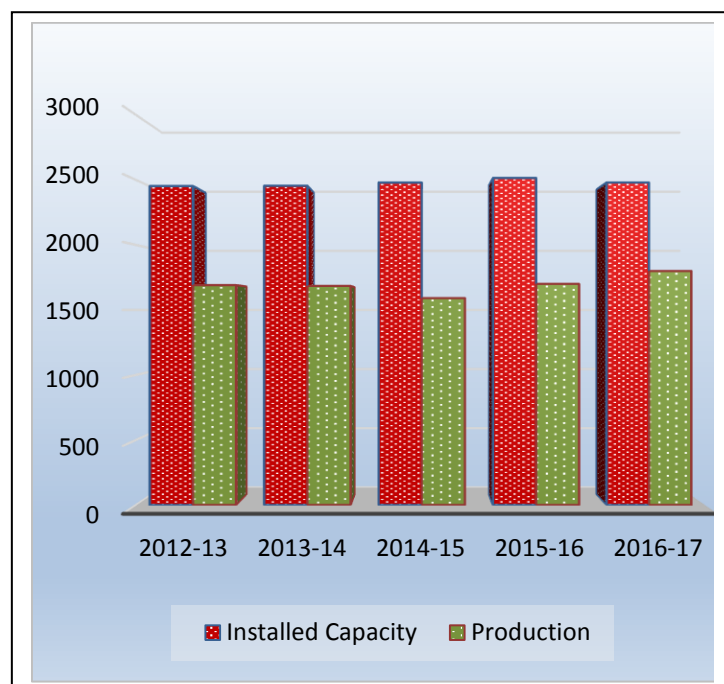


It is clear that Net Import of Synthetic Detergent is consistently increasing over the years with a sharp rise during 2015-16.

Performance Plastic

Installed Capacity-Production

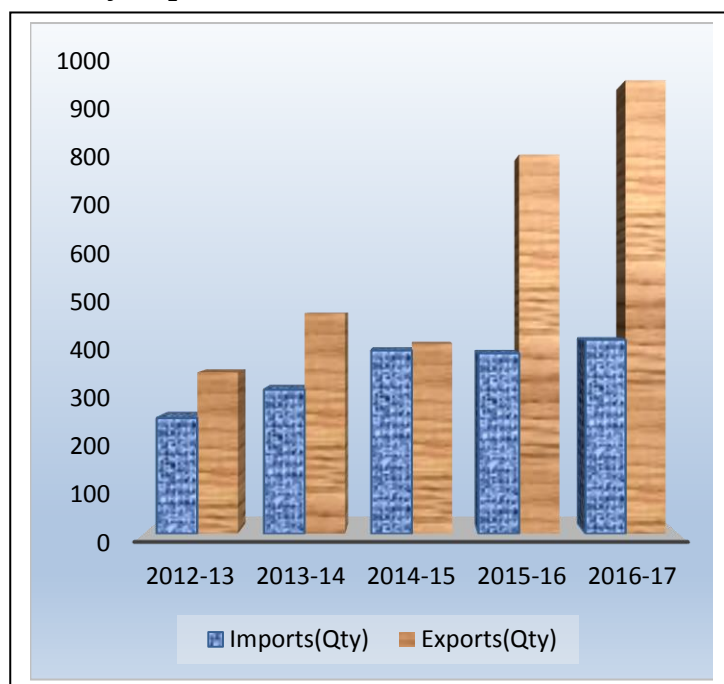
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	2452	1691
2013-14	2454	1685
2014-15	2479	1591
2015-16	2514	1700
2016-17	2479	1799
Annual Growth During 2016-17	-1.4	5.8
CAGR (%)	0.3	1.6



Production of Performance Plastic during the period 2016-17 is 1799 in (Thousand) MT as against installed capacity of 2479 in (Thousand) MT. It is observed that Installed Capacity increased till 2015-16, and slightly decreased during 2016-17. Production is declined till 2014-15 but started picking up thereafter.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	250	348
2013-14	311	475
2014-15	395	409
2015-16	389	814
2016-17	417	973
Annual Growth During 2016-17	7.4	19.5
CAGR (%)	13.7	29.3

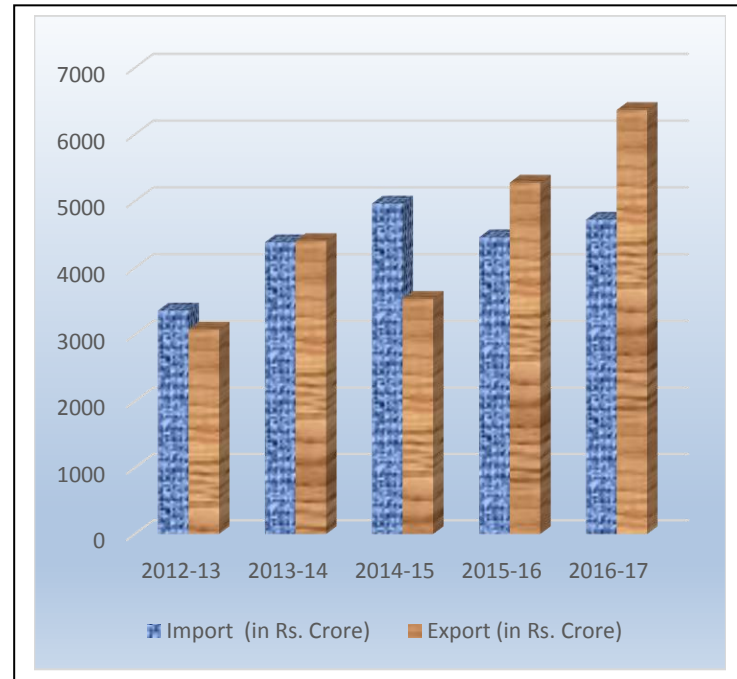


It is pleasant to note that during the period Export of Performance Plastic is high compared to its Import. It is also seen that Export of Performance Plastic is consistently increasing except a slight dip in 2014-15.

Performance Plastic

Value of Import- Value of Export

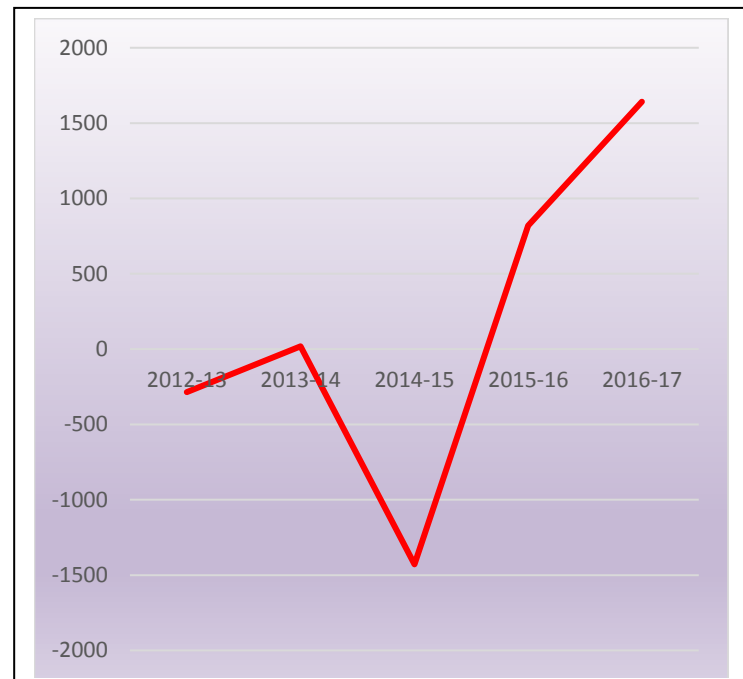
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	3361	3075
2013-14	4384	4402
2014-15	4964	3535
2015-16	4458	5277
2016-17	4723	6365
Annual Growth During 2016-17	5.9	20.6
CAGR (%)	8.88	19.95



It is clear that during the period Export of Performance Plastic is consistently increasing except a dip in 2014-15. It is also seen that Import of Performance Plastic consistently declined after 2014-15 helping to reduce trade deficit.

Net Export

Year	Net Export (Rs. in Crore)
2012-13	-286
2013-14	18
2014-15	-1429
2015-16	819
2016-17	1642
Annual Growth During 2016-17	100.5
CAGR (%)	-

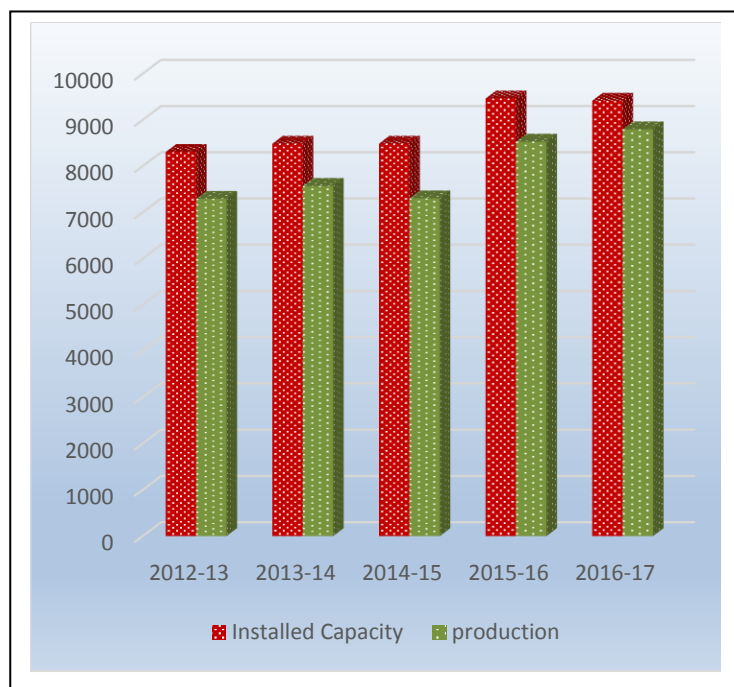


It is observed that Net Export of Performance Plastic has gone positive during 2013-14. Though the net Export has gone in to negative during 2014-15, however thereafter it has started improving substantially during 2015-16. In fact Net Export has started moving in to positive and continuously and the trend is moving in the North east direction.

Olefins

Installed Capacity-Production

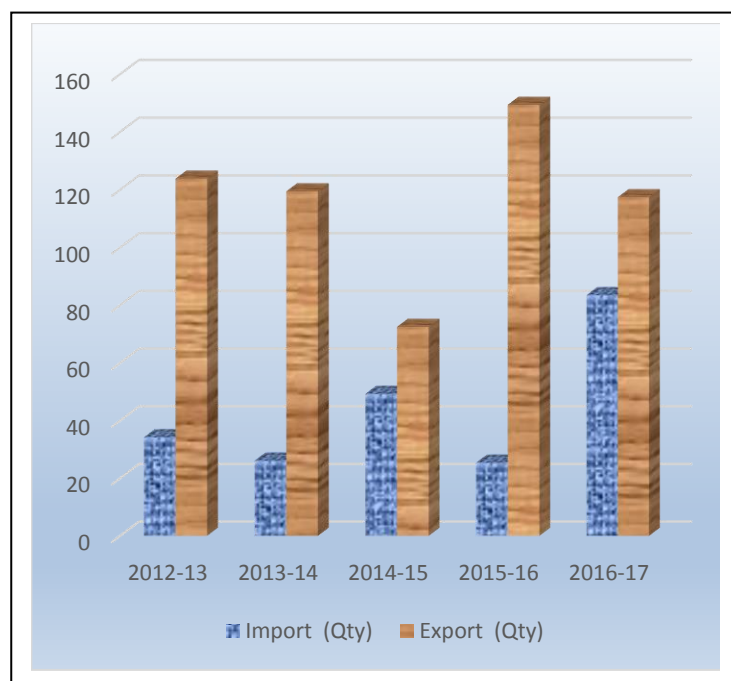
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	8304	7290
2013-14	8484	7570
2014-15	8484	7301
2015-16	9462	8528
2016-17	9412	8794
Annual Growth During 2016-17	-0.5	3.1
CAGR (%)	3.18	4.80



Production of Olefins during the year 2016-17 is 8794 in (Thousand) MT as against installed capacity of 9412 in (Thousand) MT. It is observed that installed capacity has increased during the period. Production is also showing increasing trend except slight declines during 2014-15.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	34	124
2013-14	26	119
2014-15	49	72
2015-16	25	149
2016-17	83	117
Annual Growth During 2016-17	228.6	-21.4
CAGR (%)	25.00	-1.33

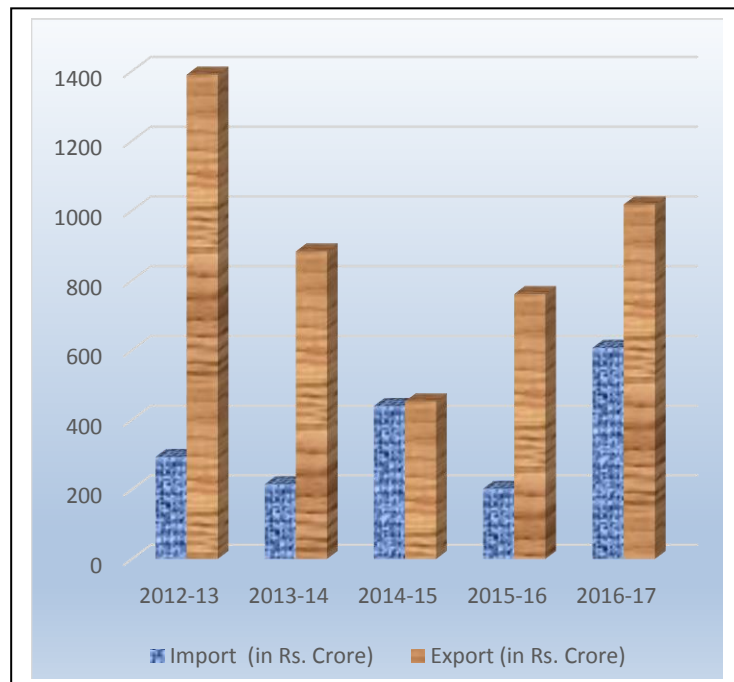


It is pleasant to note that amply clear that during the period Export of Olefins is very high compared to its Import. It is also seen that Export of Olefins is fluctuating over the year.

Olefins

Value of Import- Value of Export

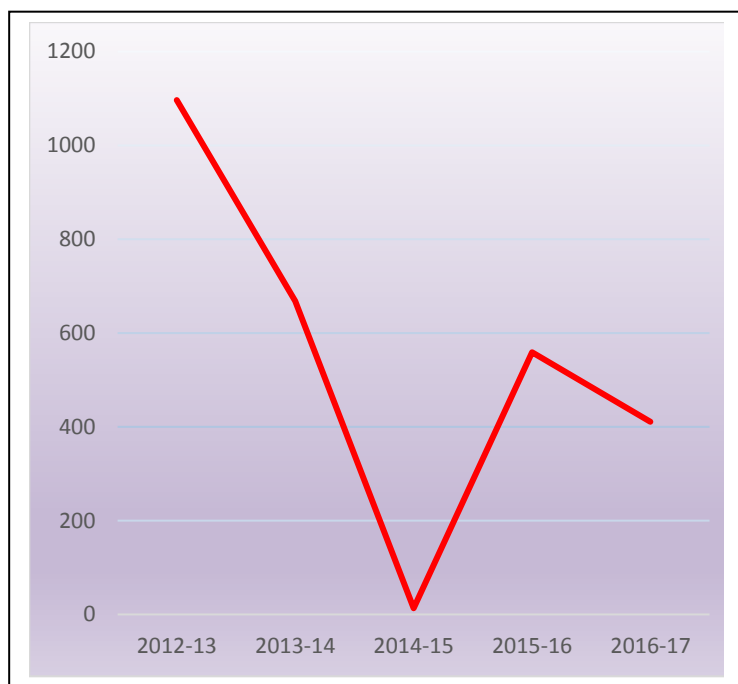
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	293	1390
2013-14	215	883
2014-15	440	453
2015-16	202	761
2016-17	607	1017
Annual Growth During 2016-17	200.6	33.8
CAGR (%)	19.93	-7.50



It is evident that during the period export of Olefins is very high compared to its Import resulting into trade Surplus. However it is observed that Export of Olefins declined till 2015-16 and picked up during 2016-17.

Net Export

Year	Net Export (Rs. in Crore)
2012-13	1097
2013-14	668
2014-15	13
2015-16	559
2016-17	411
Annual Growth During 2016-17	-26.5
CAGR (%)	-21.76

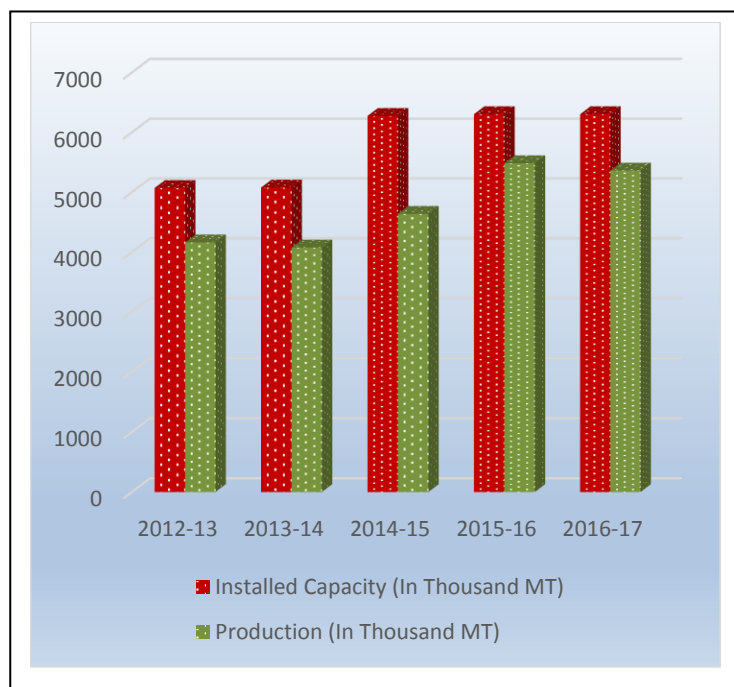


It is seen that during the period Net Export of Olefins shown a sharp declining trend till 2014-15, then shown a steep rise during 2015-16 and again declining thereafter.

Aromatics

Installed Capacity-Production

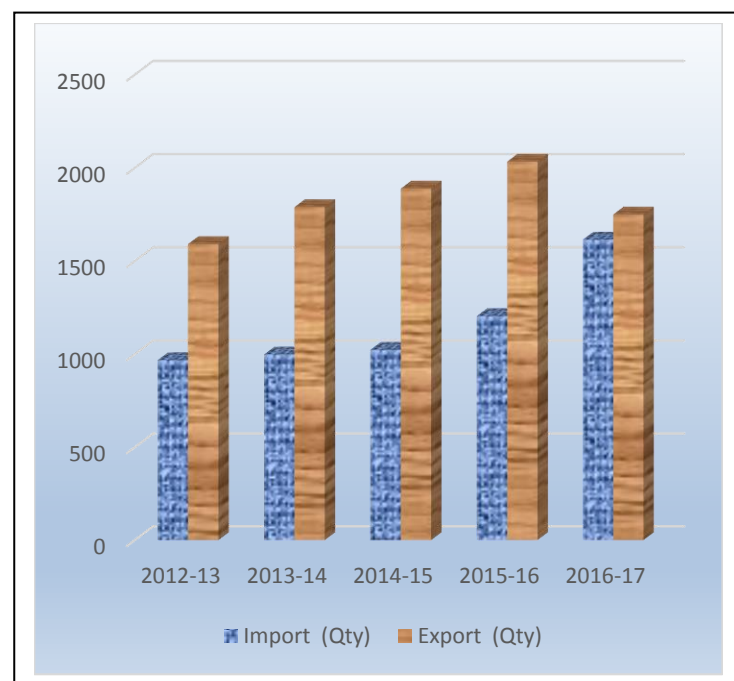
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	5070	4161
2013-14	5077	4075
2014-15	6274	4638
2015-16	6304	5484
2016-17	6304	5361
Annual Growth During 2016-17	0.0	-2.24
CAGR (%)	5.60	6.54



Production of Aromatics during the year 2016-17 is 5361 in (Thousand) MT as against installed capacity of 6304 in (Thousand) MT. It is evident that installed capacity is showing increasing trend till 2015-16 but Production is fluctuating during the period.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	968	1591
2013-14	998	1789
2014-15	1023	1888
2015-16	1204	2033
2016-17	1615	1749
Annual Growth During 2016-17	34.1	-14.0
CAGR (%)	13.65	2.40

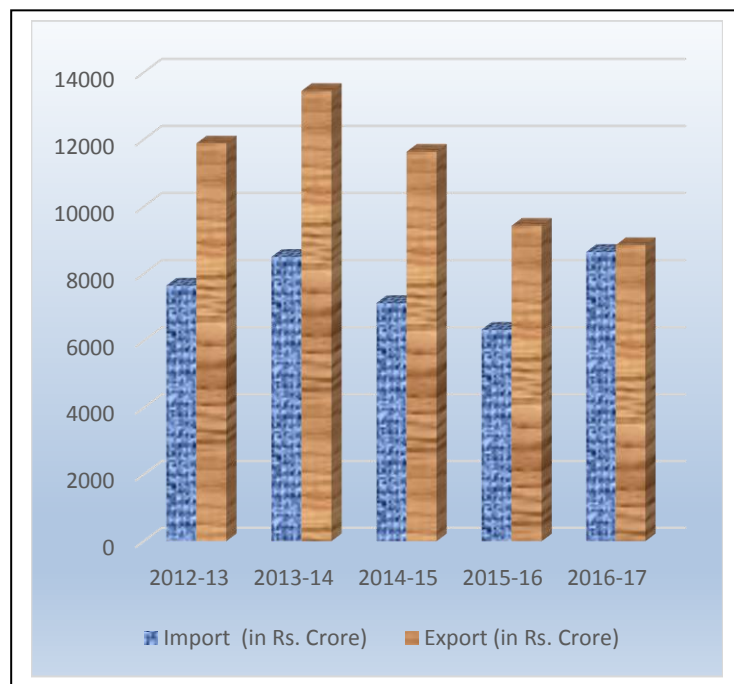


It is pleasing to note that during the period Export of Aromatics is very high compared to its Import. It is also seen that Export of Aromatics is consistently increasing but faced sudden dip during 2016-17.

Aromatics

Value of Import- Value of Export

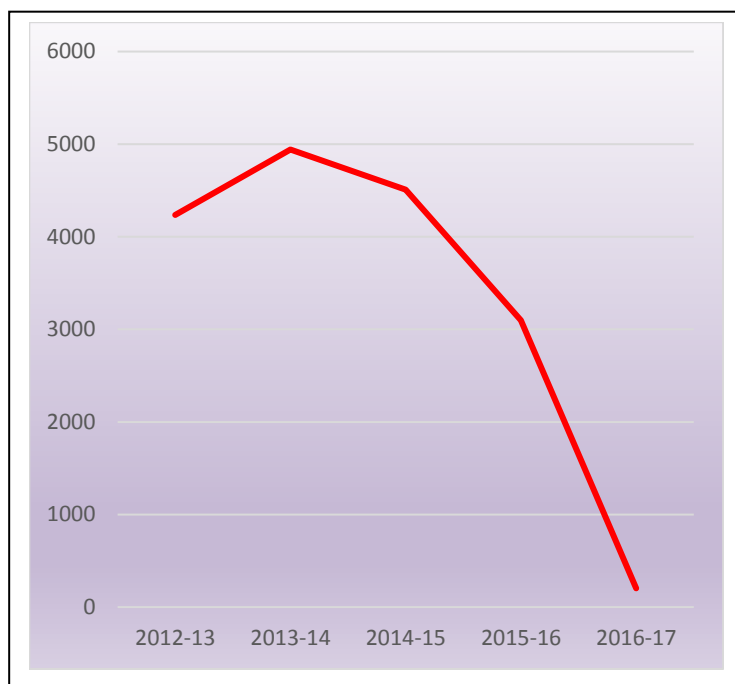
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	7646	11882
2013-14	8504	13445
2014-15	7126	11633
2015-16	6330	9428
2016-17	8648	8851
Annual Growth During 2016-17	36.6	-6.1
CAGR (%)	3.13	-7.10



It is evident that during the period Export of Aromatics is very high compared to its Import resulting into trade Surplus. It is also seen that Export of Aromatics risen faster during 2013-14 but declined consistently thereafter.

Net Export

Year	Net Export (Rs. in Crore)
2012-13	4236
2013-14	4942
2014-15	4507
2015-16	3098
2016-17	203
Annual Growth During 2016-17	-93.4
CAGR (%)	-53.22

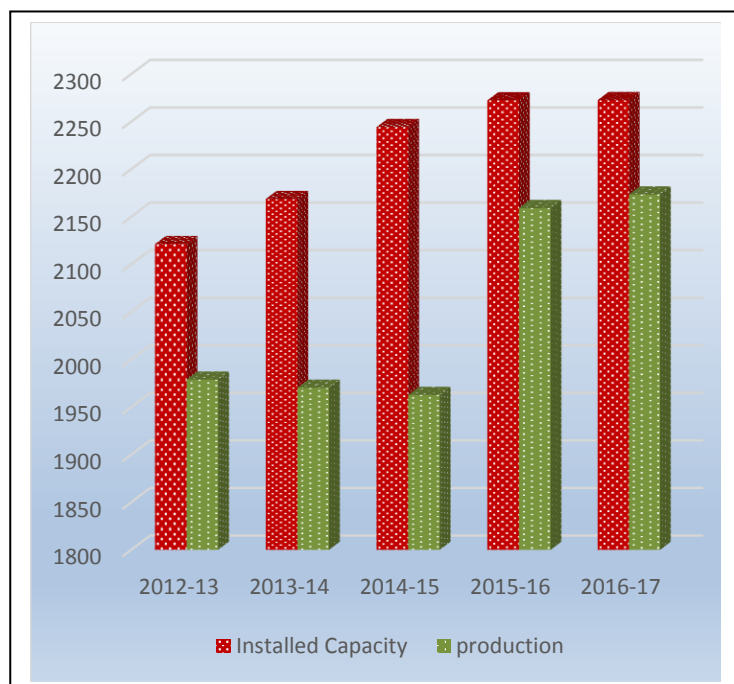


It is observed that Net Export of Aromatics during the period initially shown rising trend and after 2013-14 started showing steep decline.

Other Petro-based Chemicals

Installed Capacity-Production

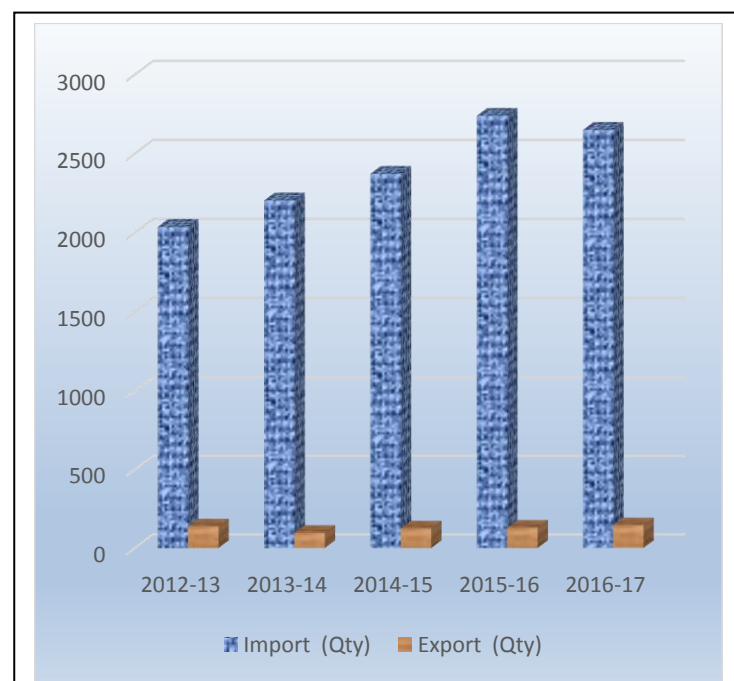
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	2121	1979
2013-14	2169	1970
2014-15	2244	1963
2015-16	2272	2159
2016-17	2273	2174
Annual Growth During 2016-17	0.0	0.7
CAGR (%)	1.74	2.37



Production of Other Petro-based Chemicals during the year 2016-17 is 2174 in (Thousand) MT as against installed capacity of 2273 in (Thousand) MT. It is noted that installed capacity is increasing during the period and production with declining trend initially picked up after 2014-15.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	2037	137
2013-14	2204	96
2014-15	2373	124
2015-16	2740	129
2016-17	2651	144
Annual Growth During 2016-17	-3.3	12.0
CAGR (%)	6.80	1.26

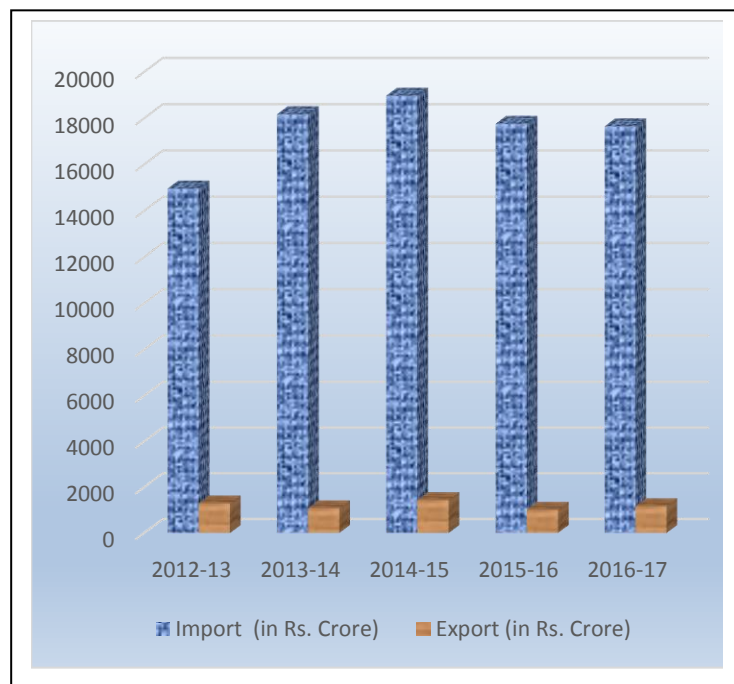


It is clear that during the period Export of Other Petro-based Chemicals is very low compared to its Import. It is also seen that Export of Other Petro-based Chemicals is gradually picked up after 2013-14.

Other Petro-based Chemical

Value of Import- Value of Export

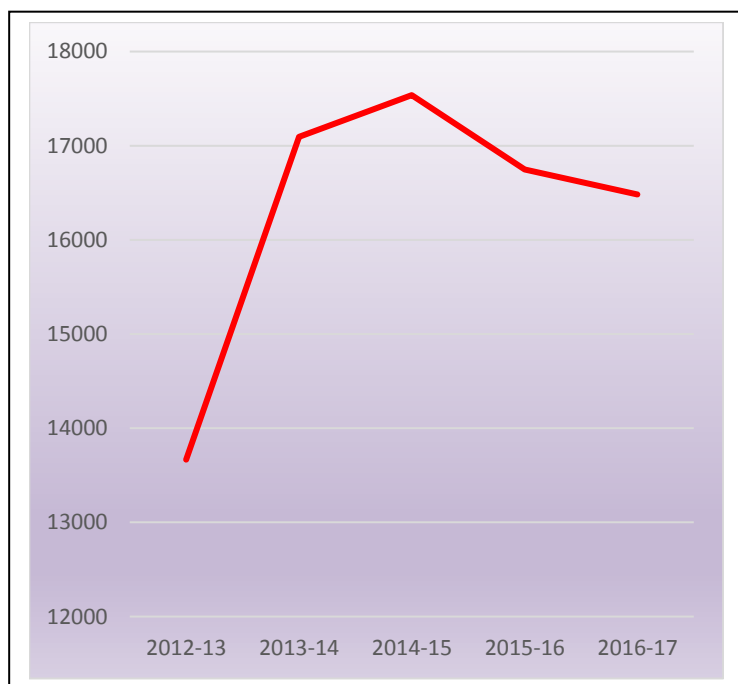
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	14960	1293
2013-14	18172	1076
2014-15	18973	1436
2015-16	17760	1013
2016-17	17649	1168
Annual Growth During 2016-17	-0.6	15.3
CAGR (%)	4.22	-2.52



It is evident that during the period Export of Other Petro-based Chemicals is very low compared to its Import. It is also seen that Export of Other Petro-based Chemicals is declining except slight rise during 2016-17.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	13667
2013-14	17096
2014-15	17537
2015-16	16747
2016-17	16482
Annual Growth During 2016-17	-1.6
CAGR (%)	4.79

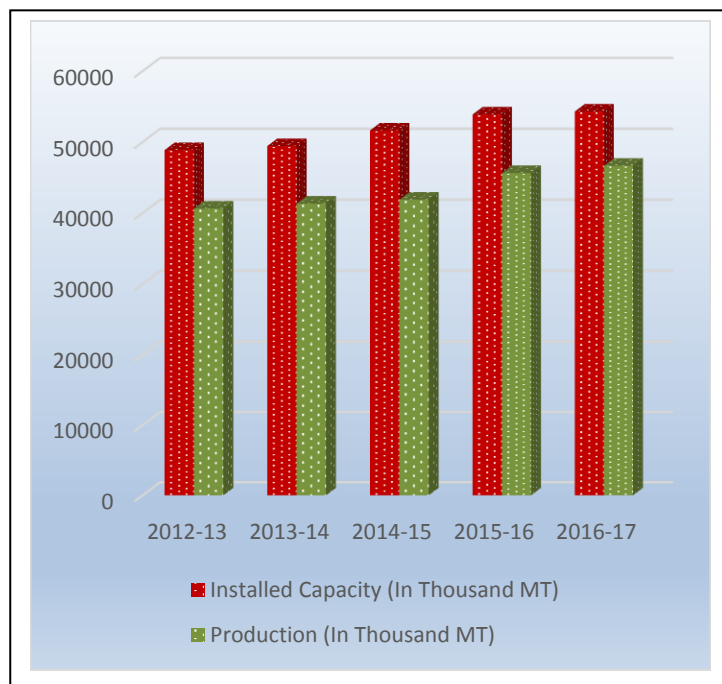


It is observed that during the period Net Import of Other Petro-based Chemicals initially shown high rise then almost stagnated and thereafter showing a declining trend.

Total Major Petrochemicals

Installed Capacity-Production

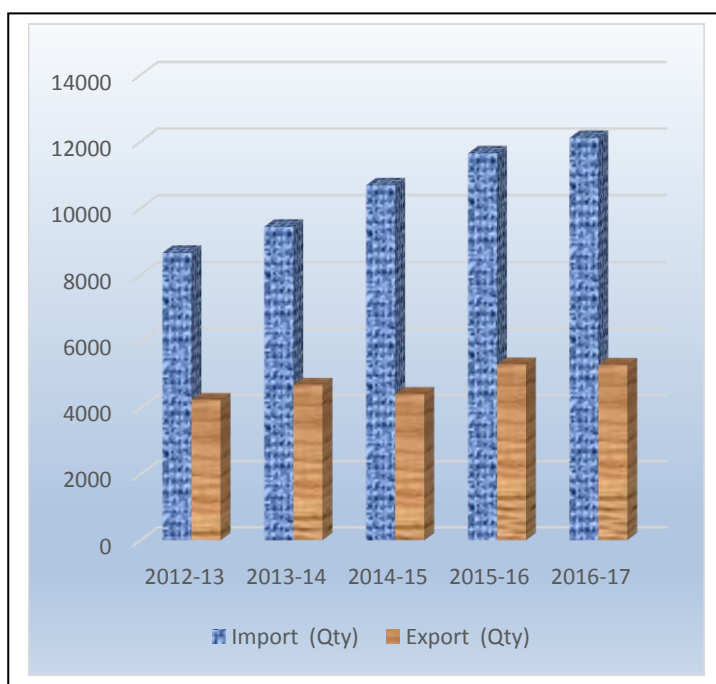
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	36445	31164
2013-14	36942	31688
2014-15	38864	32222
2015-16	40808	35749
2016-17	40738	36422
Annual Growth During 2016-17	-0.2	1.88
CAGR (%)	2.82	3.97



Production of Total Major Petrochemicals during the year 2016-17 is 36422 in (Thousand) MT as against installed capacity of 40738 in (Thousand) MT. It is evident that installed capacity and production is increasing.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	8665	4231
2013-14	9449	4687
2014-15	10693	4411
2015-16	11649	5301
2016-17	12111	5289
Annual Growth During 2016-17	4.0	-0.2
CAGR (%)	8.73	5.74

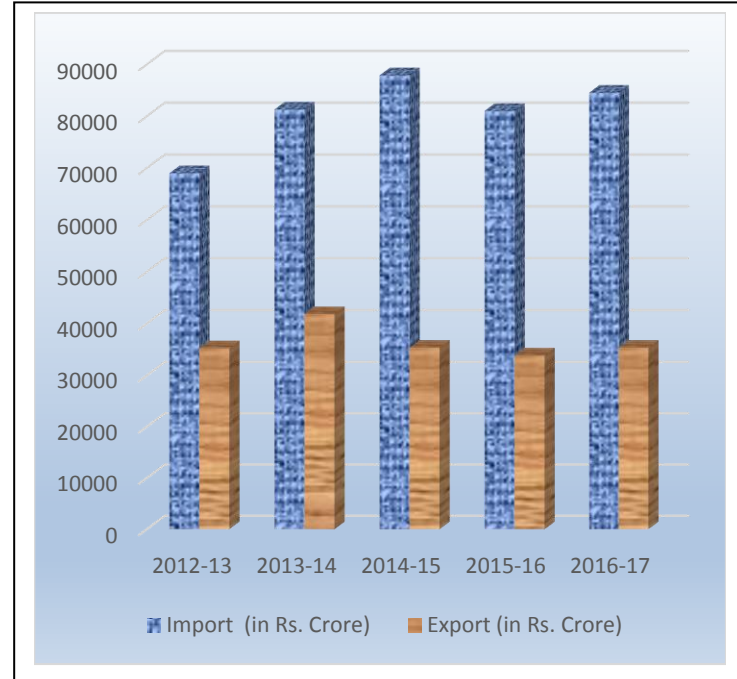


It is clear that during the period export of Total Major Petrochemicals is low compared to import. It is also seen that export of Total major Petrochemicals is fluctuating over the years.

Total Major Petrochemicals

Value of Import- Value of Export

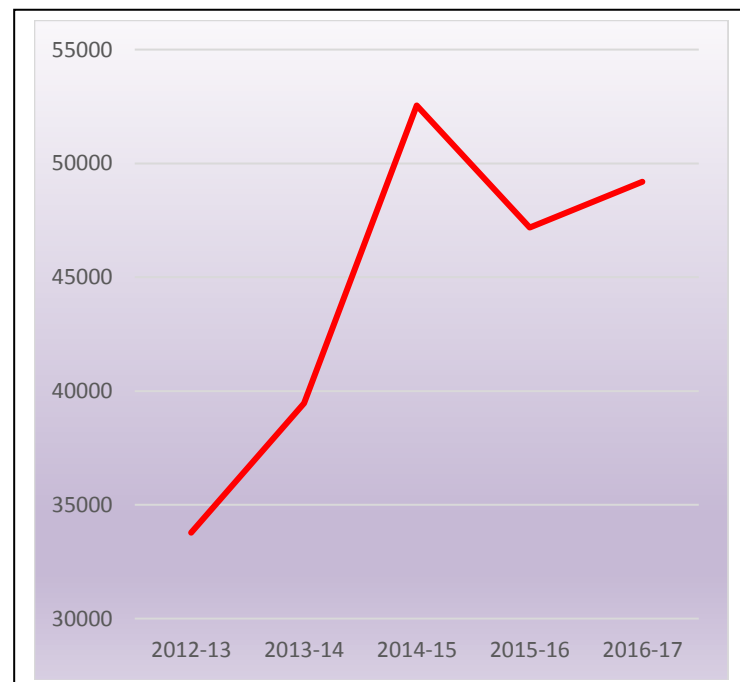
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	69003	35228
2013-14	81279	41813
2014-15	87880	35336
2015-16	81015	33830
2016-17	84537	35344
Annual Growth During 2016-17	4.3	4.5
CAGR (%)	5.21	0.08



It is evident that during the period Export and Import of Total Major Petrochemicals jumped during 2013-14 and 2014-15 respectively and fluctuating before and after.

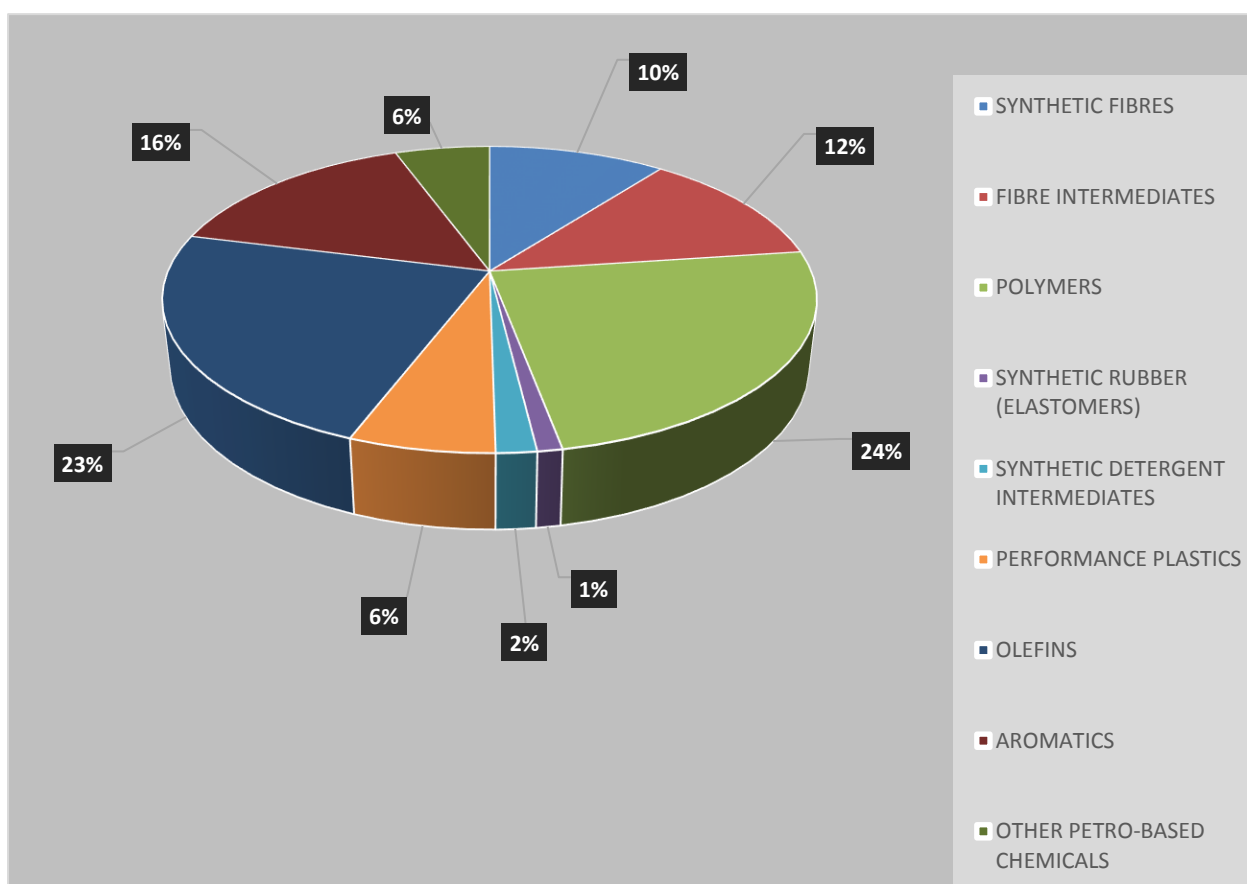
Net Import

Year	Net Import (Rs. in Crore)
2012-13	33775
2013-14	39466
2014-15	52544
2015-16	47185
2016-17	49193
Annual Growth During 2016-17	4.3
CAGR (%)	9.86

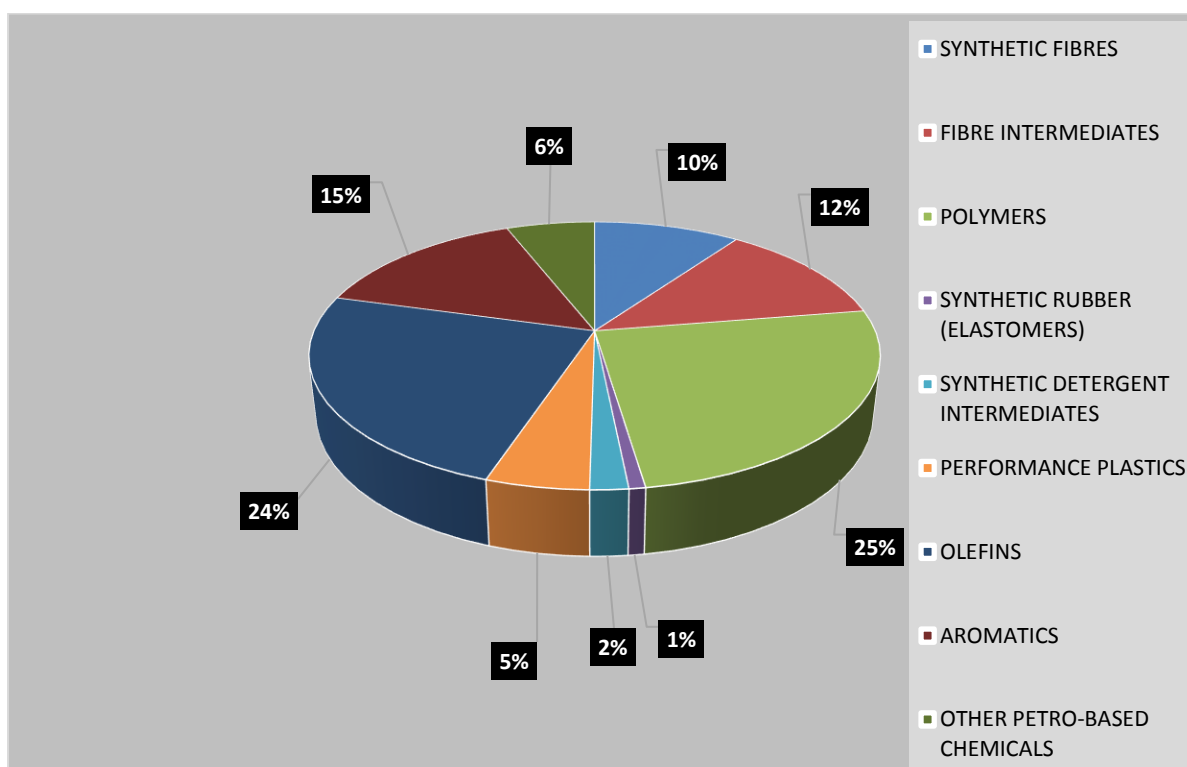


It is observed that during the period Net Import Total Major Petrochemicals initially shown a rising trend till 2014-15, declined during 2015-16 and again showing rise 2016-17.

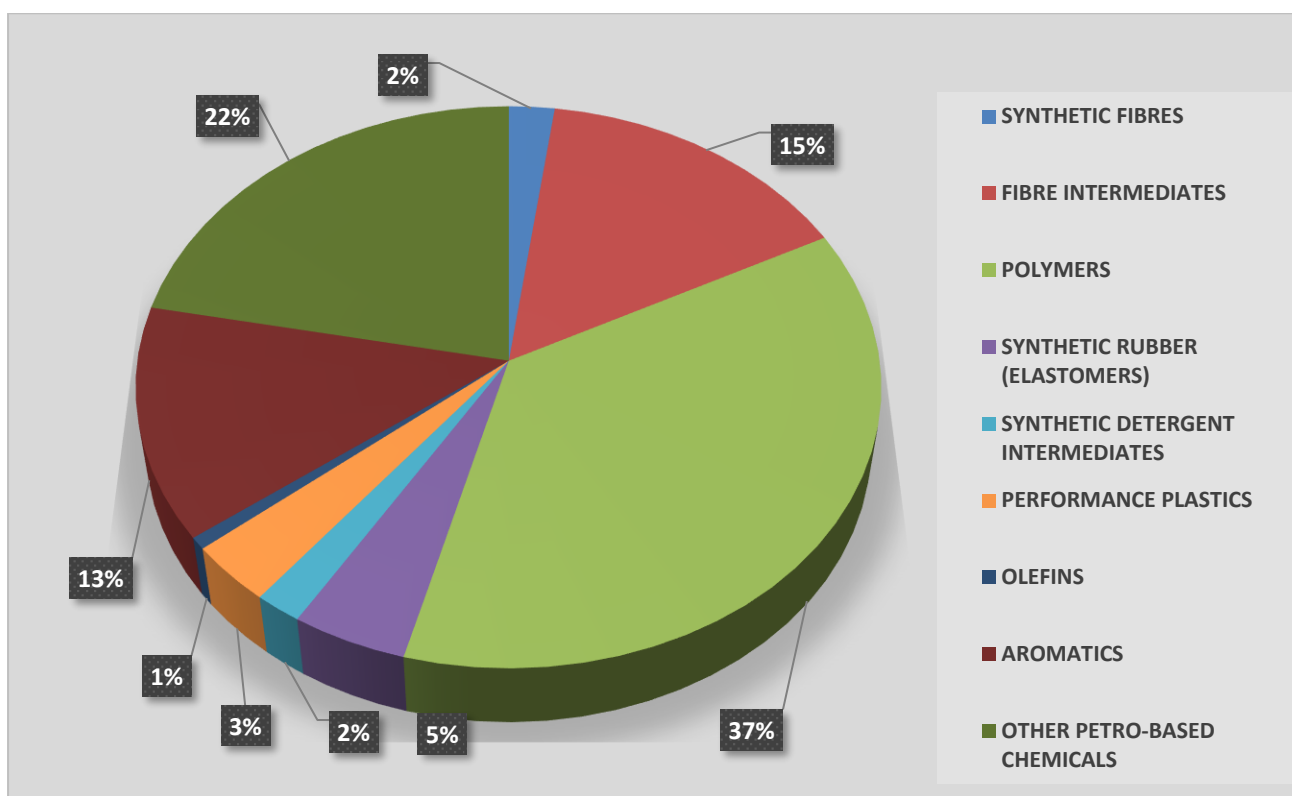
Share of Installed Capacity of Major Petrochemical Groups during year 2016-17



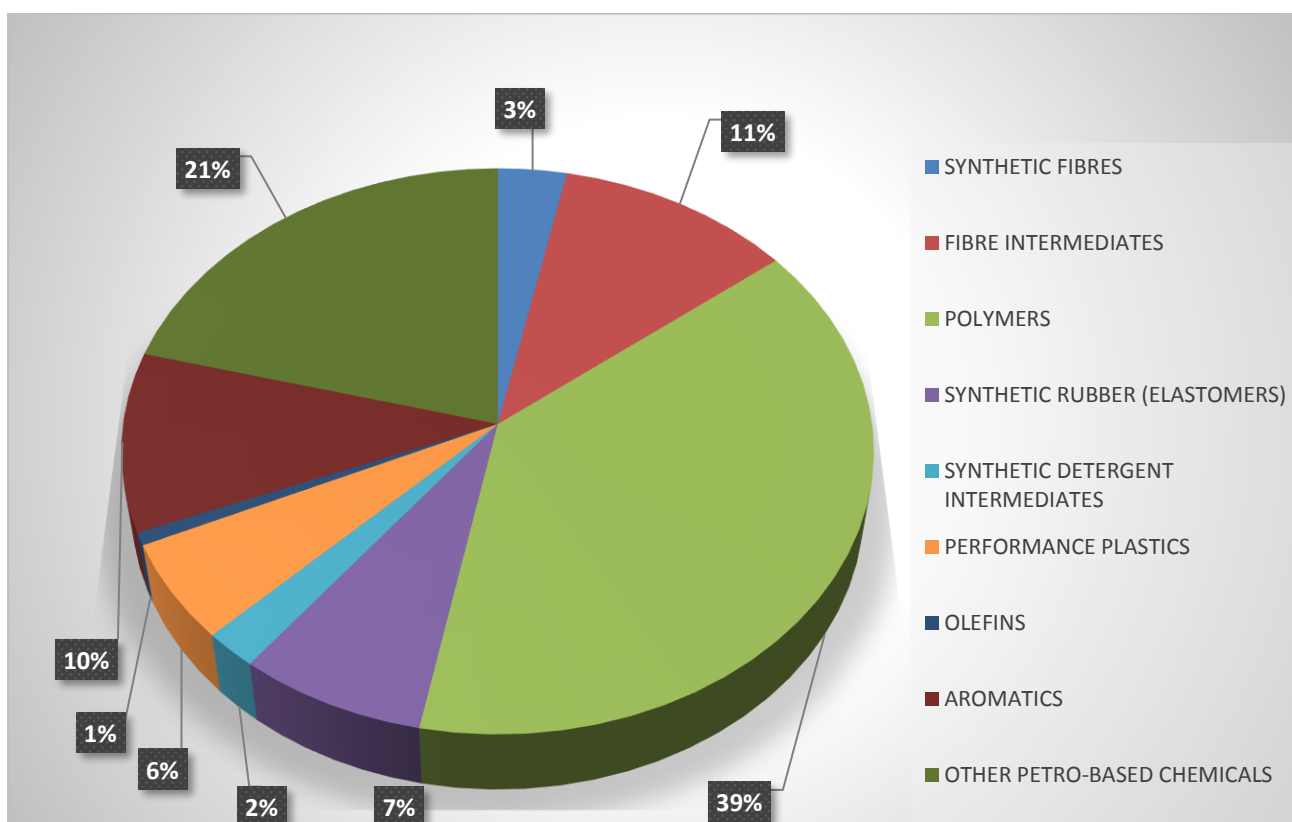
Share of Production of Major Petrochemical Groups during year 2016-17



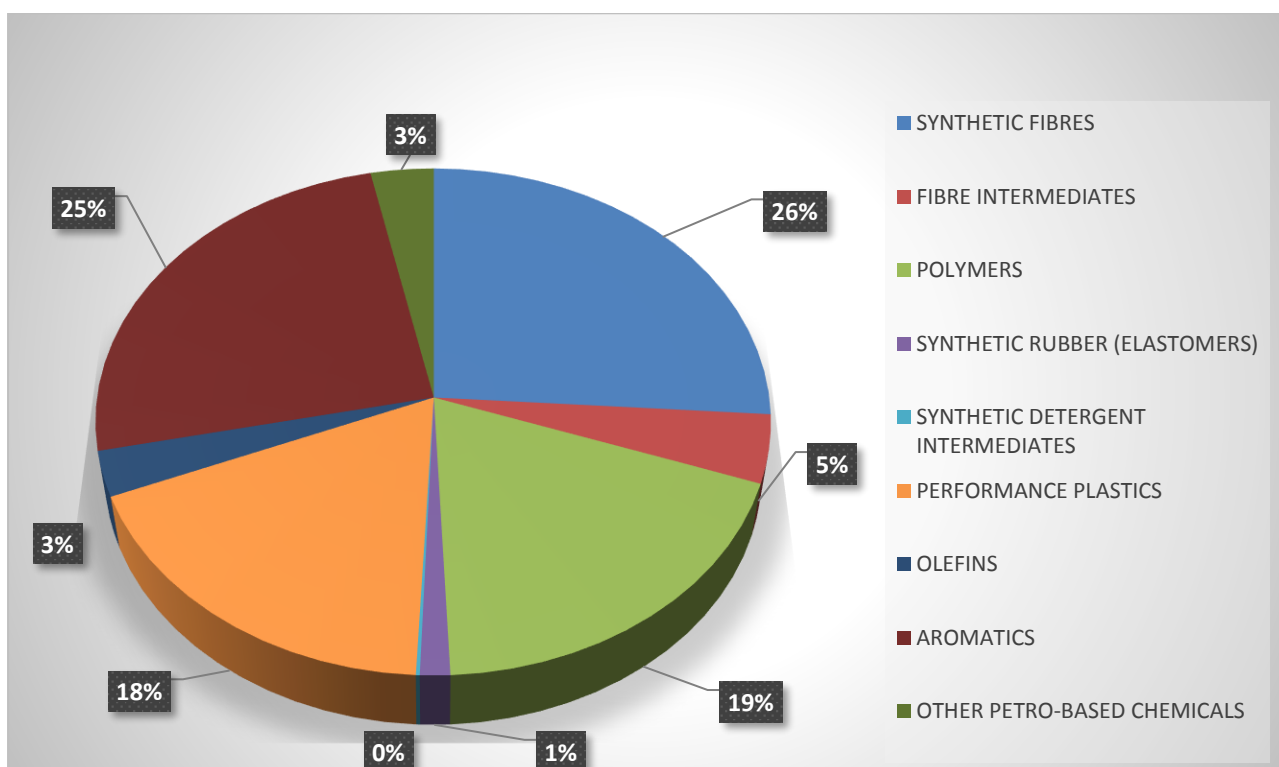
Share of groups under total Import (Qty.) of Major Petrochemicals during 2016-17



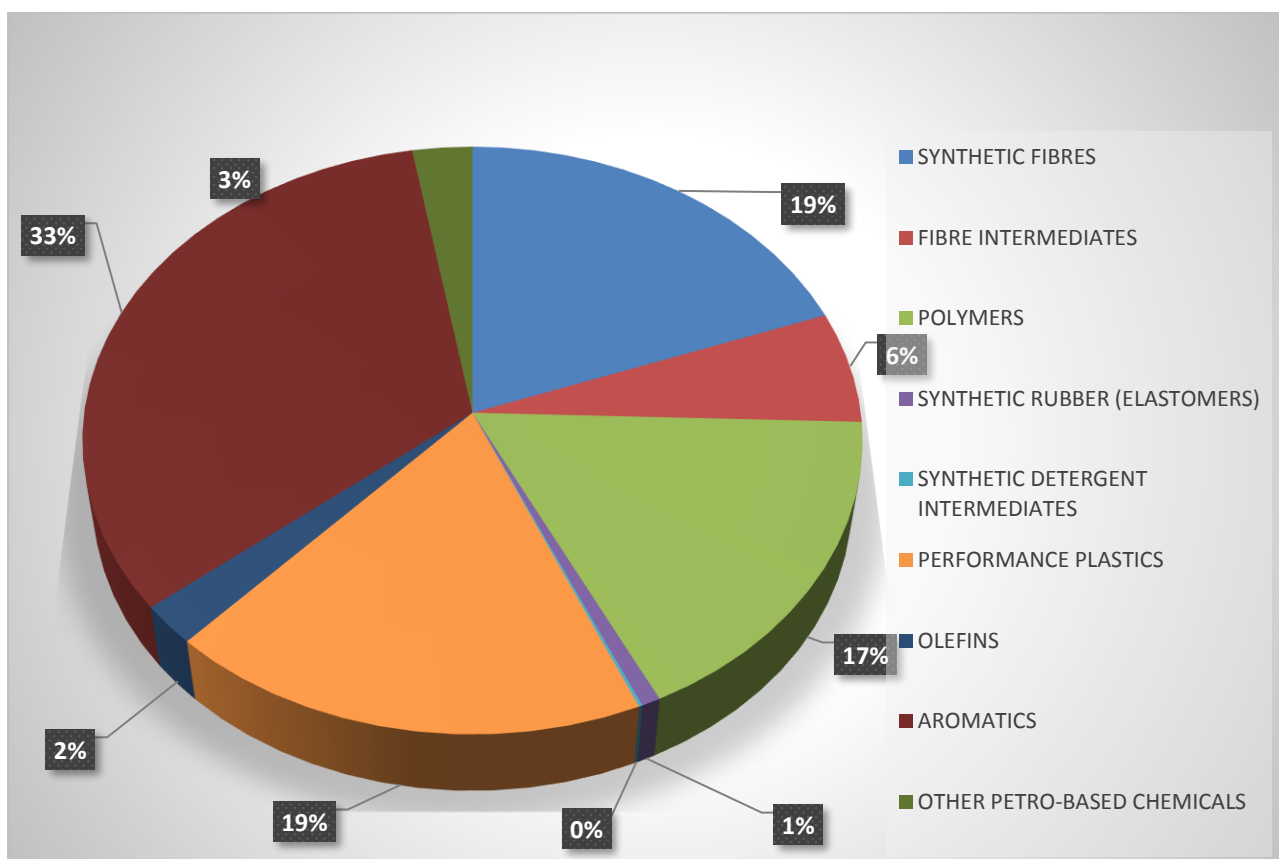
Share of groups under total Import (Value) of Major Petrochemicals during 2016-17



Share of groups under total Export (Value) of Major Petrochemicals during 2016-17



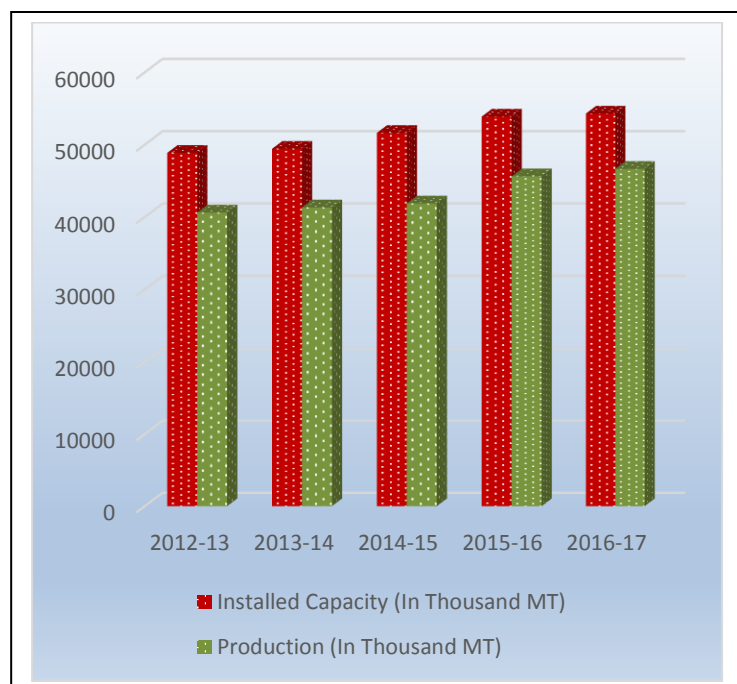
Share of groups under total Export (Qty.) of Major Petrochemicals during 2016-17



Total Major Chemicals & Major Petrochemicals

Installed Capacity-Production

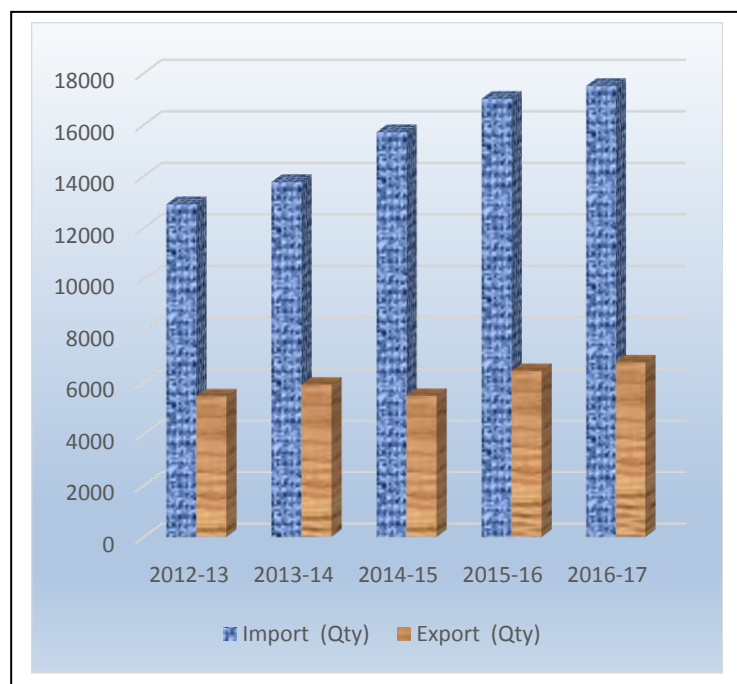
Year	Installed Capacity (In Thousand MT)	Production (In Thousand MT)
2012-13	48868	40623
2013-14	49435	41331
2014-15	51632	41882
2015-16	53884	45633
2016-17	54296	46656
Annual Growth During 2016-17	0.8	2.24
CAGR (%)	2.67	3.25



Production of Total Major Chemicals and Major Petrochemicals during the year 2016-17 is 46656 (Thousand) MT as against installed capacity of 54296 (Thousand) MT. It is noted that installed capacity is showing increasing trend during the period. Production is consistently increasing.

Quantity Imported-Quantity Exported

Year	Import (In Thousand MT)	Export (In Thousand MT)
2012-13	12918	5451
2013-14	13782	5908
2014-15	15718	5472
2015-16	17009	6439
2016-17	17511	6773
Annual Growth During 2016-17	3.0	5.2
CAGR (%)	7.90	5.58

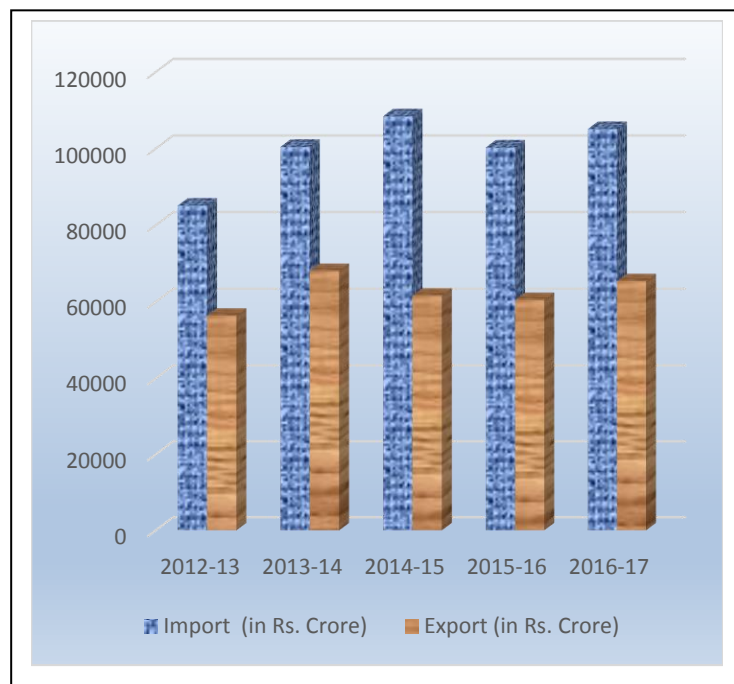


It is amply that during the period Export of Total Major Chemicals and Major Petrochemicals is very low compared to its Import. It is also seen that Export of Total Major Chemicals and Major Petrochemicals slumped suddenly during 2014-15 and thereafter picking up gradually.

Total Major Chemicals & Major Petrochemicals

Value of Import- Value of Export

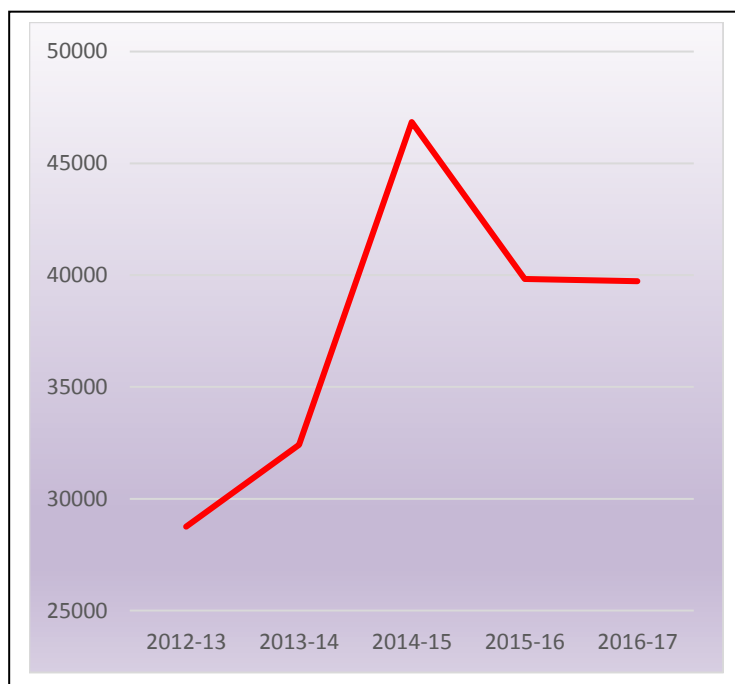
Year	Import (Rs. in Crore)	Export (Rs. in Crore)
2012-13	85151	56398
2013-14	100489	68069
2014-15	108465	61618
2015-16	100328	60501
2016-17	105138	65408
Annual Growth During 2016-17	4.8	8.1
CAGR (%)	5.41	3.77



Value of Export of Total Major Chemicals and Major Petrochemicals low as compared to Value of Import during the entire period causing overall trade deficit.

Net Import

Year	Net Import (Rs. in Crore)
2012-13	28753
2013-14	32420
2014-15	46847
2015-16	39826
2016-17	39730
Annual Growth During 2016-17	-0.2
CAGR (%)	8.42



It is observed that during the period Net Import of Total Major Chemicals and Major Petrochemicals has shown a rising trend till 2014-15 and during 2015-16 it has shown a substantial decline and thereafter the rate of decline has slowed down. The total trade deficit during 2016-17 for Chemical and Petrochemical sector as a whole is INR 39,730 Crore, as compared to INR 39,826 Crore during 2015-16.

Appendices

Section - I

Chemical Sector

Table 1:- Performance of Selected Major Chemicals (Group-Wise) during 2009-10 to 2016-17 at a Glance

(Figures in 000'MT)

GROUP	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	CAGR (%)
1	2	3	4	5	6	7	8	9	10
1. Alkali Chemicals									
Capacity	8095	8094	8160	8075	8075	8214	8422	8822	1.24
Production	5830	6271	6478	6487	6481	6625	6802	7009	2.67
Capacity Utilisation (%)	72	77	79	80	80	81	81	79	
Imports	868	630	658	995	874	1134	1118	1121	3.73
Exports	342	347	345	145	164	74	107	154	-10.75
2. Inorganic Chemicals									
Capacity	1015	1155	1235	1238	1228	1259	1316	1313	3.75
Production	832	911	895	891	906	944	1002	1053	3.41
Capacity Utilisation (%)	82	79	72	72	74	75	76	80	
Imports	356	455	479	689	874	912	1010	1010	16.05
Exports	399	406	327	163	167	164	157	378	-0.79
3. Organic Chemicals									
Capacity	2468	2511	2538	2409	2463	2537	2580	2637	0.95
Production	1448	1550	1640	1686	1792	1619	1589	1638	1.78
Capacity Utilisation (%)	59	62	65	70	73	64	62	62	
Imports	1548	1639	2182	2487	2496	2886	3143	3170	10.79
Exports	143	187	315	407	335	241	232	190	4.12
4. Pesticides (Tech.)									
Capacity	198	250	301	283	297	302	306	319	7.04
Production	135	144	156	155	179	186	188	214	6.78
Capacity Utilisation (%)	68	58	52	55	60	62	61	67	
Imports\$	20	27	30	30	37	41	34	43	11.74
Exports\$	128	125	154	180	207	230	267	342	15.10
5. Dyes & Pigments									
Capacity	344	375	408	418	430	457	452	467	4.44
Production	220	245	241	240	284	285	304	320	5.50
Capacity Utilisation (%)	64	65	59	57	66	62	67	69	
Imports	36	41	48	52	52	52	55	56	6.29
Exports	249	272	288	326	347	353	376	419	7.73
Total Major Chemicals (1 to 5)									
Capacity	12120	12385	12642	12423	12493	12768	13076	13558	1.61
Production	8465	9121	9409	9459	9643	9660	9884	10234	2.75
Capacity Utilisation (%)	70	74	74	76	77	76	76	75	
Imports	2828	2792	3397	4253	4333	5025	5360	5400	9.68
Exports	1261	1337	1429	1220	1221	1061	1138	1484	2.35

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 2009-10 to 2016-17

(Figures in 000'MT)

Group	Installed Capacity			Production / Growth Rate	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
	2014-15	2015-16	2016-17									
1	2	3	4	5	6	7	8	9	10	11	12	13
Alkali Chemicals	8214	8422	8822	Production	5830	6271	6478	6487	6481	6625	6802	7009
				Growth Rate (%)	5.14	7.57	3.30	0.14	-0.09	2.22	2.67	3.04
Inorganic Chemicals	1259	1316	1313	Production	832	911	895	891	906	944	1002	1053
				Growth Rate (%)	5.03	9.49	-1.84	-0.40	1.70	4.18	6.08	5.13
Organic Chemicals	2537	2580	2637	Production	1448	1550	1640	1686	1792	1619	1589	1638
				Growth Rate (%)	2.42	7.06	5.80	2.83	6.28	-9.67	-1.87	3.12
Pesticides	302	306	319	Production	135	144	156	155	179	186	188	214
				Growth Rate (%)	3.98	6.59	8.52	-0.48	15.41	3.95	0.57	13.97
Dyes & Pigments	457	452	467	Production	220	245	241	240	284	285	304	320
				Growth Rate (%)	30.63	11.32	-1.63	-0.56	18.40	0.58	6.60	5.25

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 v- vii.

Table 3:- Production Capacity Utilization & growth of Major Chemicals (Product-wise during 2009-10 to 2016-17

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Alkali Chemicals													
SODA ASH	2951.00	3031.00	3086.00	2058.34	2298.76	2410.82	2437.79	2392.17	2462.00	2583.01	2613.42	3.47	84.69
CAUSTIC SODA	3019.42	3102.02	3297.22	2237.62	2334.45	2408.73	2375.83	2391.66	2442.89	2503.96	2594.50	2.14	78.69
LIQUID CHLORINE	2243.37	2289.26	2438.51	1533.81	1637.62	1658.08	1673.25	1697.33	1720.10	1714.82	1800.67	2.32	73.84
Total	8213.79	8422.28	8821.73	5829.76	6270.82	6477.63	6486.88	6481.15	6624.99	6801.78	7008.58	2.67	79.45
Inorganic Chemicals													
ALUMINIUM FLUORIDE	25.60	25.60	25.60	11.55	9.80	7.31	6.70	5.40	6.73	9.51	8.14	-4.87	31.80
CALCIUM CARBIDE	112.00	112.00	112.00	22.02	44.70	66.39	70.98	78.78	87.18	83.47	85.02	21.29	75.91
CARBON BLACK	583.00	640.00	640.00	419.43	452.44	447.67	404.02	406.41	444.35	469.56	535.27	3.55	83.64
POTASSIUM CHLORATE	3.00	3.00	3.00	2.60	0.61	0.34	0.59	0.68	0.45	0.41	0.01	-53.62	0.40
TITANIUM DIOXIDE	82.50	82.50	82.50	61.32	64.02	52.14	50.14	52.78	47.88	58.53	58.46	-0.68	70.86
RED PHOSPHORUS	1.68	1.68	1.68	0.58	0.48	0.56	0.69	0.75	0.89	0.84	0.77	4.15	45.89
HYDROGEN PEROXIDE	168.63	169.23	165.85	118.61	129.75	103.07	125.79	128.37	119.75	153.08	148.87	3.30	89.76
CALCIUM CARBONATE	282.35	282.35	282.35	196.33	209.65	217.20	232.18	233.12	236.93	226.13	216.33	1.40	76.62
Total	1258.75	1316.35	1312.98	832.45	911.44	894.68	891.10	906.27	944.15	1001.53	1052.87	3.41	80.19
Organic Chemicals													
ACETIC ACID	177.43	177.43	177.43	146.44	156.48	160.73	160.56	157.17	159.61	157.91	158.51	1.14	89.34
ACETIC ANHYDRIDE	148.30	118.30	223.43	56.92	52.91	53.28	87.15	80.85	93.84	92.99	94.82	7.56	42.44

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
ACETONE	49.46	47.14	47.14	44.25	50.54	42.80	37.05	28.58	25.98	24.96	26.79	-6.92	56.84
PHENOL	79.68	76.75	76.75	71.59	79.81	65.93	59.92	46.39	42.26	40.42	43.57	-6.85	56.77
METHANOL	474.30	474.30	474.30	330.83	374.53	359.93	254.91	307.26	209.83	162.62	176.96	-8.55	37.31
FORMALDEHYDE	411.30	411.30	411.30	261.29	266.61	263.80	275.36	268.29	255.95	242.09	244.19	-0.96	59.37
NITROBENZENE	103.80	91.80	91.80	63.41	72.41	74.46	83.70	76.51	69.72	68.37	69.71	1.36	75.94
MALEIC ANHYDRIDE	6.40	6.40	6.40	2.55	2.76	2.63	2.48	2.92	3.20	3.54	3.53	4.73	55.14
PENTAERYTHRITOL	13.72	13.72	13.72	11.21	11.73	11.40	11.49	12.18	13.46	13.97	14.01	3.25	102.14
ANILINE	60.10	60.10	54.10	39.39	41.05	40.09	48.23	40.62	34.47	39.40	41.45	0.73	76.62
CHLORO METHANES	216.75	221.10	221.10	134.79	161.35	188.55	197.74	214.03	220.71	220.18	221.51	7.35	100.18
ISOBUTYLBENZENE	12.75	13.80	13.80	4.07	2.27	1.94	6.63	6.08	4.30	7.24	6.92	7.88	50.14
ONCB	30.00	30.00	30.00	15.44	16.69	13.74	15.41	16.82	16.13	19.26	22.55	5.56	75.17
PNCB	30.00	30.00	30.00	23.57	24.87	22.14	24.40	27.06	26.96	31.27	34.19	5.46	113.97
MEK	5.00	5.00	10.00	0.00	0.00	2.19	2.49	3.72	4.02	5.75	6.54		65.39
ACETALDEHYDE	172.01	189.01	167.01	59.82	32.26	65.39	76.27	79.66	67.77	58.96	60.46	0.15	36.20
ETHANOLAMINES	16.00	17.76	17.76	7.00	3.45	8.73	7.05	11.20	13.76	13.25	13.11	9.37	73.81
ETHYL ACETATE	479.83	545.83	520.63	147.20	170.48	235.36	305.26	382.39	327.94	360.40	371.27	14.13	71.31
MENTHOL	33.65	33.65	33.65	14.41	15.74	15.80	19.70	18.34	17.45	14.73	14.54	0.13	43.21
ORTHO NITRO TOLUENE	16.40	16.40	16.40	13.80	14.20	11.14	10.68	12.31	11.74	11.52	13.80	0.00	84.16
Total	2536.88	2579.78	2636.71	1447.96	1550.12	1640.03	1686.48	1792.34	1619.11	1588.83	1638.44	1.78	62.14

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Pesticides and Insecticides													
D.D.T.	6.34	6.34	6.34	3.61	3.19	3.64	3.87	2.79	3.63	2.09	2.26	-6.45	35.67
MALATHION	2.60	3.80	3.80	1.67	3.05	2.55	1.71	2.04	2.24	2.04	2.26	4.39	59.34
DIMETHOATE	1.45	1.45	1.45	0.98	1.17	0.73	0.81	1.36	1.43	1.44	1.37	4.95	94.62
D.D.V.P.	33.92	33.92	33.92	3.87	3.48	4.64	4.41	5.52	6.66	7.22	8.13	11.20	23.97
QUINALPHOS	2.80	2.80	2.80	0.99	1.01	1.00	1.35	1.74	1.88	0.84	1.29	3.86	46.04
MONOCROTOPHOS	13.18	13.94	13.94	5.74	9.93	9.59	8.25	4.27	6.97	5.48	6.58	1.97	47.18
PHOSPHAMIDON	2.00	2.00	2.00	1.00	0.29	0.06	0.02	0.05	0.13	0.13	0.09	-29.12	4.50
PHORATE	10.13	10.13	12.40	7.12	7.67	7.01	5.75	6.85	6.62	5.92	5.91	-2.62	47.66
ETHION	2.50	2.20	2.20	1.51	1.92	1.33	0.94	1.51	1.60	1.72	2.11	4.95	96.00
ENDOSULPHAN	0.00	0.00	0.00	9.90	11.49	1.35	0.00	0.00	0.00	0.00	0.00	-100.00	
FENVALERATE	3.60	3.60	3.60	0.55	0.81	0.55	0.48	0.75	0.51	0.56	0.53	-0.48	14.69
CYPERMETHRIN	27.79	26.02	22.56	8.89	7.21	10.41	7.78	9.26	8.59	8.53	7.88	-1.72	34.91
ACEPHATE	19.25	19.67	19.67	14.90	16.49	17.11	15.76	14.51	17.97	16.58	16.27	1.26	82.69
CHLORPYRIPHOS	16.46	16.85	19.15	9.31	8.72	6.05	7.52	9.54	9.73	6.87	5.87	-6.38	30.64
TRIAZOPHOS	3.90	3.90	3.36	1.06	1.75	0.78	0.93	0.99	1.00	1.72	2.37	12.20	70.63
TEMEPHOS	0.25	0.25	0.25	0.08	0.12	0.13	0.20	0.25	0.00	0.08	0.08	0.00	33.60
DELTAMETHRIN	0.63	0.61	0.61	0.12	0.68	0.47	0.52	0.52	0.51	0.38	0.37	16.99	60.59
ALPHAMETHRIN	0.51	0.50	0.50	0.26	0.55	0.57	0.54	0.56	0.75	0.23	0.10	-12.39	20.04

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
PROFENOFOS TECHNICAL	14.90	12.90	10.50	3.28	4.60	6.41	5.01	7.18	7.58	6.85	10.50	18.08	100.04
PRETILACHLOR TECHNICAL	2.56	2.58	2.58	1.17	1.18	1.65	1.93	2.22	1.88	1.94	2.58	12.02	100.04
LAMBDA CYHALOTHRIN	2.40	2.40	2.40	0.13	0.21	0.29	0.43	0.55	0.47	0.42	0.74	28.78	30.83
PHENTHOATE	0.90	0.90	0.90	0.06	0.59	0.59	0.96	1.24	1.40	1.11	1.14	51.18	126.33
PERMETHRIN TECH	1.80	1.97	1.97	0.42	0.65	1.41	1.04	1.39	1.70	1.30	1.10	14.80	56.04
IMIDACALOPRID TECH	0.98	1.13	1.13	0.13	0.13	0.39	0.23	0.94	0.56	0.20	0.18	4.69	15.56
CAPTAN & CAPTA FOL	3.85	3.45	3.43	0.00	0.72	0.92	0.56	1.12	2.38	2.12	1.79		52.04
ZIRAM(THIO BARBAMATE)	0.70	0.70	0.70	0.14	0.66	0.73	0.55	0.60	0.58	0.51	0.60	22.89	86.23
CARBENDZIM(BAVIST IN)	0.98	0.98	0.98	0.38	0.59	0.43	0.34	0.31	0.36	0.24	0.13	-14.27	13.27
MANCOZAB	71.56	72.46	77.14	31.49	26.05	43.46	45.30	57.82	61.40	66.38	78.48	13.94	101.74
HEXACONAZOLE	1.08	1.08	1.08	0.42	0.43	0.47	0.44	0.58	0.59	0.62	0.46	1.41	42.62
METCONAZOLE	0.75	0.75	0.75	0.21	0.36	0.50	0.63	0.70	0.61	0.39	0.35	7.75	47.20
2, 4-D	22.00	22.00	26.00	10.64	12.60	15.03	15.44	17.90	11.62	18.46	23.36	11.88	89.84
BUTACHLOR	0.50	0.50	0.50	0.24	0.29	0.20	0.18	0.04	0.00	0.00	0.00	-100.00	0.00
ETHOFUMESATE TECHNICAL	1.65	1.56	1.65	0.56	0.82	1.14	1.22	1.01	0.62	0.50	1.04	9.33	62.79
THIAMETHOXAM TECHNICAL	3.10	3.10	3.10	1.82	1.49	1.63	3.12	3.31	1.66	1.92	2.51	4.66	80.87
PENDIMETHALIN	2.00	3.00	4.50	0.00	0.00	0.00	1.03	1.71	2.26	2.82	4.04		89.73
METRIBUZIN	0.75	1.20	1.20	0.00	0.00	0.00	0.24	0.74	0.52	0.91	1.12		93.33
TRICLOPYR ACID TECH	0.30	0.30	0.30	0.23	0.30	0.10	0.21	0.20	0.19	0.30	0.28	2.89	94.00

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
ISOPROTURON	6.25	6.25	6.25	2.91	3.68	2.53	4.05	2.35	2.43	1.95	0.13	-35.72	2.11
GLYPHOSATE	9.26	9.26	12.66	4.66	4.86	5.25	6.12	8.48	9.69	6.96	6.35	4.51	50.17
DIURON	0.33	3.30	3.72	0.13	0.23	0.31	0.14	0.07	0.12	1.26	3.68	61.93	98.90
ATRAZIN	0.50	0.50	0.50	0.26	0.25	0.66	0.65	1.24	1.20	1.21	1.90	32.59	379.00
ZINC PHOSPHIDE	1.32	1.32	1.92	0.92	0.86	0.89	0.60	0.65	1.29	1.50	1.31	5.16	68.23
ALUMINIUM PHOSPHIDE	3.90	3.90	4.74	3.25	2.82	3.14	4.16	4.47	5.05	5.75	6.40	10.16	135.06
DICOFOL	0.09	0.15	0.15	0.02	0.05	0.08	0.05	0.07	0.11	0.09	0.09	23.97	60.00
Total	301.70	305.62	319.30	135.02	143.92	156.17	155.42	179.38	186.47	187.52	213.72	6.78	66.93
Dyes and Pigments													
AZO DYES	22.62	22.62	22.62	12.68	13.96	12.10	12.72	13.46	10.59	9.71	9.89	-3.48	43.74
ACID DIRECT DYES(OTHER THAN	44.90	44.90	44.90	15.34	20.36	19.00	17.58	19.00	17.23	20.57	19.86	3.76	44.24
DISPERSE DYES	55.21	55.21	71.01	25.22	28.72	29.44	28.26	29.21	29.56	43.57	41.35	7.32	58.23
FAST COLOUR BASES	0.50	0.50	0.50	0.05	0.09	0.04	0.02	0.01	0.01	0.00	0.00	-100.00	0.00
INGRAIN DYES	1.61	1.61	1.61	0.93	0.69	0.98	0.58	0.51	0.44	0.30	0.00	-100.00	0.00
OIL SOLUBLE (SOLVENT DYES)	3.60	3.60	3.60	2.25	2.02	2.64	2.31	2.26	1.80	2.20	2.23	-0.11	62.06
OPTICAL WHITENING AGENTS	37.30	40.90	40.90	12.36	15.02	14.14	18.17	23.74	22.94	24.70	23.77	9.78	58.11
ORGANIC PIGMENT	79.83	80.75	80.75	49.90	56.35	51.77	44.46	68.67	76.89	61.31	63.74	3.56	78.94
PIGMENT EMULSION	5.41	5.41	5.41	5.04	5.89	5.22	6.48	7.34	9.64	9.67	10.61	11.22	195.94
REACTIVE DYES	180.82	171.82	170.59	73.20	76.88	83.38	87.60	95.42	89.47	106.12	120.87	7.43	70.86

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilization in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
SULPHUR DYES (SULPHUR BLACK)	3.00	3.00	3.00	8.69	8.58	7.02	6.58	7.57	9.38	9.55	10.07	2.13	335.77
VAT DYES	2.98	2.98	2.98	1.70	1.94	1.69	1.38	1.60	1.77	1.44	1.52	-1.57	51.11
SOLUBILISED VAT DYES	0.13	0.13	0.13	0.03	0.04	0.03	0.03	0.02	0.03	0.03	0.02	-6.07	15.75
FOOD COLOURS	0.00	0.00	0.00	0.29	0.36	0.36	0.25	0.62	0.66	0.71	0.75	14.77	
NAPTHOLS	0.90	0.90	0.90	0.08	0.07	0.04	0.00	0.00	0.00	0.00	0.00	-100.00	0.00
INORGANIC PIGMENTS	18.05	18.05	18.05	12.23	13.93	13.06	13.14	14.18	14.82	14.19	15.41	3.35	85.34
Total	456.85	452.37	466.95	219.98	244.87	240.88	239.53	283.60	285.23	304.06	320.11	5.50	68.55

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 2009-10 to 2016-17

<i>(Figures in 000'MT)</i>								
GROUP / PRODUCT	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1. Alkali Chemicals	8095	8094	8160	8075	8075	8214	8422	8822
2. Inorganic Chemicals	1015	1155	1235	1238	1228	1259	1316	1313
3. Organic Chemicals	2468	2511	2538	2409	2463	2537	2580	2637
4. Pesticides (Tech.)	198	250	301	283	297	302	306	319
5. Dyes & Pigments	344	375	408	418	430	457	452	467
TOTAL MAJOR CHEMICALS	12120	12385	12642	12423	12493	12768	13076	13558

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

2.Product coverage under each group is given at page v- vii.

Table 5:- Consumption of Selected Major Chemicals (Product-Wise) during 2009-10 to 2016-17

(Figures in 000'MT)

PRODUCTS								
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Alkali Chemicals								
SODA ASH	2357.07	2588.95	2598.56	3048.51	2877.33	3159.80	3197.66	3244.35
CAUSTIC SODA	2472.04	2329.14	2539.17	2619.10	2620.25	2808.67	2905.94	2935.48
LIQUID CHLORINE	1526.67	1636.27	1653.69	1669.61	1693.52	1717.03	1709.31	1795.64
Inorganic Chemicals								
ALUMINIUM FLUORIDE	27.56	16.72	32.39	29.19	26.28	34.02	34.98	54.39
CALCIUM CARBIDE	72.65	100.22	121.62	127.09	142.75	165.10	145.04	140.22
CARBON BLACK	133.51	161.87	294.31	436.79	428.67	469.70	478.95	331.84
POTASSIUM CHLORATE	8.25	6.40	5.80	7.27	6.99	5.96	2.81	-1.55
SODIUM CHLORATE	21.79	24.76	25.01	25.04	28.08	21.79	17.29	7.33
TITANIUM DIOXIDE	70.56	74.82	69.77	64.50	60.60	60.30	70.52	64.18
RED PHOSPHORUS	0.53	0.55	0.57	0.52	0.61	0.56	0.35	0.32
HYDROGEN PEROXIDE	124.74	164.87	125.97	157.13	190.35	175.78	196.82	205.66
CALCIUM CARBONATE	330.10	409.97	370.68	570.31	728.40	759.32	907.92	882.97
Organic Chemicals								
ACETIC ACID	523.07	614.21	704.88	800.68	814.63	865.50	942.30	993.41
ACETIC ANHYDRIDE	56.56	51.78	52.17	85.46	76.21	76.43	77.30	76.65
ACETONE	123.83	125.97	142.24	130.33	144.66	149.63	152.58	159.46
PHENOL	171.94	202.01	211.54	232.24	258.34	240.37	282.35	321.74
METHANOL	1107.18	1144.39	1439.15	1469.22	1535.78	1801.99	1830.49	1801.79
FORMALDEHYDE	258.01	262.94	259.94	270.66	262.35	248.90	233.68	235.87
NITROBENZENE	63.27	72.30	74.36	83.53	76.36	70.78	74.16	83.80
CITRIC ACID	39.10	42.31	50.40	54.33	62.09	65.63	74.49	80.01
MALEIC ANHYDRIDE	30.13	40.66	37.18	39.33	39.64	41.56	50.86	54.11
PENTAERYTHRITOL	21.80	24.15	25.11	24.76	26.37	25.58	31.82	31.35

Table 5:- Consumption of Selected Major Chemicals (Product-Wise) during 2009-10 to 2016-17

(Figures in 000'MT)

PRODUCTS								
	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
ANILINE	58.20	63.91	54.45	63.48	72.27	70.48	77.61	85.94
CHLORO METHANES	134.99	161.82	188.67	197.85	214.14	220.68	220.75	221.68
ISOBUTYLBENZENE	-6.70	-9.19	-11.98	-6.68	-8.05	-9.64	-5.33	-6.51
ONCB	18.56	19.86	15.75	17.12	14.94	14.29	18.66	22.42
PNCB	25.36	25.02	21.22	22.30	25.09	29.96	38.01	39.26
MEK	24.45	21.33	31.98	33.68	30.50	30.89	46.45	37.25
ACETALDEHYDE	59.89	32.23	65.21	76.08	79.72	67.80	59.03	60.55
ETHANOLAMINES	11.38	8.90	13.47	16.65	19.98	24.02	22.19	23.08
ETHYL ACETATE	115.01	75.83	113.77	137.50	192.44	213.04	255.88	279.24
MENTHOL	2.49	7.52	6.46	7.85	3.80	4.82	6.83	4.05
ORTHO NITRO TOLUENE	13.46	13.80	10.87	9.74	11.73	11.67	10.47	13.30

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 2009-10 to 2016-17

(Figures in MT)

S. No.	States/UTs	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	Andhra Pradesh	1,015	8,869	9,289	2,803	4,253	4,050	2713	1884
2	Bihar	828	675	655	687	765	787	831	840
3	Chhattisgarh	205	570	600	812	1,016	1,589	1625	1495
4	Goa	10	9	8	9	9	12	48	22
5	Gujarat	2,750	2,600	2,190	1,210	2,330	1,730	1980	1713
6	Haryana	4,070	4,060	4,050	4,050	4,080	4,070	NA	4050
7	Himachal Pradesh	328	328	310	325	344	379	450	341
8	Jammu & Kashmir	1,640	1,818	1,711	1,789	1,723	1,921	2251	2188
9	Jharkhand	89	84	151	151	430	650	493	541
10	Karnataka	1,647	1,858	1,412	1,615	1,735	1,793	1434	1279
11	Kerala	631	657	807	712	1,276	910	1123	1070
12	Madhya Pradesh	645	633	850	846	987	696	732	694
13	Maharashtra	4,639	8,317	6,723	6,618	10,969	8,663	11665	13496
14	Orissa	1,588	871	555	606	1,219	1,075	723	770
15	Punjab	5,810	5,730	5,625	5,730	5,723	5,689	5743	5843
16	Rajasthan	3,527	3,623	2,802	2,559	2,736	2,694	2475	1252
17	Tamil Nadu	2,335	2,361	1,968	1,766	2,142	2,096	2096	2000
18	Telangana					3,812	2,862	2950	3840
19	Uttar Pradesh	9,563	8,460	8,839	9,057	10,164	9,736	10457	10142
20	Uttarakhand	222	199	206	247	174	172	217	131
21	West Bengal		3,515	3,670	3,465	3,190	3,060	3712	2624
Sub Total		41,542	55,236	52,421	45,057	59,077	54,633	53,718	56,215
North-Eastern									
22	Arunachal Pradesh	10	10	17	NR	18	18	17	18
23	Assam	19	150	160	183	190	190	NA	306
24	Manipur	30	30	33	31	31	31	30	33
25	Meghalaya	6	10	9	24	44	28	NA	NA
26	Mizoram	39	4	4	4	508	805	NA	NA

Table5A:- Consumption of Selected Pesticides (Tech. Grade) (State -wise) during 2009-10 to 2016-17

(Figures in MT)

S. No.	States/UTs	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
27	Nagaland	14	NR	15	NR	16	20	20	NA
28	Sikkim	4	NR	NR	NR	NR	NR	NA	NA
29	Tripura	55	12	266	272	310	346	293	298
Sub Total		177	216	504	514	1,117	1,437	360	655
Union Territories									
30	Andaman & Nicobar	14	NR	15	7	NR	8	NA	NA
31	Chandigarh	NA	NR	NR	NR	NR	NR	NA	NA
32	Dadra & Nagar Haveli	NA	NR	NR	NR	NR	NR	NA	NA
33	Daman & Diu	NA	NR	NR	NR	NR	NR	NA	NA
34	Delhi	49	48	NR	NR	48	NR	NA	88
35	Lakshadweep	NA	NR	NR	NR	NR	NR	NA	NA
36	Pondicherry	39	39	38	41	41	42	43	42
Sub Total		102	87	54	48	89	50	43	130
Grand Total		41,821	55,540	52,979	45,619	60,282	56,121	54,121	57,000

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

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 2009-10 to 2016-17 At a Glance

<i>(Figures in 000'MT)</i>									
Group	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	CAGR (%)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Synthetic Fibres/Yarn									
Capacity	3336	3527	3743	3892	3854	4298	4307	4251	3.53
Production	2835	3123	3105	3124	3144	3527	3554	3595	3.45
Capacity Utilisation (%)	85.0	88.5	83.0	80.3	81.6	82.1	82.5	84.6	
Imports	98	121	142	147	155	224	248	262	15.14
Exports	404	576	734	776	906	886	878	1025	14.22
2. Polymers									
Capacity	7030	8306	8351	8761	8905	8905	9768	9839	4.92
Production	5695	6343	7250	7509	7876	7558	8839	9163	7.03
Capacity Utilisation (%)	81.0	76.4	86.8	85.7	88.4	84.9	90.5	93.1	
Imports	2160	2500	2435	3180	3125	3737	4214	4452	10.89
Exports	658	822	1163	1113	1188	903	998	912	4.79
3. Synthetic Rubber									
Capacity	128	128	128	124	244	425	425	425	18.70
Production	106	105	100	96	105	172	242	285	15.14
Capacity Utilisation (%)	82.9	82.3	78.4	77.4	42.8	40.3	56.8	67.0	
Imports	376	446	493	520	580	578	596	560	5.86
Exports	15	15	22	11	13	26	43	38	13.78
4. Synthetic Detergent Intermediates									
Capacity	637	637	672	687	687	687	687	687	1.08
Production	618	638	623	627	597	596	566	664	1.02
Capacity Utilisation (%)	97.0	100.1	92.6	91.2	86.8	86.7	82.3	96.6	
Imports	91	79	107	127	124	134	218	228	13.98
Exports	95	134	75	50	33	28	10	7	-30.98
5 : Performance Plastics									
Capacity	1901	2070	2201	2452	2454	2479	2514	2479	3.87
Production	1641	1740	1677	1691	1685	1591	1700	1799	1.32
Capacity Utilisation (%)	86.3	84.0	76.2	69.0	68.6	64.2	67.6	72.6	
Imports	112	192	175	250	311	395	389	417	20.64
Exports	294	366	310	348	475	409	814	973	18.61
Total Basic Major Petrochemicals (1 to 5)									
Capacity	13032	14669	15095	15916	16144	16794	17702	17682	4.46
Production	10895	11950	12755	13047	13406	13443	14900	15506	5.17
Capacity Utilisation (%)	83.6	81.5	84.5	82.0	83.0	80.0	84.2	87.7	
Imports	2837	3338	3353	4223	4295	5068	5665	5920	11.08
Exports	1466	1913	2304	2298	2614	2253	2742	2956	10.53

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 2009-10 to 2016-17

(Figures in 000' MT)

Group	Installed Capacity			Production / Growth Rate	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
	2014-15	2015-16	2016-17									
1	2	3	4	5	6	8	9	10	11	12	13	14
Synthetic Fibers	4298	4307	4251	Production	2835	3123	3105	3124	3144	3527	3554	3595
				Growth Rate (%)	14.4	10.2	-0.6	0.6	1.3	12.2	0.8	1.2
Polymers	8905	9768	9839	Production	5695	6343	7250	7509	7876	7558	8839	9163
				Growth Rate (%)	12.5	11.4	14.3	3.6	8.6	-4.0	17.0	3.7
Elastomers (S.Rubber)	425	425	425	Production	106	105	100	96	105	172	242	285
				Growth Rate (%)	10.4	-0.7	-4.7	-4.2	4.1	64.1	40.8	17.9
Synth. Detergent Intermediates	687	687	687	Production	618	638	623	627	597	596	566	664
				Growth Rate (%)	12.0	3.3	-2.4	0.7	-4.2	-0.1	-5.1	17.4
Performance Plastics	2479	2514	2479	Production	1641	1740	1677	1691	1685	1591	1700	1799
				Growth Rate (%)	23.9	6.0	-3.6	0.8	0.5	-5.5	6.9	5.8
Total Basic Major Petrochemicals	16794	17702	17682	Production	10895	11950	12755	13047	13406	13443	14900	15506
				Growth Rate %)	14.5	9.7	6.7	2.3	2.7	3.0	10.8	4.1

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 2009-10 to 2016-17

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
A : BASIC MAJOR PETROCHEMICALS													
I : Synthetic Fibres / Yarn													
1. Polyester Filament Yarn (PFY) (\$)	2791	2820	2762	1562	1804	1874	1878	1811	2179	2179	2201	5.02	79.69
2. Nylon Filament Yarn (NFY) (\$\$)	20	23	25	30	33	30	22	24	32	37	41	4.38	166.18
3. Nylon Industrial Yarn (NIY) (\$\$)	61	61	61	99	97	97	95	104	101	95	104	0.70	169.77
4. Polypropylene Filament Yarn (PPFY)(\$\$)	8	4	4	9	6	7	6	6	5	3	3	-12.45	94.28
Sub Total Yarn (1+2+3+4)	2880	2908	2851	1700	1941	2008	2001	1945	2317	2315	2349	4.73	82.38
5. Acrylic Fibre (Inc. Dry Spun) (AF)	107	107	107	91	76	76	75	94	90	106	95	0.65	89.15
6. Polyester Staple Fibre (PSF)	1170	1170	1170	980	1037	953	974	1010	1021	1040	1056	1.07	90.24
7. Polypropylene Staple Fibre (PPSF)	32	32	32	3	4	4	8	23	25	27	25	32.91	76.45
8. Polyester Staple Fibrefil (PSFF)	87	69	69	54	53	49	51	56	57	51	54	-0.17	77.76
9. Polyester Industrial Yarn (PIY)	22	22	22	5	13	14	15	15	17	15	16	17.18	75.93
Total Synth. Fibre / Yarn	4298	4307	4251	2835	3123	3105	3124	3144	3527	3554	3595	3.45	84.57
II : Polymers													
1. Linear Low Density Polyethylene (LLDPE)	No separate Capacity			683	897	1033	1012	1037	910	1205	1318	9.85	
2. High Density Polyethylene (HDPE)	No separate Capacity			856	887	1119	1177	1195	1156	1317	1520	8.54	
LLDPE/HDPE (Combined) (\$\$\$)	2735	3135	3135	1539	1784	2152	2189	2232	2066	2522	2838	9.14	90.54
3. Low Density Polyethylene (LDPE)	160	160	160	193	179	194	187	190	184	200	202	0.67	126.10
4. Polystyrene(PS)	462	472	472	270	296	288	290	270	281	309	311	2.08	65.96

Table 8:- Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-Wise) during 2009-10 to 2016-17

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
5. Polypropylene(PP)	4016	4456	4456	2521	2736	3248	3507	3740	3615	4284	4253	7.76	95.45
6. Poly Vinyl Chloride(PVC)	1423	1423	1493	1110	1278	1296	1257	1367	1330	1438	1462	4.01	97.89
7. Expandable Polystyrene (EX-PS)	109	122	123	63	71	72	81	77	81	86	97	6.29	78.68
Total Polymers	8905	9768	9839	5695	6343	7250	7509	7876	7558	8839	9163	7.03	93.13
III : Synthetic Rubber													
1. Styrene Butadiene Rubber (SBR)	271	271	271	19	12	9	8	12	57	125	167	36.00	61.75
2. Poly Butadiene Rubber (PBR)	114	114	114	73	76	79	77	81	108	114	117	6.99	102.71
3. Nitrile Butadiene Rubber (NBR)	25	25	25	13	6	0.07	0.10	1	0.38	0.39	0.35	-40.44	1.40
4. Ethyl Vinyl Acetate (EVA)	15	15	15	0	11	12	11	11	6	2	0		0.00
Total Synthetic Rubber	425	425	425	106	105	100	96	105	172	242	285	15.14	66.96
IV : Synthetic Detergent Intermediates													
1. Linear Alkyl Benzene (LAB)	547	547	547	464	475	454	455	406	411	377	448	-0.51	81.78
2. Ethylene Oxide (EO)	140	140	140	154	164	169	172	191	185	188	216	4.94	154.33
Total Synth. Detergent Intermediates	687	687	687	618	638	623	627	597	596	566	664	1.02	96.55

Table 8:- Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-Wise) during 2009-10 to 2016-17

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
V : Performance Plastic													
1. ABS Resin	128	128	140	84	90	89	91	102	107	117	118	4.92	84.12
2. Nylon-6 & Nylon 66	23	28	28	18	21	18	19	20	21	21	22	2.93	76.39
3. Polymethyl Methacrylate (PMMA)	4	4	4	3	3	3	3	2	1	1.47	0.29	-27.14	8.14
4. Styrene Acrylonitrile (SAN)	136	136	148	72	82	77	80	88	89	99	99	4.79	67.05
5. PET Chips/Polyester Chips	2169	2199	2140	1462	1533	1473	1487	1460	1362	1453	1549	0.83	72.38
6. PTFE (TEFLON)	20	20	20	3	11	16	11	12	11	9	12	19.43	59.50
Total Performance Plastics	2479	2514	2479	1641	1740	1677	1691	1685	1591	1700	1799	1.32	72.58
TOTAL BASIC MAJOR PETROCHEMICALS													
(I+II+III+IV+V)	16794	17702	17682	10895	11950	12755	13047	13406	13443	14900	15506	5.17	87.69
B : INTERMEDIATES													
I : FIBRE INTERMEDIATES													
1. Acrylonitrile (ACN)	41	41	41	39	38	38	33	37	34	2	0	-100.00	0.00
2. Caprolactum	120	120	120	123	123	118	99	85	87	86	87	-4.85	72.47
3. Mono Ethylene Glycol (MEG)	1153	1153	1153	738	746	997	1061	1069	1001	1159	1110	6.01	96.28
4. Purified Terephthalic Acid (PTA)	3753	3753	3753	2985	3191	3308	3494	3477	3755	3432	3391	1.83	90.34
Total Fibre Intermediates	5067	5067	5067	3886	4097	4461	4687	4668	4877	4679	4588	2.40	90.54

Table 8:- Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-Wise) during 2009-10 to 2016-17

(Figures in 000'MT)

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
II : BUILDING BLOCKS													
Olefins													
1. Ethylene	3783	4283	4233	2515	2665	3320	3315	3346	3192	3727	4022	6.93	95.01
2. Propylene	4268	4746	4746	2763	2981	3567	3741	3988	3869	4457	4425	6.96	93.25
3. Butadiene	433	433	433	205	242	250	235	236	239	343	347	7.79	80.22
Total Olefins	8484	9462	9412	5484	5888	7136	7290	7570	7301	8528	8794	6.98	93.44
Aromatics													
1. Benzene	1566	1566	1566	823	945	1002	1048	1031	1094	1333	1332	7.13	85.05
2. Toluene	258	288	288	137	128	132	108	120	108	116	127	-1.06	44.02
3. Mixed Xylene	898	898	898	176	125	207	200	248	215	269	296	7.69	32.95
4. Ortho-xylene	420	420	420	358	400	390	444	412	462	500	445	3.15	105.92
5. Paraxylene	3132	3132	3132	2223	2137	2394	2360	2264	2758	3266	3161	5.16	100.94
Total Aromatics	6274	6304	6304	3716	3736	4125	4161	4075	4638	5484	5361	5.37	85.03
Total Intermediates													
(I+II)	19826	20834	20783	13086	13722	15722	16138	16313	16816	18690	18743	5.27	90.18
C : OTHER PETRO-BASED CHEMICALS													
1. Butanol	26	26	26	8	18	22	14	5	4	11	12	6.90	47.94
2. C4-Raffinate	292	292	292	65	71	209	395	393	365	429	437	31.36	149.92
3. Di-Ethylene Glycol	85	85	85	69	73	99	103	107	101	114	108	6.62	128.09
4. Diacetone Alcohol	10	10	10	9	4	5	3	0	0	0	0	-100.00	0.00

Table 8:- Production, Capacity Utilization & Growth of Selected Major Petrochemicals (Product-Wise) during 2009-10 to 2016-17*(Figures in 000'MT)*

Major Groups / Products	Installed Capacity			Production								CAGR (%)	Capacity Utilisation in 2016-17
	2014-15	2015-16	2016-17	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17		
1	2	3	4	5	6	7	8	9	10	11	12	13	14
5. Ethylene Dichloride (By Product)	593	593	593	445	454	435	316	278	285	277	283	-6.28	47.63
6. 2-Ethyl Hexanol**	55	55	55	16	29	49	50	20	14	44	46	16.22	82.60
7. Epichlorohydrine	0	0	0	7	8	9	11	0	0	0	0	-100.00	
8. Iso-Butanol	3	3	3	3	3	2	2	1	1	2	2	-6.22	70.11
9. Isopropanol (IPA)	70	70	70	62	67	71	70	76	75	71	72	2.35	103.53
10. Methyl Methacrylate (MMA)	4	4	4	5	5	4	3	3	3	2	1	-26.36	12.34
11. Phthalic Anhydride (PAN)	349	349	349	232	253	250	254	264	292	306	296	3.58	84.82
12. Propylene Oxide (PO)	36	36	36	32	32	35	30	33	37	26	29	-1.07	81.49
13. Propylene Glycol (PG)	20	20	20	19	17	19	15	14	16	14	16	-1.93	81.73
14. Polyvinyl Acetate Resin	17	17	17	4	2	0	0	0	0	0	0	-100.00	0.00
15. Vinyl Acetate Monomer (VAM)	30	30	30	0	0	0	0	0	0	0	0		0.00
16. Vinyl Chloride Monomer (VCM) (By Product)	541	541	541	674	672	689	669	735	718	791	791	2.31	146.18
17. Polyol	114	142	142	31	31	41	42	40	52	72	79	14.40	55.58
18. PBT	0	*	*	0	0	0	0	0	1	1	1		
19. Polycarbonate	0	*	*	0	0	0	0	0	0	0	0		
Total Other Petro-based Chemicals	2246	2273	2272	1679	1739	1940	1979	1970	1963	2159	2174	3.76	95.64

(\$) : Includes capacity of all the units producing PFY, NFY, NIY and PPFY under broadbanding as Synthetic Filament Yarn : * Inclues capacity with Nylon 6, 66

(\$\$) : 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)

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

Table 9:- Installed Capacities of Selected Major Petrochemicals (Group Wise) from 2009-10 to 2016-17

(Figures in 000'MT)

GROUP / PRODUCT	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
A : BASIC PETROCHEMICALS								
I : SYNTHETIC FIBRES	3336	3527	3743	3892	3854	4298	4307	4251
II : POLYMERS	7030	8306	8351	8761	8905	8905	9768	9839
III : SYNTHETIC RUBBER (ELASTOMERS)	128	128	128	124	244	425	425	425
IV : SYNTH. DETERGENT INTERMEDIATE	637	637	672	687	687	687	687	687
V : PERFORMANCE PLASTICS	1901	2070	2201	2452	2454	2479	2514	2479
MAJOR PETROCHEMICALS (I TO V)	13032	14669	15095	15916	16144	16794	17702	17682
B : INTERMEDIATES								
VI : FIBRE INTERMEDIATES	4854	5034	5034	5034	5067	5067	5067	5067
VII : OLEFINS	6559	7864	7864	8304	8484	8484	9462	9412
VIII : AROMATICS	4939	5066	5069	5070	5077	6274	6304	6304
C : OTHER PETRO-BASED CHEMICALS	1955	2028	2062	2121	2169	2244	2272	2272

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 2009-10 to 2016-17

(Figures in 000'MT)

PRODUCT NAME								
	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
I. SYNTHETIC FIBRE								
ACRYLIC FIBRE	95	75	70	85	96	89	97	84
POLYESTER STAPLE FIBREFILL	54	53	49	51	56	57	51	54
NYLON FILAMENT YARN	35	49	51	44	47	58	65	70
NYLON INDUSTRIAL YARN/TYRE CORD	107	105	102	103	108	103	98	110
POLYESTER FILAMENT YARN	1385	1446	1394	1351	1210	1603	1617	1537
POLYESTER STAPLE FIBRE	834	916	822	833	847	920	958	942
POLYPROPYLENE FILAMENT YARN	9	6	8	6	5	4	1	2
POLYPROPYLENE STAPLE FIBRE	3	3	4	6	9	15	21	17
POLYSTER INDUSTRIAL YARN	5	13	14	15	15	17	15	16
Total	2528	2668	2513	2496	2393	2864	2923	2832
II. POLYMERS								
LOW DENSITY POLYETHYLENE	348	363	379	434	428	489	551	566
HIGH DENSITY POLYTHYLENE	1303	1268	1302	1657	1657	1947	2123	2372
POLYESTYRENE	232	262	257	252	224	247	265	273
POLYPROPYLENE (INC. CO-POLYMER)	2382	2579	2830	3176	3276	3500	4250	4460
EXPANDABLE POLYESTYRENE	66	78	77	82	78	79	85	97
POLY VINYL CHLORIDE	1738	1939	2144	2389	2574	2622	2936	3158
LINEAR LOW DENSITY POLYTHYLENE	1059	1467	1474	1529	1523	1450	1779	1734
PVC COMPOUND	70	65	59	59	54	58	66	42
Total	7197	8021	8522	9576	9813	10391	12055	12703
III. SYNTHETIC RUBBER								
STYRENE BUTADIENE RUBBER	157	195	214	207	244	263	267	290
POLY BUTADIENE RUBBER	122	123	145	147	167	176	183	197
ETHYL PROPYLENE DIMERS	19	26	26	27	28	30	37	40
ETHYL VINYL ACETATE	78	100	95	118	125	145	166	143
NITRILE BUTADIENE RUBBER	25	22	9	26	30	27	52	36
BUTYL RUBBER	66	70	82	78	79	83	91	100
Total	467	537	571	604	672	724	795	806
IV. SYNTHETIC DETERGENT INTERMEDIATES								
LINEAR ALKYL BENZENE	461	420	486	532	497	517	586	669
ETHYLENE OXIDE	154	163	169	171	190	185	188	216
Total	615	583	655	704	687	702	774	885
V. PERFORMANCE PLASTICS								
ABS RESIN	114	131	134	147	165	177	207	220
NYLON-6	58	77	86	97	119	137	150	162
POLYMETHYL METHACRYLATE	4	15	10	11	12	7	13	19
STYRENE ACRYLONITRILE	74	87	82	86	93	95	108	107
NYLON 6,6	1	1	1	1	1	1	1	1

Table 10:- Consumption of Selected Major Petrochemicals (Product-wise) during 2009-10 to 2016-17

(Figures in 000'MT)

PRODUCT NAME								
	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
POLYESTER CHIPS/PET CHIPS	1203	1247	1218	1243	1123	1154	792	729
POLYTETRAFLUOROETHYLENE(PTFE)	4	8	12	8	9	6	5	6
Total	1459	1565	1542	1593	1521	1577	1275	1244
TOTAL BASIC MAJOR PETROCHEMICALS								
(I+II+III+IV+V)	12265	13375	13804	14972	15086	16258	17822	18470
FIBRE INTERMEDIATE								
ACRYLONITRILE	104	110	110	113	138	131	160	140
CAPROLACTUM	122	115	110	111	108	119	131	139
DIMETHYL TEREPHTHALATE	4	4	3	2	2	2	2	2
MONO EHYLENE GLYCOL	1415	1482	1565	1644	1823	1931	2198	2284
PURIFIED TEREPHTHALIC ACID	3460	3934	3888	4138	4455	4800	3956	3543
Total	5105	5646	5675	6009	6525	6984	6447	6107
OLEFINS								
BUTADIENE	95	111	133	127	117	170	215	243
ETHYLENE	2550	2780	3334	3338	3371	3236	3743	4103
PROPYLENE	2739	2957	3558	3736	3988	3872	4446	4415
Total	5384	5848	7026	7201	7477	7278	8404	8760
AROMATICS								
BENZENE	546	426	544	446	400	518	418	543
MIXED XYLENE	120	53	58	59	66	206	269	296
ORTHO-XYLENE	221	98	238	279	228	271	300	317
TOLUENE	334	312	372	410	369	386	454	514
PARAXYLENE	2054	2175	2228	2345	2220	2392	3214	3557
Total	3274	3064	3440	3538	3284	3773	4655	5226
OTHER PETRO-BASED CHEMICALS								
DIETHYLENE GLYCOL	69	73	99	103	107	101	114	108
DIACETONE ALCOHOL	9	4	5	3	0	0	0	0
ETHYLENE DICHLORIDE	637	739	699	672	718	751	862	787
BUTANOL	42	37	50	46	48	60	73	68
OXO ALCOHOL	1	0	0	1	1	0	1	2
2-ETHYL HEXANOL	54	63	78	108	120	142	153	110
VINYL CHLORIDE MONOMER	829	1057	992	965	1039	1036	1140	1136
EPICHLHYDRINE	24	28	28	30	23	34	43	48
ISO BUTYLENE	40	43	23	9	21	13	16	20
METAXYLENE	0	-108	-83	-37	3	1	3	3
METHYL ISOBUTYL KETONE	17	16	19	18	18	23	27	22
PBT	0	0	0	0	0	1	1	1
PIB	0	0	1	6	4	6	8	14
POLYCARBONATE	53	102	114	120	121	122	134	135
PROPYLENE OXIDE	42	45	44	43	45	60	51	52

Table 10:- Consumption of Selected Major Petrochemicals (Product-wise) during 2009-10 to 2016-17

(Figures in 000'MT)

PRODUCT NAME								
	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
PROPYLENE GLYCOL	47	50	54	53	57	64	67	67
POLYVINYL ACETATE RESIN	4	-1	-6	-10	-11	-11	-8	-6
UNSATURATED POLYSTER RESIN	35	28	25	25	20	16	18	24
METHYL METHACRYLATE	5	5	4	3	3	3	2	1
ISO-BUTANOL	3	3	2	2	1	1	2	2
C4-RAFFINATE	65	71	209	395	393	365	429	437
CELLULOSE ACETATE SHEET	0	0	0	1	1	1	1	1
MELAMINE MOULDING POWDER	4	5	7	8	8	4	4	3
POLYACETAL RESIN	15	18	20	26	26	32	35	37
PHTHALIC ANHYDRIDE	240	295	263	286	296	305	345	346
STYRENE	452	457	513	574	570	611	717	725
VINYL ACTATE MONOMER	74	84	122	126	143	138	140	150
ISOPROPANOL	91	101	95	122	124	132	155	162
POLYOL	83	146	160	179	180	201	237	226
Total	2935	3362	3540	3878	4077	4211	4770	4680

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 2009-10 to 2016-17

Values in Rs. Crore

HS Code	Commodity	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	CAGR (%)
	Total National Exports of which	845534	1136964	1465959	1634318	1905011	1896445	1716378	1852340	11.9
28	INORGANIC CHEMICALS	3971	7991	8667	7176	8258	8749	7913	9518	13.3
29	ORGANIC CHEMICALS	35241	40235	56179	65865	72860	73069	75325	78717	12.2
32	TANNING OR DYEING	6556	7720	9336	11372	15455	17206	16165	17250	14.8
38	MISCELLANEOUS CHEMICAL PRODUCTS.	8611	9409	12485	15545	18694	19432	20083	21876	14.2
39	PLASTIC AND ARTICLES THEREOF.	13012	17966	25312	28012	34154	31022	34339	35642	15.5
4002	SYNTHETIC RUBBER AND FACTICE	136	175	286	181	245	379	452	483	19.8
54	MAN-MADE FILAMENTS.	9541	10469	12467	12112	15575	14621	13460	13379	4.9
55	MAN-MADE STAPLE FIBRES.	6719	8244	10599	10565	12621	13334	13625	14429	11.5
A: Total Chemicals and Petrochemical Products		83788	102207	135330	150829	177862	177813	181361	191294	12.5
	% share in total export	9.9	9.0	9.2	9.2	9.3	9.4	10.6	10.3	
	Total National Imports of which	1363736	1683467	2345463	2669162	2715434	2737087	2490298	2577422	9.5
28	INORGANIC CHEMICALS	16270	17236	27792	28770	29063	31413	33170	31413	9.9
29	ORGANIC CHEMICALS	44505	57550	69144	85439	103157	108320	101986	108320	13.5
32	TANNING OR DYEING	4328	5434	7097	8004	9254	9821	10467	9821	12.4
38	MISCELLANEOUS CHEMICAL PRODUCTS.	11579	13935	17855	20650	23107	25494	27207	25494	11.9
39	PLASTIC AND ARTICLES THEREOF.	26129	34477	40578	52283	61072	71398	74566	71398	15.4
4002	SYNTHETIC RUBBER AND FACTICE	3209	5141	7731	7562	7339	6697	5205	6697	11.1
54	MAN-MADE FILAMENTS.	2638	3024	3725	4149	4597	5042	4879	5042	9.7
55	MAN-MADE STAPLE FIBRES.	1454	1935	2498	3052	3722	4539	4401	4539	17.7
B: Total Chemicals and Petrochemical Products		110113	138731	176419	209909	241311	262722	261880	262722	13.2
	% share in total import	8.1	8.2	7.5	7.9	8.9	9.6	10.5	10.2	

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 21.07.2017.

Table 12:- Exports and Imports of Chemicals and Petrochemical Products (including Pharmaceutical Products and Fertilizers) during 2009-10 to 2016-17

Values in Rs. Crore

HS Code	Commodity	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	CARG (%)
	Total National Exports of which	845534	1136964	1465959	1634318	1905011	1896445	1716378	1852340	11.9
28,29,32,38, 4002, 54 & 55	Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)	83788	102207	135330	150829	177862	177813	181361	191294	12.5
	% share in total exports	9.9	9.0	9.2	9.2	9.3	9.4	10.6	10.3	0.6
30	Pharmaceutical Products	24612	30383	40817	54774	67404	70815	84481	86944	19.8
	% share in total exports	2.9	2.7	2.8	3.4	3.5	3.7	4.9	4.7	
31	Fertilisers	512	236	397	480	492	555	673	468	-1.3
	% share in total exports	0.06	0.02	0.03	0.03	0.03	0.03	0.04	0.03	
A: Total Chemicals and Chemical Products (including Pharmaceutical Products and Fertilizers)		108913	132827	176544	206082	245758	249183	266516	278706	14.4
	% share in total exports	12.88	11.68	12.04	12.61	12.90	13.14	15.53	15.05	
	Total National Imports of which	1363736	1683467	2345463	2669162	2715434	2737087	2490298	2577422	9.5
28,29,32,38, 4002, 54 & 55	Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)	110113	138731	176419	209909	241311	262722	261880	262722	13.2
	% share in total imports	8.1	8.2	7.5	7.9	8.9	9.6	10.5	10.2	3.4
30	Pharmaceutical Products	5197	5504	8131	9522	9371	9961	10742	11515	12.0
	% share in total imports	0.4	0.3	0.3	0.4	0.3	0.4	0.4	0.4	
31	Fertilisers	28480	28322	44996	40412	32639	39106	45973	28754	0.1
	% share in total imports	2.09	1.68	1.92	1.51	1.20	1.43	1.85	1.12	
B: Total Chemicals and Petrochemical Products (including Pharmaceutical Products and Fertilizers)		143790	172557	229546	259844	283322	311790	318595	302992	11.2
	% share in total imports	10.54	10.25	9.79	9.74	10.43	11.39	12.79	11.76	

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 21.07.2017.

Table 12A:- Net Imports of Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers) during 2009-10 to 2016-17

Values in Rs. Crore

HS Code	Commodity	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
	Total National Net Imports of which	518202	546503	879504	1034844	810423	840641	773920	725082
28	INORGANIC CHEMICALS	12298	9246	19125	21594	20805	22664	25256	21895
29	ORGANIC CHEMICALS	9264	17315	12965	19574	30296	35251	26661	29603
32	TANNING OR DYEING	-2228	-2286	-2240	-3368	-6201	-7385	-5698	-7430
38	MISCELLANEOUS CHEMICAL PRODUCTS.	2968	4526	5370	5105	4413	6061	7124	3618
39	PLASTIC AND ARTICLES THEREOF.	13117	16511	15266	24271	26918	40376	40228	35756
4002	SYNTHETIC RUBBER AND FACTICE	3073	4966	7445	7381	7094	6318	4753	6214
54	MAN-MADE FILAMENTS.	-6903	-7445	-8742	-7964	-10978	-9579	-8581	-8337
55	MAN-MADE STAPLE FIBRES.	-5265	-6309	-8101	-7513	-8899	-8795	-9224	-9890
Net Imports of Total Chemicals and Chemical Products (excluding Pharmaceutical Products and Fertilizers)		26325	36524	41089	59080	63449	84909	80519	71429
% share in total national net imports		5.1	6.7	4.7	5.7	7.8	10.1	10.4	9.9
30	Pharmaceutical Products	-19416	-24879	-32686	-45252	-58032	-60854	-73724	-75429
31	Fertilisers	27968	28085	44599	39933	32147	38519	45300	28286
Net Imports of Total Chemicals and Chemical Products (including Pharmaceutical Products and Fertilizers)		34877	39730	53002	53761	37564	62596	52012	24286
% share in total national net imports		6.7	7.3	6.0	5.2	4.6	7.4	6.7	3.3

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 21.07.2017.

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

Table 13:- Exports of Major Chemicals (Group Wise) during 2009-10 to 2016-17

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

GROUP	2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16		2016-17	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
ALKALI CHEMICALS	341816	36679	346968	44553	344596	51653	144954	33599	164213	35747	73639	17660	106744	29210	154244	39591
INORGANIC CHEMICALS	399143	103634	405998	132531	327280	162105	162645	99228	167449	116036	163592	100558	156683	74466	377587	111322
ORGANIC CHEMICALS	143494	99492	187390	164132	315492	264248	406944	373539	335353	343064	240545	249461	231728	216771	190306	232940
PESTICIDES & INSECTICIDES \$	127950	380807	125229	390996	153501	568869	179518	794635	206960	985161	230227	974682	266915	1126874	342331	1315027
DYES & PIGMENTS	248917	483259	271612	567989	288392	661852	326035	816039	346539	1145588	353220	1285827	376046	1219795	419272	1307546
EXPORTS OF MAJOR CHEMICALS	1261320	1103871	1337197	1300201	1429261	1708727	1220096	2117040	1220514	2625596	1061223	2628188	1138116	2667116	1483740	3006426

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 2009-10 to 2016-17

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

GROUP	2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16		2016-17	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
ALKALI CHEMICALS	867836	100179	630499	70565	658385	95789	995300	172682	874159	152967	1134146	206474	1117878	218199	1121137	215051
INORGANIC CHEMICALS	356386	105857	454720	134307	478707	196837	689374	237352	873906	265840	911969	267873	1009821	237368	1010071	235237
ORGANIC CHEMICALS	1547520	328542	1638994	418374	2182271	627474	2486575	757437	2495989	957223	2885815	995356	3143476	865684	3170287	904366
PESTICIDES & INSECTICIDES \$	19584	154224	26868	196567	30255	231832	29789	263642	37099	335996	40674	374050	33868	390707	42591	490581
DYES & PIGMENTS	36447	104418	41349	122582	47548	148857	52236	183735	52315	208985	51935	214741	54691	219304	55868	214913
IMPORTS OF MAJOR CHEMICALS	2827773	793220	2792430	942395	3397166	1300789	4253274	1614848	4333468	1921011	5024539	2058494	5359734	1931262	5399954	2060148

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 2009-10 to 2016-17

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

GROUP	2009-10		2010-11		2011-12		2012-13		2013-14		2014-15		2015-16		2016-17	
	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE	QTY.	VALUE
ALKALI CHEMICALS	526020	63500	283531	26012	313789	44136	850346	139083	709946	117220	1060507	188814	1011134	188989	966893	175460
INORGANIC CHEMICALS	-42757	2223	48722	1776	151427	34732	526729	138124	706457	149804	748377	167315	853138	162902	632484	123915
ORGANIC CHEMICALS	1404026	229050	1451604	254242	1866779	363226	2079631	383898	2160636	614159	2645270	745895	2911748	648913	2979981	671426
PESTICIDES & INSECTICIDES \$	-108366	-226583	-98361	-194429	-123246	-337037	-149729	-530993	-169861	-649165	-189553	-600632	-233047	-736167	-299740	-824445
DYES & PIGMENTS	-212470	-378841	-230263	-445407	-240844	-512995	-273799	-632304	-294224	-936603	-301285	-1071086	-321355	-1000491	-363404	-1092633
NET IMPORTS OF MAJOR CHEMICALS	1566453	-310651	1455233	-357806	1967905	-407938	3033178	-502192	3112954	-704585	3963316	-569694	4221616	-735855	3916214	-946275

Source: Imports & Exports data have been received from Directorate General of Commercial Intelligence & Statistics, Ministry of Commerce & Industry, and Kolkata. www.dgciskol@nic.in Dated 12.10.2015

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

Table 16:- Exports of Major Chemicals during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ALKALI CHEMICALS																
SODA ASH	257219	20931	199765	18281	257622	31586	82144	12766	84254	12506	27720	5166	18613	3927	64377	10793
CAUSTIC SODA	76995	14342	143791	25699	82208	18977	59118	20166	76059	22568	42200	11973	82144	23807	84809	27773
LIQUID CHLORINE	7602	1406	3412	573	4766	1090	3692	667	3900	673	3719	521	5987	1476	5058	1025
TOTAL	341816	36679	346968	44553	344596	51653	144954	33599	164213	35747	73639	17660	106744	29210	154244	39591
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	8127	4771	7068	3363	3362	2181	3755	2410	3658	2571	2831	1980	1796	1240	321	265
CALCIUM CARBIDE	971	346	961	348	1267	592	1758	853	268	148	412	230	371	206	493	284
CARBON BLACK	359840	87287	365478	114404	277698	142242	110697	79285	123679	88731	114119	77832	114668	55019	332172	87414
POTASSIUM CHLORATE	1811	763	1307	393	844	487	791	567	724	451	634	492	758	576	1658	1145
SODIUM CHLORATE	375	35	7	22	127	51	40	5	7	10	31	21	13	13	118	56
TITANIUM DIOXIDE	5942	5794	7491	8797	5009	7811	3470	5278	9051	12853	5158	7108	4436	5582	8183	10216
RED PHOSPHORUS	405	804	317	799	383	1133	471	1598	411	1557	360	1299	482	1777	454	1757
HYDROGEN PEROXIDE	2651	539	1952	454	2415	598	1789	483	544	217	244	143	351	222	270	284
CALCIUM CARBONATE	19021	3295	21417	3951	36175	7010	39874	8749	29107	9498	39803	11453	33808	9831	33918	9901
TOTAL	399143	103634	405998	132531	327280	162105	162645	99228	167449	116036	163592	100558	156683	74466	377587	111322

Table 16:- Exports of Major Chemicals during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ORGANIC CHEMICALS																
ACETIC ACID	13022	4590	8368	2662	25887	8687	6617	2995	7338	3134	6489	3449	8378	5181	12914	6277
ACETIC ANHYDRIDE	1256	760	1902	880	2652	1373	3734	1855	6430	3470	20098	11565	18605	9941	20443	10277
ACETONE	501	277	2805	1250	1200	958	2660	1828	674	628	3182	2975	10778	6392	3225	2201
PHENOL	2720	3269	1293	2321	1146	2147	436	1028	2142	3230	2009	3338	6841	7379	4013	8192
METHANOL	45902	6426	43560	8787	120419	20481	184669	34456	81917	22584	49463	11525	44013	8196	12624	3123
FORMALDEHYDE	3995	542	4275	533	4474	722	5041	961	6369	2020	7467	1213	8480	1383	8406	1548
NITROBENZENE	144	99	110	83	128	126	165	141	146	131	150	137	49	38	344	231
CITRIC ACID	1365	767	1795	1272	2745	1935	2411	1817	2013	1671	1737	1364	1487	1144	1670	1244
MALEIC ANHYDRIDE	115	80	66	57	38	32	23	27	27	36	37	47	80	67	232	164
PENTAERYTHRITOL	1195	1631	1539	2026	1353	1966	1385	2144	1460	2277	1557	2516	1632	2958	2044	3470
ANILINE	249	291	1161	899	953	744	193	344	94	143	86	141	129	134	168	207
CHLORO METHANES	116	75	36	53	126	121	42	49	35	353	144	236	38	41	89	121
ISOBUTYLBENZENE	10801	9548	11459	9769	13920	14712	13314	17938	14156	21087	13944	19250	12572	14186	13430	14854
ONCB	636	357	428	243	323	168	378	319	2555	2428	2231	2283	843	883	973	950
PNCB	1075	533	1413	677	1272	693	2096	1442	2370	1763	843	564	1670	1114	1023	738

Table 16:- Exports of Major Chemicals during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
MEK	111	139	56	184	428	501	408	390	460	2382	673	922	184	795	189	98
ACETALDEHYDE	19	20	84	352	241	908	239	1005	37	118	25	140	2	4	40	44
ETHANOLAMINES	585	1130	1149	1578	1752	3063	832	3173	1235	4665	1027	3696	1129	7119	1692	4996
ETHYL ACETATE	47114	20398	96996	46806	126601	64994	169166	88388	190187	103855	115096	67934	104814	54269	93699	48020
MENTHOL	11997	48341	8274	83459	9507	139774	12181	212575	14988	166411	13135	115160	8836	94548	12006	125246
ORTHO NITRO TOLUENE	576	219	621	241	327	143	954	664	720	678	1152	1006	1168	999	1082	939
TOTAL	143494	99492	187390	164132	315492	264248	406944	373539	335353	343064	240545	249461	231728	216771	190306	232940
PESTICIDES & INSECTICIDES																
D.D.T.	42	133	32	95	0	0	0	0	0	0	0	0	0	0	0	0
MALATHION	1040	1337	555	676	425	483	328	611	415	819	1260	2346	1010	1943	1264	2274
DIMETHOATE	458	1181	359	614	4	9	69	182	184	679	369	1327	20	52	24	58
D.D.V.P.	837	1233	929	1288	1129	2024	543	1179	298	707	564	1449	550	1461	322	1145
QUINALPHOS	344	924	673	2108	483	1490	463	1657	950	3360	996	3900	235	1036	384	1772
ENDOSULPHAN	3916	9565	4701	9353	1612	3483	80	260	45	59	0	0	0	0	0	0
CYPERMETHRIN	13483	50852	10871	40665	10570	52655	10268	55107	11982	58546	10487	50407	8837	45949	9416	45742
FENTHION	23	16	0	0	0	0	0	0	0	0	0	0	0	0	10	18

Table 16:- Exports of Major Chemicals during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
OTHER PESTICIDES	12974	49719	22283	84569	27283	83613	33468	136414	48228	206246	37862	178366	41058	214054	45560	208648
OTHER INSECTICIDES	41630	159975	37925	150093	42940	259829	41853	335623	48918	372937	45483	344754	31146	276427	41471	311285
COPPER-OXYCHLORIDE	316	612	625	1403	434	1179	478	1231	417	1155	867	2311	810	1818	871	1921
2, 4-D	8401	8818	8835	11013	13262	20823	15365	27427	14851	27924	10938	18095	19449	29770	20677	27496
ISOPROTURON	1811	3762	3351	6864	2239	6588	4181	13189	2114	7804	2150	7972	1087	3830	356	1295
ALUMINIUM PHOSPHIDE	1906	6088	2158	6816	1969	7271	2341	9758	853	3703	223	562	64	226	127	515
METHYL BROMIDE	160	429	14	28	155	404	104	373	383	1333	551	1940	1274	4641	1756	6229
ANTI SPROUTING PRODUCTS	10051	27554	10535	40697	14971	68852	14452	85943	15005	130898	19150	151055	32381	266182	50720	362041
OTHER FUNGICIDES	30558	58609	21383	34714	36025	60166	55525	125681	62317	168991	99327	210198	128994	279485	169373	344587
TOTAL	127950	380807	125229	390996	153501	568869	179518	794635	206960	985161	230227	974682	266915	1126874	342331	1315026
DYES & PIGMENTS																
AZO DYES	41323	71777	49700	88623	48638	89802	54228	111415	57392	172261	51902	194665	55327	161970	60390	162456
DYES(OTHER THAN AZO)	5144	10666	4220	8870	3264	7815	3629	9770	5637	21363	4004	20146	3559	17300	4434	19689
BASIC DYES	5062	7378	6141	9512	5655	9732	6957	14815	7148	19082	7646	21701	8173	23896	9229	26186
DISPERSE DYES	5064	11716	5700	15642	6452	18596	7017	19417	9248	33190	12065	48545	13117	52818	16078	59912
FAST COLOUR BASES	2629	6391	2683	6939	2815	7442	3106	9349	2619	10191	2806	11890	2262	11868	2174	15766

Table 16:- Exports of Major Chemicals during 2009-10 to 2016-17*(Qty. in MT & Value in Rs. Lakh)*

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
OIL SOLUBLE (SOLVENT DYES)	3106	10112	4045	13960	5158	17215	4665	17828	4965	23306	6826	32614	6123	31703	8702	39439
WHITENING AGENTS	19045	22637	23625	25112	20346	22941	23049	29156	23381	36889	27211	44223	25203	46519	26957	46240
ORGANIC PIGMENT	559	999	296	648	330	1383	60	386	15	100	191	500	75	531	71	293
PIGMENT EMULSION	56678	160071	67539	212430	65704	253341	69919	295002	71335	353119	76407	365943	81536	374190	88980	392700
REACTIVE DYES	77024	119712	69031	113510	77313	137604	98440	200414	110018	340284	107369	392147	113224	344963	128417	379350
SULPHUR DYES (SULPHUR BLACK)	934	944	1514	1277	747	838	889	1153	1141	1575	1993	2627	1472	1945	2023	2682
VAT DYES	1906	13292	2073	16295	2229	18768	1954	16816	1955	24387	2132	31855	1364	20523	1404	22737
SOLUBILISED VAT DYES	337	897	481	1309	51	399	47	370	31	491	29	283	36	354	31	265
FOOD COLOURS	11355	26703	13211	29415	19012	42563	21786	51772	22893	65439	26034	77218	27101	79537	28359	79492
NAPTHOLS	827	2466	608	1369	869	1634	1242	2754	887	2597	1139	3113	1489	3463	2076	4753
OTHER DYES	5485	9812	6991	13192	6852	13361	8050	16587	9558	23840	9612	27865	10159	22693	12711	24977
INORGANIC PIGMENTS	12439	7686	13754	9886	22957	18418	20997	19035	18316	17474	15854	10492	25826	25522	27236	30609
TOTAL	248917	483259	271612	567989	288392	661852	326035	816039	346539	1145588	353220	1285827	376046	1219795	419272	1307546

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

Table17:- Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ALKALI CHEMICALS																
SODA ASH	555956	56283	489956	49573	445363	52829	692866	96965	569420	79817	725517	112616	633263	101707	695307	102490
CAUSTIC SODA	311417	43762	138481	20764	212642	42811	302385	75577	304653	73038	407981	93584	484133	116303	425795	112391
LIQUID CHLORINE	463	134	2062	228	380	149	49	140	86	112	648	274	482	189	35	170
TOTAL	867836	100179	630499	70565	658385	95789	995300	172682	874159	152967	1134146	206474	1117878	218199	1121137	215051
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	24140	10624	13989	6597	28448	20188	26244	19086	24542	17383	30120	20259	27258	18102	46564	26437
CALCIUM CARBIDE	51598	16657	56479	19046	56500	21507	57865	24734	64239	26743	78332	31525	61935	25429	55692	23652
CARBON BLACK	73920	38260	74905	45674	124338	85053	143461	105503	145939	112823	139468	108915	124059	83401	128740	82424
POTASSIUM CHLORATE	7464	3693	7095	3171	6300	2991	7468	4217	7040	4357	6147	3856	3160	2026	100	61
SODIUM CHLORATE	22162	6635	24762	6655	25135	8251	25076	9375	28083	11570	21818	9085	17298	6400	7447	2907
TITANIUM DIOXIDE	15176	16563	18295	20938	22636	34902	17825	31788	16875	29196	17574	28243	16421	25709	13901	22943
RED PHOSPHORUS	353	674	384	775	388	808	298	735	266	750	36	98	0	0	0	1
HYDROGEN PEROXIDE	8784	1652	37074	9385	25313	6378	33129	8191	62527	16443	56276	14311	44084	11211	57068	15910
CALCIUM CARBONATE	152789	11099	221737	22066	189649	16759	378008	33723	524395	46575	562198	51581	715606	65090	700559	60902
TOTAL	356386	105857	454720	134307	478707	196837	689374	237352	873906	265840	911969	267873	1009821	237368	1010071	235237

Table17:- Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ORGANIC CHEMICALS																
ACETIC ACID	389650	82134	466097	96233	570040	152012	646738	171462	664797	197806	712384	234821	792775	206305	847808	193958
ACETIC ANHYDRIDE	895	498	771	401	1533	856	2042	1049	1792	985	2689	1538	2918	1780	2272	1118
ACETONE	80081	31181	78236	32100	100637	54505	95939	54615	116758	81421	126832	82658	138402	55796	135887	63055
PHENOL	103071	51907	123490	93671	146762	111194	172758	139980	214096	172402	200115	183502	248769	147715	282187	176601
METHANOL	822248	89941	813422	103539	1199635	198749	1398982	260025	1310438	341804	1641624	319399	1711879	285259	1637457	295762
FORMALDEHYDE	713	218	605	221	614	395	342	217	433	216	412	225	66	42	84	248
NITROBENZENE	1	2	0	0	22	36	0	0	0	4	1208	802	5838	2733	14429	6944
CITRIC ACID	40467	14750	44102	18562	53142	25921	56743	27338	64099	31694	67369	33345	75978	36119	81681	39558
MALEIC ANHYDRIDE	27693	14919	37973	24772	34584	25470	36864	35099	36751	39695	38388	35773	47399	31392	50813	34618
PENTAERYTHRITOL	11786	6659	13961	8764	15059	12162	14650	13819	15650	16423	13681	14646	19486	21468	19380	20690
ANILINE	19067	9902	24012	14563	15310	10544	15441	14410	31742	34853	36095	36876	38341	26965	44650	29368
CHLORO METHANES	325	364	502	435	249	268	153	356	143	296	113	289	608	364	258	223
ISOBUTYLBENZENE	36	26	0	0	0	0	0	0	26	19	0	0	0	0	0	0
ONCB	3760	2180	3598	1697	2336	1092	2089	1313	672	589	395	410	237	192	839	628
PNCB	2868	1027	1564	776	347	187	0	0	398	295	3838	2301	8408	3886	6095	2899

Table17:- Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
MEK	24556	11352	21384	15286	30220	24334	31597	25151	27239	23186	27539	25599	40883	26950	30901	16629
ACETALDEHYDE	94	815	61	576	67	240	49	230	97	436	53	176	74	299	130	357
ETHANOLAMINES	4961	3701	6595	5132	6488	5706	10435	8562	10023	10652	11286	17183	10072	10321	11662	10202
ETHYL ACETATE	14929	6555	2344	1202	5008	2732	1405	1102	240	466	201	453	290	909	1664	861
MENTHOL	80	329	52	369	159	1051	329	2702	457	3889	507	4307	936	7112	1511	10211
ORTHO NITRO TOLUENE	239	82	225	75	59	20	19	7	138	92	1086	1053	117	77	579	436
TOTAL	1547520	328542	1638994	418374	2182271	627474	2486575	757437	2495989	957223	2885815	995356	3143476	865684	3170287	904366
PESTICIDES & INSECTICIDES																
D.D.T	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MALATHION	40	58	52	50	0	0	0	0	0	0	0	0	0	0	0	0
DIMETHOATE	133	225	58	109	152	299	182	422	46	106	0	0	0	0	0	0
D.D.V.P.	20	28	45	66	24	46	0	0	70	99	20	36	64	116	16	28
QUINALPHOS	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ENDOSULPHAN	24	46	192	592	0	0	0	0	0	0	0	0	0	0	0	0
CYPERMETHRIN	29	455	17	282	0	4	8	20	4	11	0	0	0	0	0	0
FENTHION	0	0	0	0	0	0	0	0	35	173	50	236	0	0	0	0

Table17:- Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
OTHER PESTICIDES	804	2127	651	1495	2340	7815	1263	6928	2255	13747	2007	12072	1318	12700	1176	91641
OTHER INSECTICIDES	11628	114036	17257	142478	18388	156952	17157	173226	19563	194422	19369	205845	15634	213829	18067	208838
COPPER-OXYCHLORIDE	0	0	1	7	0	2	0	1	48	122	0	0	0	0	0	1
2, 4-D	62	72	204	486	0	0	0	78	0	0	34	77	72	123	16	27
ISOPROTURON	0	0	23	64	0	0	0	0	0	0	0	0	0	0	0	0
ALUMINIUM PHOSPHIDE	153	2102	187	2183	31	561	23	741	8	61	3	54	6	98	0	0
METHYL BROMIDE	296	581	448	955	655	1667	779	2591	460	1652	269	1150	53	250	24	70
ANTI SPROUTING PRODUCTS	4189	23582	3775	27693	4689	36838	7107	57625	10056	85938	12294	86257	10171	85167	16149	104626
OTHER FUNGICIDE NES	2206	10912	3958	20107	3976	27648	3270	22010	4554	39665	6628	68323	6550	78424	7143	85350
TOTAL	19584	154224	26868	196567	30255	231832	29789	263642	37099	335996	40674	374050	33868	390707	42591	490581
DYES & PIGMENTS																
AZO DYES	506	1829	536	2055	769	2556	527	2844	669	3559	1114	5148	716	4016	630	3509
DYES(OTHER THAN AZO)	660	958	643	1205	746	1454	678	1643	729	2136	436	2036	312	1685	188	1348
BASIC DYES	1560	4228	1275	3970	1401	4807	1189	6195	1075	6569	724	5266	475	4135	560	4183
DISPERSE DYES	8013	14823	8378	17490	10534	22582	11118	28720	8788	33194	4671	26330	6199	28647	4970	23618
FAST COLOUR BASES	383	978	367	867	292	801	374	1308	499	2653	327	2864	510	3058	426	2314

Table17:- Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17*(Qty. in MT & Value in Rs. Lakh)*

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
OIL SOLUBLE (SOLVENT DYES)	608	3567	801	4615	1240	6292	1239	7434	1131	7329	782	6414	689	5967	762	5446
OPTICAL WHITENING AGENTS	469	2692	499	3073	392	2755	489	4302	675	4708	565	4442	664	5376	612	5455
ORGANIC PIGMENT	418	619	111	537	186	817	124	561	178	694	142	575	190	889	100	678
PIGMENT EMULSION	4930	27269	6659	33094	8376	40159	6955	43711	7069	46089	6663	48423	6578	47122	7085	47759
REACTIVE DYES	2181	12069	2118	12646	2151	11667	2935	19312	3352	24425	3146	26556	3148	27009	3460	28744
SULPHUR DYES (SULPHUR BLACK)	2574	2018	1900	1680	2167	1888	2189	3318	1781	2498	1151	2537	1332	2636	1283	2638
VAT DYES	3599	11609	4430	13255	6379	16986	10201	27519	13801	36889	17449	43388	20580	48846	23527	53539
SOLUBILISED VAT DYES	26	220	54	266	193	698	107	483	91	418	82	252	473	1007	337	756
FOOD COLOURS	387	2481	623	1825	290	1768	367	2778	391	2978	653	3872	1083	5225	1041	4859
NAPTHOLS	1275	2721	1200	3492	916	2147	1040	3178	1142	4190	1024	3896	1051	3824	1107	3750
OTHER DYES	434	1648	344	1737	462	1661	905	2709	291	1927	271	1868	177	1531	183	1533
INORGANIC PIGMENTS	8424	14689	11411	20775	11054	29819	11799	27720	10653	28729	12735	30874	10514	28331	9597	24784
TOTAL	36447	104418	41349	122582	47548	148857	52236	183735	52315	208985	51935	214741	54691	219304	55868	214913

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

Table 18:- Net Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ALKALI CHEMICALS																
SODA ASH	298737	35352	290191	31292	187741	21243	610722	84199	485166	67311	697797	107450	614650	97780	630930	91697
CAUSTIC SODA	234422	29420	-5310	-4935	130434	23834	243267	55411	228594	50470	365781	81611	401989	92496	340986	84618
LIQUID CHLORINE	-7139	-1272	-1350	-345	-4386	-941	-3643	-527	-3814	-561	-3071	-247	-5505	-1287	-5023	-855
TOTAL	526020	63500	283531	26012	313789	44136	850346	139083	709946	117220	1060507	188814	1011134	188989	966893	175460
INORGANIC CHEMICALS																
ALUMINIUM FLUORIDE	16013	5853	6921	3234	25086	18007	22489	16676	20884	14812	27289	18279	25462	16862	46243	26172
CALCIUM CARBIDE	50627	16311	55518	18698	55233	20915	56107	23881	63971	26595	77920	31295	61564	25223	55199	23368
CARBON BLACK	-285920	-49027	-290573	-68730	-153360	-57189	32764	26218	22260	24092	25349	31083	9391	28382	-203432	-4990
POTASSIUM CHLORATE	5653	2930	5788	2778	5456	2504	6677	3650	6316	3906	5513	3364	2402	1450	-1558	-1084
SODIUM CHLORATE	21787	6600	24755	6633	25008	8200	25036	9370	28076	11560	21787	9064	17285	6387	7329	2851
TITANIUM DIOXIDE	9234	10769	10804	12141	17627	27091	14355	26510	7824	16343	12416	21135	11985	20127	5718	12727
RED PHOSPHORUS	-52	-130	67	-24	5	-325	-173	-863	-145	-807	-324	-1201	-482	-1777	-454	-1756
HYDROGEN PEROXIDE	6133	1113	35122	8931	22898	5780	31340	7708	61983	16226	56032	14168	43733	10989	56798	15626
CALCIUM CARBONATE	133768	7804	200320	18115	153474	9749	338134	24974	495288	37077	522395	40128	681798	55259	666641	51001
TOTAL	-42757	2223	48722	1776	151427	34732	526729	138124	706457	149804	748377	167315	853138	162902	632484	123915

Table 18:- Net Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17

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

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ORGANIC CHEMICALS																
ACETIC ACID	376628	77544	457729	93571	544153	143325	640121	168467	657459	194672	705895	231372	784397	201124	834894	187681
ACETIC ANHYDRIDE	-361	-262	-1131	-479	-1119	-517	-1692	-806	-4638	-2485	-17409	-10027	-15687	-8161	-18171	-9159
ACETONE	79580	30904	75431	30850	99437	53547	93279	52787	116084	80793	123650	79683	127624	49404	132662	60854
PHENOL	100351	48638	122197	91350	145616	109047	172322	138952	211954	169172	198106	180164	241928	140336	278174	168409
METHANOL	776346	83515	769862	94752	1079216	178268	1214313	225569	1228521	319220	1592161	307874	1667866	277063	1624833	292639
FORMALDEHYDE	-3282	-324	-3670	-312	-3860	-327	-4699	-744	-5936	-1804	-7055	-988	-8414	-1341	-8322	-1300
NITROBENZENE	-143	-97	-110	-83	-106	-90	-165	-141	-146	-127	1058	665	5789	2695	14085	6713
CITRIC ACID	39102	13983	42307	17290	50397	23986	54332	25521	62086	30023	65632	31981	74491	34975	80011	38314
MALEIC ANHYDRIDE	27578	14839	37907	24715	34546	25438	36841	35072	36724	39659	38351	35726	47319	31325	50581	34454
PENTAERYTHRITOL	10591	5028	12422	6738	13706	10196	13265	11675	14190	14146	12124	12130	17854	18510	17336	17220
ANILINE	18818	9611	22851	13664	14357	9800	15248	14066	31648	34710	36009	36735	38212	26831	44482	29161
CHLORO METHANES	209	289	466	382	123	147	111	307	108	-57	-31	53	570	323	169	102
ISOBUTYLBENZENE	-10765	-9522	-11459	-9769	-13920	-14712	-13314	-17938	-14130	-21068	-13944	-19250	-12572	-14186	-13430	-14854
ONCB	3124	1823	3170	1454	2013	924	1711	994	-1883	-1839	-1836	-1873	-606	-691	-134	-322
PNCB	1793	494	151	99	-925	-506	-2096	-1442	-1972	-1468	2995	1737	6738	2772	5072	2161

Table 18:- Net Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
MEK	24445	11213	21328	15102	29792	23833	31189	24761	26779	20804	26866	24677	40699	26155	30712	16531
ACETALDEHYDE	75	795	-23	224	-174	-668	-190	-775	60	318	28	36	72	295	90	313
ETHANOLAMINES	4376	2571	5446	3554	4736	2643	9603	5389	8788	5987	10259	13487	8943	3202	9970	5206
ETHYL ACETATE	-32185	-13843	-94652	-45604	-121593	-62262	-167761	-87286	-189947	-103389	-114895	-67481	-104524	-53360	-92035	-47159
MENTHOL	-11917	-48012	-8222	-83090	-9348	-138723	-11852	-209873	-14531	-162522	-12628	-110853	-7900	-87436	-10495	-115035
ORTHO NITRO TOLUENE	-337	-137	-396	-166	-268	-123	-935	-657	-582	-586	-66	47	-1051	-922	-503	-503
TOTAL	1404026	229050	1451604	254242	1866779	363226	2079631	383898	2160636	614159	2645270	745895	2911748	648913	2979981	671426
PESTICIDES & INSECTICIDES																
D.D.T	-42	-133	-32	-95	0	0	0	0	0	0	0	0	0	0	0	0
MALATHION	-1000	-1279	-503	-626	-425	-483	-328	-611	-415	-819	-1260	-2346	-1010	-1943	-1264	-2274
DIMETHOATE	-325	-956	-301	-505	148	290	113	240	-138	-573	-369	-1327	-20	-52	-24	-58
D.D.V.P.	-817	-1205	-884	-1222	-1105	-1978	-543	-1179	-228	-608	-544	-1413	-486	-1345	-306	-1117
QUINALPHOS	-344	-924	-673	-2108	-483	-1490	-463	-1657	-950	-3360	-996	-3900	-235	-1036	-384	-1772
ENDOSULPHAN	-3892	-9519	-4509	-8761	-1612	-3483	-80	-260	-45	-59	0	0	0	0	0	0
CYPERMETHRIN	-13454	-50397	-10854	-40383	-10570	-52651	-10260	-55087	-11978	-58535	-10487	-50407	-8837	-45949	-9416	-45742
FENTHION	-23	-16	0	0	0	0	0	0	35	173	50	236	0	0	-10	-18

Table 18:- Net Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
OTHER PESTICIDES	-12170	-47592	-21632	-83074	-24943	-75798	-32205	-129486	-45973	-192499	-35855	-166294	-39740	-201354	-44384	-117007
OTHER INSECTICIDES	-30002	-45939	-20668	-7615	-24552	-102877	-24696	-162397	-29355	-178515	-26114	-138909	-15512	-62598	-23404	-102447
COPPER- OXYCHLORIDE	-316	-612	-624	-1396	-434	-1177	-478	-1230	-369	-1033	-867	-2311	-810	-1818	-871	-1920
2, 4-D	-8339	-8746	-8631	-10527	-13262	-20823	-15365	-27349	-14851	-27924	-10904	-18018	-19377	-29647	-20661	-27469
ISOPROTURON	-1811	-3762	-3328	-6800	-2239	-6588	-4181	-13189	-2114	-7804	-2150	-7972	-1087	-3830	-356	-1295
ALUMINIUM PHOSPHIDE	-1753	-3986	-1971	-4633	-1938	-6710	-2318	-9017	-845	-3642	-220	-508	-58	-128	-127	-515
METHYL BROMIDE	136	152	434	927	500	1263	675	2218	77	319	-282	-790	-1221	-4391	-1732	-6159
ANTI SPROUTING PRODUCTS	-5862	-3972	-6760	-13004	-10282	-32014	-7345	-28318	-4949	-44960	-6856	-64798	-22210	-181015	-34571	-257415
OTHER FUNGICIDE NES	-28352	-47697	-17425	-14607	-32049	-32518	-52255	-103671	-57763	-129326	-92699	-141875	-122444	-201061	-162230	-259237
TOTAL	-108366	-226583	-98361	-194429	-123246	-337037	-149729	-530993	-169861	-649165	-189553	-600632	-233047	-736167	-299740	-824445
DYES & PIGMENTS																
AZO DYES	-40817	-69948	-49164	-86568	-47869	-87246	-53701	-108571	-56723	-168702	-50788	-189517	-54611	-157954	-59760	-158947
DYES(OTHER THAN AZO)	-4484	-9708	-3577	-7665	-2518	-6361	-2951	-8127	-4908	-19227	-3568	-18110	-3247	-15615	-4246	-18341
BASIC DYES	-3502	-3150	-4866	-5542	-4254	-4925	-5768	-8620	-6073	-12513	-6922	-16435	-7698	-19761	-8669	-22003
DISPERSE DYES	2949	3107	2678	1848	4082	3986	4101	9303	-460	4	-7394	-22215	-6918	-24171	-11108	-36294
FAST COLOUR BASES	-2246	-5413	-2316	-6072	-2523	-6641	-2732	-8041	-2120	-7538	-2479	-9026	-1752	-8810	-1748	-13452

Table 18:- Net Imports of Major Chemicals (Product-wise) during 2009-10 to 2016-17*(Qty. in MT & Value in Rs. Lakh)*

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
OIL SOLUBLE (SOLVENT DYES)	-2498	-6545	-3244	-9345	-3918	-10923	-3426	-10394	-3834	-15977	-6044	-26200	-5434	-25736	-7940	-33993
OPTICAL WHITENING AGENTS	-18576	-19945	-23126	-22039	-19954	-20186	-22560	-24854	-22706	-32181	-26646	-39781	-24539	-41143	-26345	-40785
ORGANIC PIGMENT	-141	-380	-185	-111	-144	-566	64	175	163	594	-49	75	115	358	29	385
PIGMENT EMULSION	-51748	-132802	-60880	-179336	-57328	-213182	-62964	-251291	-64266	-307030	-69744	-317520	-74958	-327068	-81895	-344941
REACTIVE DYES	-74843	-107643	-66913	-100864	-75162	-125937	-95505	-181102	-106666	-315859	-104223	-365591	-110076	-317954	-124957	-350606
SULPHUR DYES (SULPHUR BLACK)	1640	1074	386	403	1420	1050	1300	2165	640	923	-842	-90	-140	691	-740	-44
VAT DYES	1693	-1683	2357	-3040	4150	-1782	8247	10703	11846	12502	15317	11533	19216	28323	22123	30802
SOLUBILISED VAT DYES	-311	-677	-427	-1043	142	299	60	113	60	-73	53	-31	437	653	306	491
FOOD COLOURS	-10968	-24222	-12588	-27590	-18722	-40795	-21419	-48994	-22502	-62461	-25381	-73346	-26018	-74312	-27318	-74633
NAPTHOLS	448	255	592	2123	47	513	-202	424	255	1593	-115	783	-438	361	-969	-1003
OTHER DYES	-5051	-8164	-6647	-11455	-6390	-11700	-7145	-13878	-9267	-21913	-9341	-25997	-9982	-21162	-12528	-23444
INORGANIC PIGMENTS	-4015	7003	-2343	10889	-11903	11401	-9198	8685	-7663	11255	-3119	20382	-15312	2809	-17639	-5825
TOTAL	-212470	-378841	-230263	-445407	-240844	-512995	-273799	-632304	-294224	-936603	-301285	-1071086	-321355	-1000491	-363404	-1092633

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 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
SODA ASH	BANGLADESH PR	27850.01	4510.949
	INDONESIA	8076	1228.174
	NEPAL	7045.976	1239.914
	THAILAND	6668.102	982.298
	SRI LANKA DSR	6384.41	1142.276
	Product Total	56024.498	9103.611
CAUSTIC SODA	TANZANIA REP	10454.116	3295.534
	UGANDA	9131.711	3153.295
	SAUDI ARAB	8955.045	2584.351
	KENYA	8655.35	2624.225
	NEPAL	8505.177	2617.501
	Product Total	45701.399	14274.906
LIQUID CHLORINE	U ARAB EMTS	1987.7	161.322
	KENYA	837.7	205.671
	SRI LANKA DSR	731	50.374
	MALAYSIA	526	248.112
	BRUNEI	344	205.614
	Product Total	4426.4	871.093
ALUMINIUM FLUORIDE	JAPAN	160.001	160.876
	U ARAB EMTS	160	102.535
	ISRAEL	0.45	0.359
	SINGAPORE	0.1	0.105
	U K	0.065	0.51
	Product Total	320.616	264.385
CALCIUM CARBIDE	BANGLADESH PR	433.5	251.083
	CONGO D. REP.	27	15.167
	OMAN	20	10.837
	GHANA	6.2	1.149
	U ARAB EMTS	6.2	5.575
	Product Total	492.9	283.811
CARBON BLACK	U ARAB EMTS	215111.01	34314.638
	SRI LANKA DSR	20900.259	9535.808
	VIETNAM SOC REP	19081.141	8563.92
	KOREA RP	12420.61	5186.783
	INDONESIA	9397.311	4068.782
	Product Total	276910.331	61669.931
POTASSIUM CHLORATE	THAILAND	321	188.657
	TANZANIA REP	258	161.912
	EGYPT A RP	240	216.145
	PHILIPPINES	210	169.836
	CONGO P REP	108	63.374
	Product Total	1137	799.924

Table 19:- Top Five Export Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
SODIUM CHLORATE	PERU	113.001	46.296
	KENYA	3	8.241
	MALAWI	2.16	1.929
	NEPAL	0.01	0.02
	Product Total	118.171	56.486
TITANIUM DIOXIDE	U S A	2397.778	3199.887
	THAILAND	1360.586	1362.58
	ITALY	1072	1476.673
	JAPAN	832	877.265
	U ARAB EMTS	462.499	569.757
	Product Total	6124.863	7486.162
RED PHOSPHORUS	U S A	96.012	343.554
	CANADA	84	282.274
	BRAZIL	48	199.004
	INDONESIA	38	155.103
	PHILIPPINES	34.2	128.919
	Product Total	300.212	1108.854
HYDROGEN PEROXIDE	NEPAL	41.976	32.037
	PAKISTAN IR	41	14.897
	ETHIOPIA	33.46	35.604
	MOZAMBIQUE	30	11.069
	KENYA	21.1	6.384
	Product Total	167.536	99.991
CALCIUM CARBONATE	NEPAL	14077.643	3171.793
	BANGLADESH PR	6578.553	1426.504
	KENYA	1527.657	446.164
	NIGERIA	1327	308.305
	SRI LANKA DSR	1188.718	694.394
	Product Total	24699.571	6047.16
ACETIC ACID	BANGLADESH PR	4091.474	1521.408
	SOUTH AFRICA	1388.02	503.175
	UKRAINE	1084	289.215
	U ARAB EMTS	869	308.413
	SAUDI ARAB	686.903	264.477
	Product Total	8119.397	2886.688
ACETIC ANHYDRIDE	BELGIUM	17556	8532.305
	BANGLADESH PR	617.8	359.822
	THAILAND	507	285.166
	ITALY	432	227.933
	VIETNAM SOC REP	421	338.965
	Product Total	19533.8	9744.191

Table 19:- Top Five Export Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ACETONE	IRAN	2016	1081.861
	BANGLADESH PR	189.79	100.598
	SRI LANKA DSR	184.464	96.437
	KENYA	181.65	100.152
	ETHIOPIA	179	111.409
	Product Total	2750.904	1490.457
PHENOL	EGYPT A RP	1627.415	1131.839
	IRAN	586.53	463.895
	BRAZIL	376.01	225.82
	SAUDI ARAB	292.953	181.564
	PAKISTAN IR	289.202	198.86
	Product Total	3172.11	2201.978
METHANOL	SRI LANKA DSR	3274.398	595.046
	KENYA	2672.45	727.563
	BANGLADESH PR	2356.234	565.99
	NEPAL	2162.199	604.432
	U ARAB EMTS	705.05	136.516
	Product Total	11170.331	2629.547
FORMALDEHYDE	NEPAL	6960.845	1080.519
	KENYA	347.09	82.665
	MYANMAR	271.788	63.87
	SRI LANKA DSR	218.331	97.717
	BHUTAN	182.43	35.124
	Product Total	7980.484	1359.895
NITROBENZENE	SAUDI ARAB	135	72.212
	CHINA P RP	87.5	64.677
	PAKISTAN IR	60	39.487
	THAILAND	28	24.493
	ITALY	25.5	16.199
	Product Total	336	217.068
CITRIC ACID	U S A	1374.326	940.971
	PUERTO RICO	57	46.189
	SRI LANKA DSR	26.238	34.679
	MOZAMBIQUE	23.04	16.77
	GABON	21	14.468
	Product Total	1501.604	1053.077
MALEIC ANHYDRIDE	UNSPECIFIED	100	69.826
	CHINA P RP	40	24.554
	BANGLADESH PR	28.8	28.86
	KUWAIT	22.507	17.967
	MALAYSIA	22	1.896
	Product Total	213.307	143.103

Table 19:- Top Five Export Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
PENTAERYTHRITOL	U S A	1326.05	2440.112
	COLOMBIA	360	427.238
	NETHERLAND	144	171.617
	NEPAL	68.026	86.046
	BELGIUM	60	157.346
	Product Total	1958.076	3282.359
ANILINE	THAILAND	60	61.73
	TAIWAN	42	38
	PAKISTAN IR	39.8	44.821
	INDONESIA	21.061	36.296
	VIETNAM SOC REP	3.8	4.614
	Product Total	166.661	185.461
CHLORO METHANES	SAUDI ARAB	35.995	38.299
	IRAN	32	34.061
	SWITZERLAND	10	21.034
	KOREA RP	7.922	13.77
	U S A	3.042	10.675
	Product Total	88.959	117.839
ISOBUTYLBENZENE	CHINA P RP	7860	8583.491
	U S A	5560	6237.98
	SWITZERLAND	4.25	14.856
	NETHERLAND	3.4	12.39
	TAIWAN	2.04	4.573
	Product Total	13429.69	14853.29
ONCB	BRAZIL	460	452.972
	GERMANY	292	266.134
	BELGIUM	120	110.253
	SWITZERLAND	58	65.284
	U S A	20	25.245
	Product Total	950	919.888
PNCB	GERMANY	850.001	494.249
	JAPAN	84.4	42.471
	NETHERLAND	75	40.258
	BELGIUM	8	15.256
	ITALY	5.5	144.366
	Product Total	1022.901	736.6
MEK	PAKISTAN IR	187.8	91.54
	NEPAL	1.02	2.308
	MOZAMBIQUE	0.056	0.113
	KENYA	0.053	0.323
	U S A	0.01	3.821
	Product Total	188.939	98.105

Table 19:- Top Five Export Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ACETALDEHYDE	EGYPT A RP	36.82	31.572
	ETHIOPIA	1.75	5.556
	MALAYSIA	0.4	0.436
	SINGAPORE	0.38	4.34
	BANGLADESH PR	0.2	0.767
	Product Total	39.55	42.671
ETHANOLAMINES	U S A	605.834	1898.865
	CHINA P RP	117.401	368.651
	SAUDI ARAB	112.412	308.658
	IRAN	101.253	105.665
	PAKISTAN IR	86.042	109.323
	Product Total	1022.942	2791.162
ETHYL ACETATE	NIGERIA	10237.6	5404.741
	BANGLADESH PR	9342.792	5061.614
	ITALY	8928.103	4210.363
	BELGIUM	8207.2	3847.057
	TURKEY	7021.344	3198.1
	Product Total	43737.039	21721.875
MENTHOL	CHINA P RP	8954.33	89717.133
	U S A	519.735	5858.874
	FRANCE	509.857	5563.683
	SINGAPORE	482.49	4860.959
	NETHERLAND	403.21	5892.893
	Product Total	10869.622	111893.542
ORTHO NITRO TOLUENE	JAPAN	900.002	788.918
	GERMANY	180.001	148.78
	AUSTRALIA	2	1.622
	Product Total	1082.003	939.32
MALATHION	EGYPT A RP	463.3	818.946
	TURKEY	170	279.366
	MALAYSIA	160	296.44
	SAUDI ARAB	135	254.84
	MEXICO	120	224.23
	Product Total	1048.3	1873.822
DIMETHOATE	MADAGASCAR	16	38.6
	BANGLADESH PR	5	12.015
	AFGHANISTAN	1.75	3.17
	NEPAL	0.6	1.393
	MALDIVES	0.48	2.461
	Product Total	23.83	57.639

Table 19:- Top Five Export Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
D.D.V.P.	UGANDA	185.09	737.642
	ZAMBIA	32.43	99.156
	IRAN	32	86.643
	JAPAN	26	100.225
	BRAZIL	22.5	57.156
	Product Total	298.02	1080.822
QUINALPHOS	VIETNAM SOC REP	359.4	1698.124
	BANGLADESH PR	23.8	67.777
	SOUTH AFRICA	0.675	5.723
	NEPAL	0.15	0.501
	Product Total	384.025	1772.125
CYPERMETHRIN	BRAZIL	1128.995	6180.657
	CHINA P RP	918	4388.035
	THAILAND	773.15	3821.5
	MEXICO	572.7	2954.713
	INDONESIA	461.925	1842.776
	Product Total	3854.77	19187.681
FENTHION	BANGLADESH PR	10	17.883
	Product Total	10	17.883
OTHER PESTICIDES	BRAZIL	11621.027	52190.942
	U S A	4656.174	33688.919
	NIGERIA	2726.562	5557.767
	NEPAL	2598.757	5310.246
	BANGLADESH PR	1562.003	3233.15
	Product Total	23164.523	99981.024
OTHER INSECTICIDES	BRAZIL	8296.266	74596.358
	INDONESIA	3056.83	12155.055
	U S A	2934.874	48176.833
	BANGLADESH PR	2534.235	14439.207
	IRAN	1766.303	6701.904
	Product Total	18588.508	156069.357
COPPER- OXYCHLORIDE	IRAN	367	754.495
	EGYPT A RP	132	274.011
	VIETNAM SOC REP	114	265.887
	PAKISTAN IR	58	114.145
	LEBANON	25.5	80.477
	Product Total	696.5	1489.015
2, 4-D	BRAZIL	4124.01	6143.753
	U S A	2599.8	3842.083
	THAILAND	1745.72	2164.587
	ARGENTINA	1262	1625.807
	MEXICO	1200	1260.219
	Product Total	10931.53	15036.449

Table 19:- Top Five Export Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ISOPROTURON	NETHERLAND	356.2	1295.395
	Product Total	356.2	1295.395
ALUMINIUM PHOSPHIDE	ETHIOPIA	45.896	197.894
	TURKEY	26.704	103.16
	BANGLADESH PR	15.166	34.822
	NEPAL	12.341	42.564
	MOZAMBIQUE	11	43.145
	Product Total	111.107	421.585
METHYL BROMIDE	VIETNAM SOC REP	572.59	2019.04
	EGYPT A RP	300	1105.772
	AUSTRALIA	234	801.894
	NEW ZEALAND	234	844.276
	GUATEMALA	154	516.161
	Product Total	1494.59	5287.143
OTHER HERBICIDES- ANTI SPROUTING PRODUCTS	U S A	17936.6	128962.835
	ISRAEL	2224.203	12411.67
	FRANCE	2071.967	14424.968
	BRAZIL	1987.852	20621.824
	AUSTRALIA	1862.03	11103.21
	Product Total	26082.652	187524.507
OTHER FUNGICIDE NES	BRAZIL	42898.274	82741.697
	BANGLADESH PR	12349.883	13963.731
	U S A	8484.175	20300.145
	FRANCE	8004.77	17165.103
	COSTA RICA	7998.665	11473.372
	Product Total	79735.767	145644.048
AZO DYES	ITALY	10113.215	32161.014
	SPAIN	4353.66	13110.895
	GERMANY	3889.779	9235.064
	CHINA P RP	3535.447	9886.555
	BRAZIL	3443.09	8848.602
	Product Total	25335.191	73242.13
ACID DIRECT DYES(OTHER THAN AZO)	PAKISTAN IR	615.497	1639.994
	SPAIN	465.29	1597.755
	ITALY	444.954	1911.582
	TAIWAN	260.12	1122.447
	CHINA P RP	221.735	1255.947
	Product Total	2007.596	7527.725
BASIC DYES	U S A	938.547	2726.051
	INDONESIA	788.195	1446.618
	CHINA P RP	650.033	1881.453
	EGYPT A RP	458.129	692.3
	ITALY	451.856	1295.868
	Product Total	3286.76	8042.29

Table 19:- Top Five Export Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
DISPERSE DYES	PAKISTAN IR	2469.722	7845.071
	TAIWAN	1339.211	4967.028
	BANGLADESH PR	1312.339	2600.505
	TURKEY	1161.869	3943.861
	HONDURAS	935.61	4182.546
	Product Total	7218.751	23539.011
FAST COLOUR BASES	NETHERLAND	333.25	917.213
	INDONESIA	270.12	923.237
	CHINA P RP	247.69	1178.849
	NORWAY	186.3	5209.565
	BRAZIL	182.568	593.809
	Product Total	1219.928	8822.673
OIL SOLUBLE (SOLVENT DYES)	U K	2199.46	8759.112
	BRAZIL	798.724	2548.54
	ITALY	771.545	3044.235
	U S A	766.795	5175.454
	NETHERLAND	624.538	2359.147
	Product Total	5161.062	21886.488
OPTICAL WHITENING AGENTS	U S A	2892.36	5844.291
	FINLAND	2043.4	896.826
	AUSTRALIA	1863.62	1364.988
	THAILAND	1638.155	2650.364
	GERMANY	1609.197	4179.902
	Product Total	10046.732	14936.371
ORGANIC PIGMENT	GERMANY	27.766	25.881
	BANGLADESH PR	23.712	213.327
	AUSTRALIA	16.375	17.916
	OMAN	2.139	22.458
	CHINA P RP	0.54	10.422
	Product Total	70.532	290.004
PIGMENT EMULSION	U S A	15176.092	61082.827
	NETHERLAND	5221.779	24296.675
	GERMANY	4766.758	27591.3
	JAPAN	4745.258	20574.635
	BELGIUM	4620.391	20192.338
	Product Total	34530.278	153737.775
REACTIVE DYES	TURKEY	26321.63	66875.497
	BANGLADESH PR	25362.091	57429.531
	PAKISTAN IR	9292.282	24692.317
	HONDURAS	6803.13	24427.674
	SINGAPORE	6697.67	24764.277
	Product Total	74476.803	198189.296

Table 19:- Top Five Export Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
SULPHUR DYES (SULPHUR BLACK)	U S A	382.598	499.01
	BANGLADESH PR	330.115	322.844
	TURKEY	302.66	375.454
	EGYPT A RP	300.13	267.838
	MYANMAR	190.625	210.135
	Product Total	1506.128	1675.281
VAT DYES	BANGLADESH PR	162.579	2445.025
	MAURITANIA	116.885	1181.733
	U K	92.203	2104.647
	GERMANY	89.491	2095.845
	JAPAN	89.456	3032.035
	Product Total	550.614	10859.285
SOLUBILISED VAT DYES	INDONESIA	22.176	174.861
	PAKISTAN IR	3.9	52.346
	JORDAN	1.46	2.685
	VIETNAM SOC REP	1.025	10.656
	BULGARIA	0.75	5.253
	Product Total	29.311	245.801
FOOD COLOURS	U S A	1893.814	9187.851
	INDONESIA	1615.91	5638.034
	BRAZIL	1323.922	4626.031
	TURKEY	1171.166	2135.14
	PHILIPPINES	1069.846	3590.292
	Product Total	7074.658	25177.348
NAPTHOLS	SOUTH AFRICA	319.03	521.437
	U ARAB EMTS	295.399	377.842
	KENYA	229.336	405.209
	TURKEY	218.926	373.238
	CANADA	150.771	134.111
	Product Total	1213.462	1811.837
OTHER DYES	GERMANY	2390.52	2864.776
	SPAIN	1058.745	2195.031
	ITALY	993.965	2249.223
	TAIWAN	977.565	1248.015
	JAPAN	916.295	1204.678
	Product Total	6337.09	9761.723
INORGANIC PIGMENTS	U ARAB EMTS	1519.646	1394.449
	ECUADOR	1469.02	707.522
	RUSSIA	1315.937	1535.067
	NIGERIA	1292.66	1341.675
	SRI LANKA DSR	1031.932	1288.588
	Product Total	6629.195	6267.301

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

Table 20:- Top Five Import Destinations of Selected Chemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
SODA ASH	ROMANIA	163439.04	25043.333
	U S A	125912.351	16645.339
	BULGARIA	92227.879	14374.858
	KENYA	89515.5	12063.218
	PAKISTAN IR	40873.102	6745.949
	Product Total	511967.872	74872.697
CAUSTIC SODA	JAPAN	133146	37238.894
	IRAN	83655.487	22788.942
	QATAR	65723	16934.508
	CHINA P RP	40732.962	10320.807
	SAUDI ARAB	32192	7166.572
	Product Total	355449.449	94449.723
LIQUID CHLORINE	KOREA RP	13.149	128.328
	CHINA P RP	12.5	22.293
	FRANCE	9.175	18.767
	GERMANY	0.046	0.399
	Product Total	34.87	169.788
ALUMINIUM FLUORIDE	U ARAB EMTS	19036	12076.166
	INDONESIA	7540	4303.144
	ITALY	6156	4035.834
	CHINA P RP	4978	3323.958
	QATAR	4689	496.266
	Product Total	42399	24235.368
CALCIUM CARBIDE	CHINA P RP	28600.99	11360.771
	BHUTAN	16787.462	8040.116
	SOUTH AFRICA	10303.4	4250.984
	GERMANY	0.002	0.274
	FRANCE	0	0.072
	Product Total	55691.854	23652.218
CARBON BLACK	CHINA P RP	58260.883	26886.773
	KOREA RP	26727.418	15519.409
	RUSSIA	14953.912	6860.954
	U S A	5624.604	12172.83
	INDONESIA	4019.288	2185.45
	Product Total	109586.105	63625.416
POTASSIUM CHLORATE	CHINA P RP	100	57.945
	U S A	0.256	0.552
	U K	0.092	1.314
	GERMANY	0.034	1.313
	BELGIUM	0.008	0.235
	Product Total	100.39	61.359

SODIUM CHLORATE	FRANCE	2846.768	1153.095
	FINLAND	2276.99	800.849
	BRAZIL	1200	409.515
	CANADA	483	168.493
	SWEDEN	325	107.707
	Product Total	7131.758	2639.659
TITANIUM DIOXIDE	CHINA P RP	5777.794	7985.784
	GERMANY	2223.67	4698.187
	KOREA RP	2139.854	3491.43
	U S A	941.212	1725.633
	JAPAN	895.23	1942.374
	Product Total	11977.76	19843.408
RED PHOSPHORUS	U K	0.002	0.78
	BELGIUM	0.001	0.04
	Product Total	0.003	0.82
HYDROGEN PEROXIDE	THAILAND	30659.05	7974.338
	BANGLADESH PR	16565.1	4161.734
	KOREA RP	6969.48	1788.336
	INDONESIA	2699.703	712.089
	PAKISTAN IR	89.5	18.957
	Product Total	56982.833	14655.454
CALCIUM CARBONATE	MALAYSIA	389842.365	34992.424
	VIETNAM SOC REP	198291.553	13484.698
	EGYPT A RP	68048.981	4968.147
	GREECE	14178.95	1287.241
	THAILAND	7122.015	804.102
	Product Total	677483.864	55536.612
ACETIC ACID	SINGAPORE	272537.573	62518.399
	MALAYSIA	261729.983	59510.885
	CHINA P RP	121986.048	27226.26
	SAUDI ARAB	63895	15312.539
	IRAN	49103	11241.812
	Product Total	769251.604	175809.895
ACETIC ANHYDRIDE	U S A	2271.585	1118.413
	SINGAPORE	0.001	0.069
	Product Total	2271.586	1118.482
ACETONE	THAILAND	50699.28	25835.94
	TAIWAN	30404.65	12475.691
	KOREA RP	26478.872	11979.198
	RUSSIA	10446	4687.757
	SINGAPORE	9946	4102.731
	Product Total	127974.802	59081.317

PHENOL	THAILAND	57688	38000.148
	KOREA RP	54430.802	34155.815
	CHINA P RP	53827.65	35656.056
	U S A	52778.211	29861.412
	SINGAPORE	24129	16014.199
	Product Total	242853.663	153687.63
METHANOL	IRAN	1080148.952	192125.045
	SAUDI ARAB	496255	92104.801
	RUSSIA	17494	2861.326
	UNSPECIFIED	14333	2145.521
	MALAYSIA	13839.181	2504.04
	Product Total	1622070.133	291740.733
FORMALDEHYDE	SINGAPORE	70.4	30.341
	THAILAND	8.6	2.338
	CHINA P RP	3.305	155.911
	JAPAN	1.2	51.929
	U S A	0.401	5.583
	Product Total	83.906	246.102
NITROBENZENE	KOREA RP	14428.71	6941.972
	U S A	0.175	0.881
	FRANCE	0.054	0.137
	U K	0.025	0.031
	CHINA P RP	0.004	0.668
	Product Total	14428.968	6943.689
CITRIC ACID	CHINA P RP	81531.322	39150.123
	ARGENTINA	52	54.455
	AUSTRIA	30.675	33.79
	GERMANY	19.501	208.062
	CANADA	15.65	9.772
	Product Total	81649.148	39456.202
MALEIC ANHYDRIDE	TAIWAN	18358.627	11997.479
	MALAYSIA	16027.61	11385.028
	KOREA RP	8103.951	5562.13
	CHINA P RP	4362.951	2822.527
	INDONESIA	2418.5	1745.502
	Product Total	49271.639	33512.666
PENTAERYTHRITOL	SAUDI ARAB	7800.001	8530.431
	SWEDEN	3517.076	3814.838
	JAPAN	3000.333	3147.585
	TAIWAN	1623.4	1503.56
	CHINA P RP	1478.771	1721.103
	Product Total	17419.581	18717.517

ANILINE	CHINA P RP	40523.306	26096.751
	U K	2099	1564.917
	JAPAN	998	838.04
	PORTUGAL	754.16	612.835
	KOREA RP	211.45	209.936
	Product Total	44585.916	29322.479
CHLORO METHANES	CHINA P RP	244.98	157.49
	U S A	13.497	65.603
	FRANCE	0	0.357
	Product Total	258.477	223.45
ONCB	CHINA P RP	838.66	627.689
	Product Total	838.66	627.689
PNCB	CHINA P RP	6095.45	2898.876
	Product Total	6095.45	2898.876
MEK	TAIWAN	16358.975	8571.089
	SOUTH AFRICA	6290	3449.735
	JAPAN	6234	3291.177
	CHINA P RP	1026.248	784.089
	KOREA RP	991.38	532.519
	Product Total	30900.603	16628.609
ACETALDEHYDE	SWITZERLAND	80	144.936
	U ARAB EMTS	36.8	27.632
	GERMANY	9.123	119.449
	U S A	1.637	21.504
	U K	1.499	28.738
	Product Total	129.059	342.259
ETHANOLAMINES	SAUDI ARAB	2446.92	1620.082
	THAILAND	2292.4	1661.28
	GERMANY	2068.269	1406.261
	U S A	1517.726	1356.833
	MALAYSIA	1075.92	770.004
	Product Total	9401.235	6814.46
ETHYL ACETATE	SAUDI ARAB	1564	760.878
	GERMANY	79.774	38.347
	U S A	17.504	35.455
	BELGIUM	1.009	4.987
	U K	0.927	5.523
	Product Total	1663.214	845.19
MENTHOL	GERMANY	1412.537	9307.618
	U S A	60.603	530.876
	JAPAN	13.429	137.892
	BRAZIL	12.052	127.811
	SPAIN	11.715	84.814
	Product Total	1510.336	10189.011

ORTHO NITRO TOLUENE	GERMANY	434.2	326.642
	CHINA P RP	108.42	84.534
	BELGIUM	18.4	15.606
	ITALY	18	9.507
	U S A	0	0.042
	Product Total	579.02	436.331
D.D.V.P.	CHINA P RP	16	28.152
	Product Total	16	28.152
OTHER PESTICIDES	CHINA P RP	913.452	88545.93
	U S A	128.29	2606.942
	RUSSIA	120	448.358
	GERMANY	10.1	34.848
	BELGIUM	4	2.275
	Product Total	1175.842	91638.353
OTHER INSECTICIDES	CHINA P RP	11058.361	80612.596
	TAIWAN	1812.799	2869.058
	GERMANY	1065.28	43580.964
	U S A	973.942	26725.236
	ISRAEL	884.119	10697.152
	Product Total	15794.501	164485.006
COPPER- OXYCHLORIDE	GERMANY	0.047	0.814
	Product Total	0.047	0.814
2, 4-D	SINGAPORE	0.001	0.05
	VIETNAM SOC REP	16	26.976
	Product Total	16.001	27.026
ALUMINIUM PHOSPHIDE	ISRAEL	0.002	0.074
	Product Total	0.002	0.074
METHYL BROMIDE	U S A	24	69.934
	Product Total	24	69.934
OTHER HERBICIDES- ANTI SPROUTING PRODUCTS	CHINA P RP	6219.434	21094.221
	ISRAEL	4732.657	24719.696
	JAPAN	2428.016	25597.415
	U S A	1347.243	19190.798
	U K	1092.7	6763.472
	Product Total	15820.05	97365.602
OTHER FUNGICIDE NES	CHINA P RP	2220.281	11518.967
	GERMANY	1523.767	27075.935
	U S A	1017.051	9314.776
	ISRAEL	463	1935.873
	JAPAN	402.039	3294.254
	Product Total	5626.138	53139.805

AZO DYES	CHINA P RP	353.796	1263.244
	ITALY	116.565	421.518
	SPAIN	37.702	882.461
	INDONESIA	25.174	99.848
	GERMANY	21.466	277.117
	Product Total	554.703	2944.188
ACID DIRECT DYES(OTHER THAN AZO)	CHINA P RP	55.455	267.706
	ITALY	54.702	295.693
	KOREA RP	19.3	82.659
	U S A	11.621	105.411
	JAPAN	11.2	334.424
	Product Total	152.278	1085.893
BASIC DYES	CHINA P RP	518.054	3922.652
	SPAIN	17.955	42.413
	GERMANY	15.169	111.713
	TAIWAN	4	5.822
	ITALY	2.231	17.669
	Product Total	557.409	4100.269
DISPERSE DYES	CHINA P RP	4047.121	18296.596
	INDONESIA	634.347	3096.719
	U S A	108.978	355.343
	GERMANY	33.223	504.969
	MEXICO	29.35	389.621
	Product Total	4853.019	22643.248
FAST COLOUR BASES	CHINA P RP	396.029	1890.779
	GERMANY	16.261	33.222
	HUNGARY	8.901	350.656
	ITALY	2.12	19.369
	SPAIN	1.873	8.765
	Product Total	425.184	2302.791
OIL SOLUBLE (SOLVENT DYES)	CHINA P RP	471.561	3894.699
	KOREA RP	172.149	627.688
	TAIWAN	41.085	269.709
	GERMANY	27.151	204.987
	JAPAN	12.86	148.127
	Product Total	724.806	5145.21
OPTICAL WHITENING AGENTS	SWITZERLAND	360.3	3575.873
	CHINA P RP	184.985	1483.497
	BRAZIL	32	82.956
	INDONESIA	15.96	44.786
	MEXICO	6.45	49.426
	Product Total	599.695	5236.538

ORGANIC PIGMENT	CHINA P RP	54.25	74.728
	INDONESIA	17.877	6.812
	GERMANY	12.579	115.037
	U S A	7.3	34.583
	SPAIN	3.5	7.284
	Product Total	95.506	238.444
PIGMENT EMULSION	CHINA P RP	4394.854	20991.703
	GERMANY	629.16	9417.959
	KOREA RP	448.233	2566.889
	ITALY	308.97	892.484
	SWITZERLAND	235.407	3873.639
	Product Total	6016.624	37742.674
REACTIVE DYES	THAILAND	1359.981	12291.63
	CHINA P RP	1287.798	11981.076
	KOREA RP	427.056	1955.209
	ITALY	138.636	809.888
	TAIWAN	69.35	372.655
	Product Total	3282.821	27410.458
SULPHUR DYES (SULPHUR BLACK)	CHINA P RP	1029.45	2247.15
	SPAIN	223.453	335.355
	GERMANY	24.76	27.026
	JAPAN	4.432	26.068
	U S A	0.539	2.453
	Product Total	1282.634	2638.052
VAT DYES	SINGAPORE	11949.391	20186.02
	CHINA P RP	10313.467	30604.372
	GERMANY	768.132	1777.922
	PAKISTAN IR	462.002	757.548
	JAPAN	20.98	36.111
	Product Total	23513.972	53361.973
SOLUBILISED VAT DYES	SINGAPORE	306.97	541.76
	CHINA P RP	26.891	111.592
	NETHERLAND	0.8	42.292
	SWITZERLAND	0.609	7.646
	FRANCE	0.45	1.431
	Product Total	335.72	704.721
FOOD COLOURS	TAIWAN	569.486	1633.467
	KOREA RP	162.836	569.175
	GREECE	86.364	131.069
	U S A	44.425	259.39
	GERMANY	40.196	162.765
	Product Total	903.307	2755.866

NAPTHOLS	CHINA P RP	1099.9	3641.923
	GERMANY	3.988	50.053
	ITALY	1.464	20.952
	ISRAEL	0.809	1.61
	U S A	0.55	16.592
	Product Total	1106.711	3731.13
OTHER DYES	U S A	83.177	919.944
	TURKEY	42.707	182.159
	CHINA P RP	22.748	78.528
	U K	10.78	187.532
	ITALY	7.235	25.008
	Product Total	166.647	1393.171
INORGANIC PIGMENTS	U ARAB EMTS	1812.5	2266.703
	VIETNAM SOC REP	1297	450.046
	CHINA P RP	1137.687	2978.498
	THAILAND	918.598	2548.508
	GERMANY	646.763	3524.461
	Product Total	5812.548	11768.216

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

Table 21:- Exports of Major Petrochemicals (Group-wise) during 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

GROUP	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES	404281	283129	576219	492991	733938	717078	775729	777335	906309	1010936	886211	913437	877659	831009	1025435	921003
FIBRE INTERMEDIATES	18105	13838	50626	37046	100735	78701	80823	61926	67873	53980	73270	57347	247540	121394	323096	153574
POLYMERS	657572	360065	822208	500436	1163483	815325	1112662	853586	1187634	1078251	903266	793550	998339	732497	912124	667432
SYNTHETIC RUBBER (ELASTOMERS)	15479	11986	14786	14883	22128	25460	11489	15082	12834	21597	26040	34492	42688	42428	38204	46387
SYNTHETIC DETERGENT INTERMEDIATES	94623	61415	133709	93904	74864	87518	50478	50928	32971	35845	27992	29004	9634	7768	7058	5941
PERFORMANCE PLASTICS	294485	164547	366377	255601	309593	287212	347916	307451	474528	440224	409365	353492	813967	527737	972750	636450
OLEFINS	134471	77807	158503	131755	130472	181191	123827	138968	119411	88308	72479	45302	149389	76055	117365	101742
AROMATICS	1104618	511971	1351789	612929	1445312	985016	1590660	1188161	1789251	1344539	1888275	1163302	2033143	942807	1749173	885136
OTHER PETRO-BASED CHEMICALS	64773	47093	184395	133682	184342	145504	137082	129315	96237	107611	124125	143644	128670	101261	144135	116773
TOTAL EXPORT OF MAJOR PETRO-CHEMICALS	2788407	1531851	3658612	2273227	4164867	3323005	4230666	3522752	4687048	4181291	4411023	3533570	5301029	3382956	5289340	3534438

Note: 1. Product coverage under each group is given at page vi.

2. The data from 2008-09 to 2012-13 is based on ITCHS 2007 and the data for 2013-14 is based on ITCHS 2012

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

Table 22:- Imports of Major Petrochemicals (Group-wise) during 2009-10 to 2016-17

GROUP	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES	97860	97625	120870	144087	142496	181735	146950	211748	154848	232303	223529	289562	247527	277618	262462	273629
FIBRE INTERMEDIATES	1236826	484547	1598939	777720	1315056	800960	1402774	878497	1925258	1304669	2179870	1273665	2015419	1026126	1842229	943136
POLYMERS	2159886	1188440	2500130	1495239	2435473	1598868	3179593	2254904	3124986	2531008	3736798	3177068	4214022	3132488	4452258	3267230
SYNTHETIC RUBBER (ELASTOMERS)	375884	352710	446242	540793	492633	794847	519670	797499	580333	793037	578400	758949	596101	612690	559919	628042
SYNTHETIC DETERGENT INTERMEDIATES	91334	56129	78859	60774	106852	96832	127493	131685	123846	139467	134035	138461	218097	177489	228229	179003
PERFORMANCE PLASTICS	112247	117855	192024	208769	175173	254490	249709	336062	310899	438390	394766	496367	388796	445847	417442	472270
OLEFINS	34608	16822	117791	53667	19855	13371	34187	29316	26109	21482	49255	43981	25398	20177	83452	60651
AROMATICS	661910	290174	679025	325942	760164	504683	967941	764603	998399	850360	1023472	712564	1204325	633048	1614652	864845
OTHER PETRO-BASED CHEMICALS	1320950	688941	1807833	1046288	1784500	1219192	2037034	1495971	2203984	1817179	2372654	1897349	2739780	1775978	2650608	1764933
TOTAL IMPORT OF MAJOR PETRO-CHEMICALS	6091505	3293243	7541713	4653279	7232202	5464978	8665351	6900285	9448662	8127895	10692779	8787966	11649465	8101461	12111251	8453739

Note: 1. Product coverage under each group is given at page vi.

2. The data from 2008-09 to 2012-13 is based on ITCHS 2007 and the data for 2013-14 is based on ITCHS 2012

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

Table 23:- Net Imports of Major Petrochemicals (Group-wise) during 2009-10 to 2016-17

GROUP	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES	-306421	-185504	-455349	-348904	-591442	-535343	-628779	-565587	-751461	-778633	-662682	-623875	-630132	-553391	-762973	-647374
FIBRE INTERMEDIATE S	1218721	470709	1548313	740674	1214321	722259	1321951	816571	1857385	1250689	2106600	1216318	1767879	904732	1519133	789562
POLYMERS	1502314	828375	1677922	994803	1271990	783543	2066931	1401318	1937352	1452757	2833532	2383518	3215683	2399991	3540134	2599798
SYNTHETIC RUBBER (ELASTOMERS)	360405	340724	431456	525910	470505	769387	508181	782417	567499	771440	552360	724457	553413	570262	521715	581655
SYNTHETIC DETERGENT INTERMEDIATE S	-3289	-5286	-54850	-33130	31988	9314	77015	80757	90875	103622	106043	109457	208463	169721	221171	173062
PERFORMANCE PLASTICS	-182238	-46692	-174353	-46832	-134420	-32722	-98207	28611	-163629	-1834	-14599	142875	-425171	-81890	-555308	-164180
OLEFINS	-99863	-60985	-40712	-78088	-110617	-167820	-89640	-109652	-93302	-66826	-23224	-1321	-123991	-55878	-33913	-41091
AROMATICS	-442708	-221797	-672764	-286987	-685148	-480333	-622719	-423558	-790852	-494179	-864803	-450738	-828818	-309759	-134521	-20291
OTHER PETRO-BASED CHEMICALS	1256177	641848	1623438	912606	1600158	1073688	1899952	1366656	2107747	1709568	2248529	1753705	2611110	1674717	2506473	1648160
TOTAL NET IMPORT OF MAJOR PETRO-CHEMICALS	3303098	1761392	3883101	2380052	3067335	2141973	4434685	3377533	4761614	3946604	6281756	5254396	6348436	4718505	6821911	4919301

Note: 1. Product coverage under each group is given at page vi.

2. The data from 2008-09 to 2012-13 is based on ITCHS 2007 and the data for 2013-14 is based on ITCHS 2012

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

Table 24:- Exports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES																
ACRYLIC FIBRE	10579	12600	24522	44634	26383	37398	19258	26183	31562	47385	37420	59176	47911	58966	48332	60060
NYLON FILAMENT YARN	2102	4733	2110	4925	1923	5412	1865	5728	2023	7402	1848	6939	1639	6236	1857	6462
NYLON INDUSTRIAL YARN/TYRE CORD	2208	2783	3976	5739	3733	6979	3756	6810	2896	5696	1752	2937	1122	1471	1474	1872
POLYESTER FILAMENT YARN	227292	171651	391220	330277	524093	510458	576224	588908	647732	743768	648773	677742	634799	624444	748037	690836
POLYESTER STAPLE FIBRE	160828	89940	152487	105285	176000	154451	170318	144355	205341	187652	183575	151547	181813	129129	213903	150316
POLYPROPYLENE FILAMENT YARN	767	1009	1259	1476	1235	1582	2008	2694	1863	2813	2232	3234	2844	3878	2077	2690
POLYPROPYLENE STAPLE FIBRE	505	413	645	655	571	798	2300	2657	14892	16220	10611	11862	7531	6885	9755	8767
TOTAL	404281	283129	576219	492991	733938	717078	775729	777335	906309	1010936	886211	913437	877659	831009	1025435	921003
FIBRE INTERMEDIATES																
ACRYLONITRILE	1	3	1	2	5598	6048	2103	2747	2	5	4	85	2323	2132	6	39
CAPROLACTUM	12404	11892	13777	21658	13448	20052	3343	4853	514	902	0	1	0	8	1010	867
DIMETHYL TEREPHTHALATE	1	1	5	15	3	11	0	0	1	2	0	0	1	1	1	1
MONO EHYLENE GLYCOL	5577	1710	35959	15116	66483	45720	71796	52515	67032	53008	73216	57216	72239	52081	62199	45932
PURIFIED TEREPHTHALIC ACID	122	232	884	255	15203	6870	3581	1811	324	63	50	45	172977	67172	259880	106735
TOTAL	18105	13838	50626	37046	100735	78701	80823	61926	67873	53980	73270	57347	247540	121394	323096	153574
POLYMERS																
LOW DENSITY POLYETHYLENE	5739	3363	11919	9167	12670	10470	16892	15296	18369	20153	21519	23853	24007	26531	26909	27321

Table 24:- Exports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
HIGH DENSITY POLYTHYLENE	21488	12626	133485	81358	239546	159380	159341	123866	113344	103538	51663	51095	116114	97840	148142	117815
POLYESTYRENE	56109	35285	62670	43175	60982	48710	74137	68035	83962	91765	73695	69174	86290	72301	82542	75483
POLYPROPYLENE (INC. CO-POLYMER)	564444	302365	582285	347506	816005	571653	828236	616817	943284	832814	726906	620745	735410	503124	574234	382678
EXPANDABLE POLYESTYRENE	2719	1455	178	127	377	280	3830	3689	3646	4413	4810	5489	3762	3735	3697	3548
POLY VINYL CHLORIDE	798	555	10850	5185	3632	2990	1267	1462	1332	2754	1988	2085	3054	3272	6484	6127
DENSITY POLYTHYLENE	2502	2323	14809	10428	23007	16734	21821	18582	13451	13366	10854	10267	15825	14160	53215	41558
PVC COMPOUND	3773	2093	6012	3490	7264	5108	7138	5839	10246	9448	11831	10842	13877	11534	16901	12902
TOTAL	657572	360065	822208	500436	1163483	815325	1112662	853586	1187634	1078251	903266	793550	998339	732497	912124	667432
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	7309	4552	7388	5985	7516	9142	7646	8461	7483	8024	18007	17961	31053	23969	27139	27423
POLY BUTADIENE RUBBER	911	870	1874	1772	185	408	1173	1947	267	388	1919	1978	5988	4008	5114	4942
ETHYL PROPYLENE DIMERS	2074	2262	2577	3258	3063	4830	1182	1916	2075	7096	2915	8114	2725	8882	3282	9531
ETHYL VINYL ACETATE	662	644	1072	986	374	453	804	848	1215	1494	1141	1734	1274	1510	1494	1751
NITRILE BUTADIENE RUBBER	3430	3088	1404	2286	10778	10059	431	1297	446	1557	444	1124	400	970	451	1092
BUTYL RUBBER	1093	570	471	596	212	568	253	613	1348	3038	1614	3581	1248	3089	724	1648
TOTAL	15479	11986	14786	14883	22128	25460	11489	15082	12834	21597	26040	34492	42688	42428	38204	46387
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	93920	60415	133368	93397	74555	86732	50068	50134	32493	34657	27199	27204	9256	7034	6440	4816
ETHYLENE OXIDE	703	1000	341	507	309	786	410	794	478	1188	793	1800	378	734	618	1125

Table 24:- Exports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	94623	61415	133709	93904	74864	87518	50478	50928	32971	35845	27992	29004	9634	7768	7058	5941
PERFORMANCE PLASTICS																
ABS RESIN	60	40	5272	4925	807	915	666	780	303	424	225	281	465	682	294	473
NYLON-6	3656	4705	4108	5937	5912	9804	9915	16353	15308	25961	16715	28775	14577	25321	17656	29593
POLYMETHYL METHACRYLATE	5391	4323	5497	5631	5545	5747	7849	8626	9775	12115	9306	11215	9158	10541	8557	10230
STYRENE ACRYLONITRILE	8	9	11	21	33	66	43	69	275	249	120	158	579	459	671	450
POLYESTER CHIPS/PET CHIPS	284200	152464	346071	220251	290894	229867	324307	256947	443104	372102	375421	274943	783106	460787	937251	557185
POLYTETRAFLUORO ETHYLENE(PTFE)	1170	3006	5418	18836	6402	40813	5136	24676	5763	29373	7578	38120	6082	29947	8321	38519
TOTAL	294485	164547	366377	255601	309593	287212	347916	307451	474528	440224	409365	353492	813967	527737	972750	636450
OLEFINS																
BUTADIENE	110897	66190	134087	121198	121393	176675	117626	135098	119410	88301	72479	45301	129808	66961	106838	97268
ETHYLENE	14	35	44	31	7	6	1	4	1	7	0	1	5119	3789	27	23
PROPYLENE	23560	11582	24372	10526	9072	4510	6200	3866	0	0	0	0	14462	5305	10500	4451
TOTAL	134471	77807	158503	131755	130472	181191	123827	138968	119411	88308	72479	45302	149389	76055	117365	101742
AROMATICS																
BENZENE	399836	173123	567717	225586	501894	279998	652963	445735	635749	437813	576741	348900	914875	371288	789425	366822
MIXED XYLENE	59158	20126	72334	29652	148512	87950	141564	104472	187239	139394	10464	6923	8	49	66	110
ORTHO-XYLENE	181348	78509	341918	160600	187083	121039	210822	163337	229010	172190	227007	138341	234386	107621	154347	74761
TOLUENE	1993	834	4119	2209	5465	3535	5412	4167	14798	11449	9994	6409	5268	3314	5843	3764
PARAXYLENE	462283	239379	365701	194882	602358	492494	579899	470450	722455	583693	1064069	662729	878606	460535	799492	439679

Table 24:- Exports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	1104618	511971	1351789	612929	1445312	985016	1590660	1188161	1789251	1344539	1888275	1163302	2033143	942807	1749173	885136
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	17	5	0	0	0	3	3200	554	9	5	21	14	15839	3103	16	8
BUTANOL	3358	2402	5454	4463	3591	4458	4762	5986	2186	3583	759	993	195	162	2292	1189
OXO ALCOHOL	396	925	339	1415	383	740	812	983	1188	1133	1191	907	582	565	1271	731
2-ETHYL HEXANOL	110	410	20	530	78	808	47	1001	321	654	6391	6405	746	654	2055	1437
VINYL CHLORIDE MONOMER	0	0	26	39	0	0	0	0	1	8	0	0	0	0	0	0
EPICHLORHYDRINE	10	9	8	13	19	24	13	10	4	7	14	19	28	33	54	55
ISO BUTYLENE	100	48	1	1	0	1	0	0	1815	1382	1	2	28	249	1	3
METAXYLENE	37	22	109406	71083	92344	61389	41061	32749	4	13	23	146	46	140	64	217
METHYL ISOBUTYL KETONE	3	11	107	91	539	519	5	71	24	53	206	364	287	266	918	788
PIB	5169	3168	6167	4020	6623	5529	4285	4739	5896	7554	4993	5925	6128	7200	2237	2448
POLYCARBONATE	1433	3556	3368	6650	2355	3671	2509	4332	3022	6103	2459	2772	4790	4597	3990	3284
PROPYLENE OXIDE	0	0	0	4	0	0	0	0	0	0	0	0	0	0	0	1
PROPYLENE GLYCOL	1151	758	1178	971	908	879	2593	1953	818	986	773	1043	531	724	865	1113
POLYVINYL ACETATE RESIN	3583	1923	6877	4415	10077	8188	14064	11563	15509	13643	15456	15384	11259	11415	8767	8927
UNSATURATED POLYESTER RESIN	9919	6653	9131	7849	9455	9479	10709	12477	10750	14533	12660	17074	12112	15025	16263	18552
ETHYL BENZENE	16	24	0	0	3	1	4	4	0	0	0	0	0	2	0	0
CELLULOSE ACETATE BUTYRATE	5	39	25	31	10	15	53	78	93	163	44	93	6	81	8	30

Table 24:- Exports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
CELLULOSE ACETATE SHEET	18	42	147	164	17	36	159	166	63	152	33	84	34	116	85	178
CELLULOSE NITRATE SHEET	6	6	112	96	8	14	46	19	3	14	12	16	3	5	19	14
MELAMINE MOULDING POWDER	377	304	1079	743	1051	914	1160	940	2168	1431	6339	2284	7993	2541	10124	3072
POLYACETAL RESIN	527	517	1252	933	710	703	279	403	540	654	537	598	312	383	387	439
PHTHALIC ANHYDRIDE	19581	9513	18480	10012	24993	17036	12812	11478	23182	20259	38634	26744	40448	22378	42033	25960
STYRENE	801	520	1810	1207	7521	4847	17327	16323	2242	2392	6940	6623	793	669	5088	4176
VINYL ACTATE MONOMER	2413	977	1062	500	2227	1240	1342	822	4096	2635	1562	1392	1695	1388	11755	6285
ISOPROPANOL	4451	3733	7330	6099	9598	12753	3846	4149	3334	4053	6139	6508	3716	2805	7385	5106
POLYOL	11292	11528	11016	12353	11832	12257	15994	18515	18969	26201	18938	48254	21099	26760	28458	32760
TOTAL	64773	47093	184395	133682	184342	145504	137082	129315	96237	107611	124125	143644	128670	101261	144135	116773
TOTAL EXPORT OF MAJOR PETRO-CHEMICALS	2788407	1531851	3658612	2273227	4164867	3323005	4230666	3522752	4687048	4181291	4411023	3533570	5301029	3382956	5289340	3534438

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) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES																
ACRYLIC FIBRE	14568	16723	23611	33365	20200	27538	29359	42077	32990	53051	36339	60959	39238	53809	36771	44394
NYLON FILAMENT YARN	6624	10886	18138	31224	22907	45227	24067	52783	24295	54650	27813	59448	28972	54485	31063	53352
NYLON INDUSTRIAL YARN/TYRE CORD	10789	14581	12269	18388	9068	16629	11912	21275	7022	13749	3750	7035	4411	6803	7741	10247
POLYESTER FILAMENT YARN	50095	43944	33692	36053	43409	52693	50013	64792	46713	67653	72718	89105	72605	86166	84367	92492
POLYESTER STAPLE FIBRE	14417	10040	31549	23070	44677	36811	29670	27653	42635	41577	81864	71552	99719	73357	99809	70113
POLYPROPYLENE FILAMENT YARN	1214	1283	1489	1827	1899	2396	1598	2673	792	1056	716	1002	697	1001	695	850
POLYPROPYLENE STAPLE FIBRE	153	168	122	160	336	441	331	495	401	567	329	461	1885	1997	2016	2181
TOTAL	97860	97625	120870	144087	142496	181735	146950	211748	154848	232303	223529	289562	247527	277618	262462	273629
FIBRE INTERMEDIATES																
ACRYLONITRILE	64693	42104	72618	73592	77357	77714	81964	83719	100862	111632	97388	118956	160202	121692	139709	108192
CAPROLACTUM	11292	8933	6334	8158	5381	9121	15917	21673	23494	34307	32276	43571	44577	45299	52906	50601
DIMETHYL TEREPHTHALATE	4171	1906	4428	2554	2815	2021	2104	1592	1786	1466	2094	1594	2216	1400	1761	1051
MONO EHYLENE GLYCOL	682182	225455	771189	318756	634589	356418	654831	374593	820724	512134	1003540	550364	1111582	539689	1235385	604838
PURIFIED TEREPHTHALIC ACID	474488	206149	744370	374660	594914	355686	647958	396920	978392	645130	1044572	559180	696842	318046	412468	178454
TOTAL	1236826	484547	1598939	777720	1315056	800960	1402774	878497	1925258	1304669	2179870	1273665	2015419	1026126	1842229	943136
POLYMERS																
LOW DENSITY POLYETHYLENE	161628	98082	196418	129714	197507	143289	264483	204752	256147	239302	325901	295717	374761	313547	391501	330125

Table 25:- Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
HIGH DENSITY POLYTHYLENE	468120	279273	514445	306105	422712	298381	639062	464130	575117	545552	842892	811233	921743	798927	1000457	824364
POLYESTYRENE	18221	17790	29461	26062	29218	30824	35949	45289	37772	49378	39647	50104	42514	47364	44374	54225
POLYPROPYLENE (INC. CO-POLYMER)	425307	256504	425286	285760	398100	317819	497691	427654	479176	472948	611673	589950	700914	574265	781188	611882
EXPANDABLE POLYESTYRENE	5369	3595	7454	5257	5722	4740	4560	4436	3978	4682	3113	3441	2981	2723	3779	3554
POLY VINYL CHLORIDE	629102	270822	671309	329720	851336	443759	1133124	647857	1208529	755732	1293338	854467	1501311	878823	1702852	1015835
LINEAR LOW DENSITY POLYTHYLENE	378338	228495	584888	374061	464211	316607	538849	414080	499817	413556	550109	515931	590015	459471	469075	381387
PVC COMPOUND	73801	33879	70869	38560	66667	43449	65875	46706	64450	49858	70125	56225	79783	57368	59032	45858
TOTAL	2159886	1188440	2500130	1495239	2435473	1598868	3179593	2254904	3124986	2531008	3736798	3177068	4214022	3132488	4452258	3267230
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	144393	103912	190300	186607	212549	329092	206663	292471	239544	287779	223549	264399	172802	155614	149559	155436
POLY BUTADIENE RUBBER	50385	39186	49000	62256	65935	111555	71052	115107	86200	109762	70471	79518	74646	63210	84910	93064
ETHYL PROPYLENE DIMERS	21187	23819	28391	37231	29231	54698	28373	60006	30347	50127	33348	54653	39370	60759	43411	54947
ETHYL VINYL ACETATE	77807	67380	90773	87925	83186	92285	108324	109280	114764	125169	139414	155970	165264	162033	144604	141686
NITRILE BUTADIENE RUBBER	14916	14811	16887	23822	19615	34667	26733	47496	29596	45051	26719	44760	51937	44391	36451	45999
BUTYL RUBBER	67196	103602	70891	142952	82117	172550	78525	173139	79882	175149	84899	159649	92082	126683	100984	136910
TOTAL	375884	352710	446242	540793	492633	794847	519670	797499	580333	793037	578400	758949	596101	612690	559919	628042
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	91248	55862	78759	60557	106813	96564	127440	131486	123825	139218	133994	137918	217997	176537	228092	177675
ETHYLENE OXIDE	86	267	100	217	39	268	53	199	21	249	41	543	100	952	137	1328

Table 25:- Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	91334	56129	78859	60774	106852	96832	127493	131685	123846	139467	134035	138461	218097	177489	228229	179003
PERFORMANCE PLASTICS																
ABS RESIN	30368	26744	46224	50870	45470	53929	56897	72383	63020	86113	69910	94132	90081	100935	102685	114201
NYLON-6	44865	60807	60739	93809	74662	135583	88264	159031	114365	214028	133891	237580	144545	218291	158810	233711
POLYMETHYL METHACRYLATE	7141	7816	17748	12576	12444	17024	16488	21487	18924	25935	15367	21697	20309	30401	27175	35588
STYRENE ACRYLONITRILE	2899	2088	4910	4507	4480	4494	6248	7062	5973	7523	6411	7884	9569	9061	8542	8299
POLYESTER CHIPS/PET CHIPS	25064	13376	60290	37519	35978	27152	79743	60854	106283	90135	167015	123074	122206	74948	117996	68960
POLYTETRAFLUOROETHYLENE (PTFE)	1910	7024	2113	9488	2139	16308	2069	15245	2334	14656	2172	12000	2086	12211	2234	11511
TOTAL	112247	117855	192024	208769	175173	254490	249709	336062	310899	438390	394766	496367	388796	445847	417442	472270
OLEFINS																
BUTADIENE	15	39	3077	1761	5035	4539	9187	10430	1071	820	3223	2823	994	706	2105	1657
ETHYLENE	34549	16505	114550	51549	14667	8223	23784	17219	24791	19461	43905	38467	21050	14753	80917	57116
PROPYLENE	44	278	164	357	153	609	1216	1667	247	1201	2127	2691	3354	4718	431	1878
TOTAL	34608	16822	117791	53667	19855	13371	34187	29316	26109	21482	49255	43981	25398	20177	83453	60651
AROMATICS																
BENZENE	123011	46067	48410	22786	43465	23677	50660	32106	5250	3146	47	35	0	5	0	8
MIXED XYLENE	2802	1149	11	21	24	75	169	197	5567	4339	1647	1155	108	96	113	125
ORTHO-XYLENE	44246	19829	39866	20455	35499	23839	45134	37444	44879	41678	35697	23547	34502	16871	26275	14609

Table 25:- Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOLUENE	198906	78644	187442	77449	245391	139206	307145	215447	263759	193333	287877	183823	343662	163765	392749	183101
PARAXYLENE	292945	144485	403296	205231	435785	317886	564833	479409	678944	607864	698204	504004	826053	452311	1195515	667002
TOTAL	661910	290174	679025	325942	760164	504683	967941	764603	998399	850360	1023472	712564	1204325	633048	1614652	864845
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	191648	35963	284997	65400	263401	46737	359009	53578	439537	98004	465292	117028	600033	104976	503987	86304
BUTANOL	37647	18804	25381	17294	31564	23498	36290	27372	44683	37454	56954	42657	62512	31380	57959	26234
OXO ALCOHOL	1193	1438	528	1036	842	1842	1329	2102	1698	3182	1285	3866	1270	4347	3186	6713
2-ETHYL HEXANOL	38597	21344	34155	27996	29184	27396	58418	54709	100495	88209	134894	117375	109095	66012	66867	37312
VINYL CHLORIDE MONOMER	154636	62300	385101	163983	302327	147439	296171	145623	303042	167918	317925	178829	349371	167169	344423	177368
EPICHLHYDRINE	16927	10787	19786	19868	19068	19743	19109	18276	22986	22594	33588	33629	43383	37643	48112	34563
ISO BUTYLENE	40105	22883	42939	32730	23351	20485	9260	7938	23254	21809	13010	12222	15853	10526	20051	14133
METAXYLENE	468	304	1541	981	9564	5960	4371	3851	3029	3223	946	902	3064	2755	2667	2600
METHYL ISOBUTYL KETONE	16698	10474	16399	12388	19209	17173	17668	20184	18318	21987	23243	26643	27576	22104	22487	17388
PIB	5238	4294	6091	4825	7536	7281	10754	11817	9456	13554	11290	16394	14367	17322	16034	16949
POLYCARBONATE	54315	62610	105264	140607	116029	162876	122742	175907	123434	183633	124555	189828	138535	207756	138365	204195
PROPYLENE OXIDE	10006	7393	12561	10340	9392	9595	13141	13052	11676	13076	22914	25917	25552	25697	23064	21699
PROPYLENE GLYCOL	29374	17958	35120	24035	35736	29641	40036	34340	43547	40750	48749	50720	54045	46881	51339	39956
POLYVINYL ACETATE RESIN	3481	3969	3623	4983	4254	6302	4388	7094	4246	8824	4003	8300	3209	5941	3043	3829
UNSATURATED POLYSTER RESIN	44833	30742	36633	36032	34237	39319	36013	43468	31157	40025	28855	33910	30303	36568	39975	42255

Table 25:- Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ETHYL BENZENE	76	53	54	47	75	82	407	360	172	228	128	182	150	146	308	267
CELLULOSE ACETATE BUTYRATE	4	16	110	203	228	450	8	151	0	1	1	5	2	12	3	18
CELLULOSE ACETATE SHEET	375	129	318	123	459	216	692	312	980	569	1260	749	1295	775	1066	564
CELLULOSE NITRATE SHEET	75	137	99	217	81	236	178	248	502	843	263	467	88	260	75	250
MELAMINE MOULDING POWDER	3896	3902	6019	5928	8006	8500	8668	9858	10210	12619	10081	12356	11872	13961	12997	15304
POLYACETAL RESIN	15437	11934	19191	14005	21082	17748	25933	23667	26266	25418	32605	29992	35212	34173	37883	37829
PHTHALIC ANHYDRIDE	28098	13684	61241	31601	38894	25948	44321	36815	54934	48521	52350	39837	79803	44118	92058	53567
STYRENE	453007	236847	458595	252983	520758	348850	591646	492433	572654	602695	617800	543696	717696	516539	729627	557571
VINYL ACTATE MONOMER	76658	30906	85369	34884	124726	67921	127536	69804	147364	87273	139553	114477	141649	88260	162004	87159
ISOPROPANOL	34107	16488	40556	23598	33441	22148	55724	42087	51271	42756	63194	51016	87606	47646	97262	55519
POLYOL	64051	63582	126162	120201	131056	161806	153222	200925	159073	232014	167916	246352	186239	243011	175766	225387
TOTAL	1320950	688941	1807833	1046288	1784500	1219192	2037034	1495971	2203984	1817179	2372654	1897349	2739780	1775978	2650608	1764933
TOTAL IMPORT OF MAJOR PETRO-CHEMICALS	6091505	3293243	7541713	4653279	7232202	5464978	8665351	6900285	9448662	8127895	10692779	8787966	11649465	8101461	12111252	8453739

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

Table 26:- Net Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
SYNTHETIC FIBRES																
ACRYLIC FIBRE	3989	4123	-911	-11269	-6183	-9860	10101	15894	1428	5666	-1081	1783	-8673	-5157	-11561	-15666
NYLON FILAMENT YARN	4522	6153	16028	26299	20984	39815	22202	47055	22272	47248	25965	52509	27333	48249	29206	46890
NYLON INDUSTRIAL YARN/TYRE CORD	8581	11798	8293	12649	5335	9650	8156	14465	4126	8053	1998	4098	3289	5332	6267	8375
POLYESTER FILAMENT YARN	-177197	-127707	-357528	-294224	-480684	-457765	-526211	-524116	-601019	-676115	-576055	-588637	-562194	-538278	-663670	-598344
POLYESTER STAPLE FIBRE	-146411	-79900	-120938	-82215	-131323	-117640	-140648	-116702	-162706	-146075	-101711	-79995	-82094	-55772	-114094	-80203
POLYPROPYLENE FILAMENT YARN	447	274	230	351	664	814	-410	-21	-1071	-1757	-1516	-2232	-2147	-2877	-1382	-1840
POLYPROPYLENE STAPLE FIBRE	-352	-245	-523	-495	-235	-357	-1969	-2162	-14491	-15653	-10282	-11401	-5646	-4888	-7739	-6586
TOTAL	-306421	-185504	-455349	-348904	-591442	-535343	-628779	-565587	-751461	-778633	-662682	-623875	-630132	-553391	-762973	-647374
FIBRE INTERMEDIATES																
ACRYLONITRILE	64692	42101	72617	73590	71759	71666	79861	80972	100860	111627	97384	118871	157879	119560	139703	108153
CAPROLACTUM	-1112	-2959	-7443	-13500	-8067	-10931	12574	16820	22980	33405	32276	43570	44577	45291	51896	49734
DIMETHYL TEREPHTHALATE	4170	1905	4423	2539	2812	2010	2104	1592	1785	1464	2094	1594	2215	1399	1760	1050
MONO EHYLENE GLYCOL	676605	223745	735230	303640	568106	310698	583035	322078	753692	459126	930324	493148	1039343	487608	1173186	558906
PURIFIED TEREPHTHALIC ACID	474366	205917	743486	374405	579711	348816	644377	395109	978068	645067	1044522	559135	523865	250874	152588	71719

Table 26:- Net Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	1218721	470709	1548313	740674	1214321	722259	1321951	816571	1857385	1250689	2106600	1216318	1767879	904732	1519133	789562
POLYMERS																
LOW DENSITY POLYETHYLENE	155889	94719	184499	120547	184837	132819	247591	189456	237778	219149	304382	271864	350754	287016	364592	302804
HIGH DENSITY POLYTHYLENE	446632	266647	380960	224747	183166	139001	479721	340264	461773	442014	791229	760138	805629	701087	852315	706549
POLYESTYRENE	-37888	-17495	-33209	-17113	-31764	-17886	-38188	-22746	-46190	-42387	-34048	-19070	-43776	-24937	-38168	-21258
POLYPROPYLENE (INC. CO-POLYMER)	-139137	-45861	-156999	-61746	-417905	-253834	-330545	-189163	-464108	-359866	-115233	-30795	-34496	71141	206954	229204
EXPANDABLE POLYESTYRENE	2650	2140	7276	5130	5345	4460	730	747	332	269	-1697	-2048	-781	-1012	82	6
POLY VINYL CHLORIDE	628304	270267	660459	324535	847704	440769	1131857	646395	1207197	752978	1291350	852382	1498257	875551	1696368	1009708
LINEAR LOW DENSITY POLYTHYLENE	375836	226172	570079	363633	441204	299873	517028	395498	486366	400190	539255	505664	574190	445311	415860	339829
PVC COMPOUND	70028	31786	64857	35070	59403	38341	58737	40867	54204	40410	58294	45383	65906	45834	42131	32956
TOTAL	1502314	828375	1677922	994803	1271990	783543	2066931	1401318	1937352	1452757	2833532	2383518	3215683	2399991	3540134	2599798
SYNTHETIC RUBBER (ELASTOMERS)																
STYRENE BUTADIENE RUBBER	137084	99360	182912	180622	205033	319950	199017	284010	232061	279755	205542	246438	141749	131645	122420	128013
POLY BUTADIENE RUBBER	49474	38316	47126	60484	65750	111147	69879	113160	85933	109374	68552	77540	68658	59202	79796	88122
ETHYL PROPYLENE DIMERS	19113	21557	25814	33973	26168	49868	27191	58090	28272	43031	30433	46539	36645	51877	40129	45416

Table 26:- Net Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
ETHYL VINYL ACETATE	77145	66736	89701	86939	82812	91832	107520	108432	113549	123675	138273	154236	163990	160523	143110	139935
NITRILE BUTADIENE RUBBER	11486	11723	15483	21536	8837	24608	26302	46199	29150	43494	26275	43636	51537	43421	36000	44907
BUTYL RUBBER	66103	103032	70420	142356	81905	171982	78272	172526	78534	172111	83285	156068	90834	123594	100260	135262
TOTAL	360405	340724	431456	525910	470505	769387	508181	782417	567499	771440	552360	724457	553413	570262	521715	581655
SYNTHETIC DETERGENT INTERMEDIATES																
LINEAR ALKYL BENZENE	-2672	-4553	-54609	-32840	32258	9832	77372	81352	91332	104561	106795	110714	208741	169503	221652	172859
ETHYLENE OXIDE	-617	-733	-241	-290	-270	-518	-357	-595	-457	-939	-752	-1257	-278	218	-481	203
TOTAL	-3289	-5286	-54850	-33130	31988	9314	77015	80757	90875	103622	106043	109457	208463	169721	221171	173062
PERFORMANCE PLASTICS																
ABS RESIN	30308	26704	40952	45945	44663	53014	56231	71603	62717	85689	69685	93851	89616	100253	102391	113728
NYLON-6	41209	56102	56631	87872	68750	125779	78349	142678	99057	188067	117176	208805	129968	192970	141154	204118
POLYMETHYL METHACRYLATE	1750	3493	12251	6945	6899	11277	8639	12861	9149	13820	6061	10482	11151	19860	18618	25358
STYRENE ACRYLONITRILE	2891	2079	4899	4486	4447	4428	6205	6993	5698	7274	6291	7726	8990	8602	7871	7849
POLYESTER CHIPS/PET CHIPS	-259136	-139088	-285781	-182732	-254916	-202715	-244564	-196093	-336821	-281967	-208406	-151869	-660900	-385839	-819255	-488225
POLYTETRAFLUOROETHYLENE(PTFE)	740	4018	-3305	-9348	-4263	-24505	-3067	-9431	-3429	-14717	-5406	-26120	-3996	-17736	-6087	-27008

Table 26:- Net Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
TOTAL	-182238	-46692	-174353	-46832	-134420	-32722	-98207	28611	-163629	-1834	-14599	142875	-425171	-81890	-555308	-164180
OLEFINS																
BUTADIENE	-110882	-66151	-131010	-119437	-116358	-172136	-108439	-124668	-118339	-87481	-69256	-42478	-128814	-66255	-104733	-95611
ETHYLENE	34535	16470	114506	51518	14660	8217	23783	17215	24790	19454	43905	38466	15931	10964	80890	57093
PROPYLENE	-23516	-11304	-24208	-10169	-8919	-3901	-4984	-2199	247	1201	2127	2691	-11108	-587	-10069	-2573
TOTAL	-99863	-60985	-40712	-78088	-110617	-167820	-89640	-109652	-93302	-66826	-23224	-1321	-123991	-55878	-33912	-41091
AROMATICS																
BENZENE	-276825	-127056	-519307	-202800	-458429	-256321	-602303	-413629	-630499	-434667	-576694	-348865	-914875	-371283	-789425	-366814
MIXED XYLENE	-56356	-18977	-72323	-29631	-148488	-87875	-141395	-104275	-181672	-135055	-8817	-5768	100	47	47	15
ORTHO-XYLENE	-137102	-58680	-302052	-140145	-151584	-97200	-165688	-125893	-184131	-130512	-191310	-114794	-199884	-90750	-128072	-60152
TOLUENE	196913	77810	183323	75240	239926	135671	301733	211280	248961	181884	277883	177414	338394	160451	386906	179337
PARAXYLENE	-169338	-94894	37595	10349	-166573	-174608	-15066	8959	-43511	24171	-365865	-158725	-52553	-8224	396023	227323
TOTAL	-442708	-221797	-672764	-286987	-685148	-480333	-622719	-423558	-790852	-494179	-864803	-450738	-828818	-309759	-134521	-20291
OTHER PETRO-BASED CHEMICALS																
ETHYLENE DICHLORIDE	191631	35958	284997	65400	263401	46734	355809	53024	439528	97999	465271	117014	584194	101873	503971	86296

Table 26:- Net Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
BUTANOL	34289	16402	19927	12831	27973	19040	31528	21386	42497	33871	56195	41664	62317	31218	55667	25045
OXO ALCOHOL	797	513	189	-379	459	1102	517	1119	510	2049	94	2959	688	3782	1915	5982
2-ETHYL HEXANOL	38487	20934	34135	27466	29106	26588	58371	53708	100174	87555	128503	110970	108349	65358	64812	35875
VINYL CHLORIDE MONOMER	154636	62300	385075	163944	302327	147439	296171	145623	303041	167910	317925	178829	349371	167169	344423	177368
EPICHLHYDRINE	16917	10778	19778	19855	19049	19719	19096	18266	22982	22587	33574	33610	43355	37610	48058	34508
ISO BUTYLENE	40005	22835	42938	32729	23351	20484	9260	7938	21439	20427	13009	12220	15825	10277	20050	14130
METAXYLENE	431	282	-107865	-70102	-82780	-55429	-36690	-28898	3025	3210	923	756	3018	2615	2603	2383
METHYL ISOBUTYL KETONE	16695	10463	16292	12297	18670	16654	17663	20113	18294	21934	23037	26279	27289	21838	21569	16600
PIB	69	1126	-76	805	913	1752	6469	7078	3560	6000	6297	10469	8239	10122	13797	14501
POLYCARBONATE	52882	59054	101896	133957	113674	159205	120233	171575	120412	177530	122096	187056	133745	203159	134375	200911
PROPYLENE OXIDE	10006	7393	12561	10336	9392	9595	13141	13052	11676	13076	22914	25917	25552	25697	23064	21698
PROPYLENE GLYCOL	28223	17200	33942	23064	34828	28762	37443	32387	42729	39764	47976	49677	53514	46157	50474	38843
POLYVINYL ACETATE RESIN	-102	2046	-3254	568	-5823	-1886	-9676	-4469	-11263	-4819	-11453	-7084	-8050	-5474	-5724	-5098
UNSATURATED POLYESTER RESIN	34914	24089	27502	28183	24782	29840	25304	30991	20407	25492	16195	16836	18191	21543	23712	23703
ETHYL BENZENE	60	29	54	47	72	81	403	356	172	228	128	182	150	144	308	267

Table 26:- Net Imports of Major Petrochemicals (Product-wise) 2009-10 to 2016-17

[Qty. in MT & Value in Rs. Lakh]

PRODUCT	2009-2010		2010-2011		2011-2012		2012-2013		2013-2014		2014-2015		2015-2016		2016-2017	
	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL	QTY	VAL
CELLULOSE ACETATE BUTYRATE	-1	-23	85	172	218	435	-45	73	-93	-162	-43	-88	-4	-69	-5	-12
CELLULOSE ACETATE SHEET	357	87	171	-41	442	180	533	146	917	417	1227	665	1261	659	981	386
CELLULOSE NITRATE SHEET	69	131	-13	121	73	222	132	229	499	829	251	451	85	255	56	236
MELAMINE MOULDING POWDER	3519	3598	4940	5185	6955	7586	7508	8918	8042	11188	3742	10072	3879	11420	2873	12232
POLYACETAL RESIN	14910	11417	17939	13072	20372	17045	25654	23264	25726	24764	32068	29394	34900	33790	37496	37390
PHTHALIC ANHYDRIDE	8517	4171	42761	21589	13901	8912	31509	25337	31752	28262	13716	13093	39355	21740	50025	27607
STYRENE	452206	236327	456785	251776	513237	344003	574319	476110	570412	600303	610860	537073	716903	515870	724539	553395
VINYL ACTATE MONOMER	74245	29929	84307	34384	122499	66681	126194	68982	143268	84638	137991	113085	139954	86872	150249	80874
ISOPROPANOL	29656	12755	33226	17499	23843	9395	51878	37938	47937	38703	57055	44508	83890	44841	89877	50413
POLYOL	52759	52054	115146	107848	119224	149549	137228	182410	140104	205813	148978	198098	165140	216251	147308	192627
TOTAL	1256177	641848	1623438	912606	1600158	1073688	1899952	1366656	2107747	1709568	2248529	1753705	2611110	1674717	2506473	1648160
TOTAL NET IMPORT OF MAJOR PETRO-CHEMICALS	3303098	1761392	3883101	2380052	3067335	2141973	4434685	3377533	4761614	3946604	6281756	5254396	6348436	4718505	6821912	4919301

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 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ACRYLIC FIBRE	IRAN	18943.496	21859.693
	CHINA P RP	7165.955	7591.858
	KENYA	6811.974	5660.966
	ETHIOPIA	4492.396	4097.169
	BANGLADESH PR	2196.327	3736.597
	Product Total	39610.148	42946.283
NYLON FILAMENT YARN	U S A	289.011	1264.997
	SPAIN	213.707	589.452
	SRI LANKA DSR	180.202	585.345
	PORTUGAL	136.801	382.38
	VIETNAM SOC REP	114.226	417.159
	Product Total	933.947	3239.333
NYLON INDUSTRIAL YARN/TYRE CORD	U S A	258.347	317.203
	THAILAND	216.341	350.923
	NEPAL	120.106	109.291
	BELGIUM	108.118	136.152
	SPAIN	104.004	130.929
	Product Total	806.916	1044.498
POLYESTER FILAMENT YARN	TURKEY	184982.756	167973.7
	BRAZIL	177647.012	142237.948
	BANGLADESH PR	47875.174	47575.221
	KOREA RP	34826.788	30783.685
	EGYPT A RP	29776.81	24904.693
	Product Total	475108.54	413475.247
POLYESTER STAPLE FIBRE	U S A	43622.756	34367.898
	NEPAL	22667.986	15180.085
	BANGLADESH PR	18930.41	12549.12
	BELGIUM	16015.92	10368.546
	EGYPT A RP	11479.442	7681.88
	Product Total	112716.514	80147.529
POLYPROPYLENE FILAMENT YARN	BANGLADESH PR	287.376	338.95
	ETHIOPIA	244.917	278.14
	NEPAL	134.424	169.663
	KENYA	96.878	113.529
	SRI LANKA DSR	96.717	130.086
	Product Total	860.312	1030.368
POLYPROPYLENE STAPLE FIBRE	U S A	8242.511	6894.924
	NEPAL	607.248	778.263
	AUSTRALIA	563.488	638.764
	U ARAB EMTS	290.254	400.667
	SAUDI ARAB	35.334	30.663
	Product Total	9755.289	8767.097

Table 27:- Top Five Export Destinations of Selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ACRYLONITRILE	OMAN	6	28.98
	U S A	0.054	10.242
	JORDAN	0.001	0.008
	Product Total	6.055	39.23
CAPROLACTUM	CHINA P RP	990	838.383
	INDONESIA	19.25	26.925
	PAKISTAN IR	0.002	0.079
	SAUDI ARAB	1	1.21
	U S A	0.201	0.257
	Product Total	1010.453	866.853
DIMETHYL TEREPHTHALATE	KAZAKHSTAN	0.9	1.303
	Product Total	0.9	1.303
MONO EHYLENE GLYCOL	U S A	31143.203	24009.415
	CHINA P RP	9110.002	5402.421
	INDONESIA	6430.6	4831.152
	NETHERLAND	6270	4697.374
	TAIWAN	4334	3326.181
	Product Total	57287.805	42266.543
PURIFIED TEREPHTHALIC ACID	U ARAB EMTS	68396	27665.585
	OMAN	48234	19852.803
	PAKISTAN IR	46708	19294.437
	SOUTH AFRICA	38074	15868.956
	SAUDI ARAB	25000	10043.227
	Product Total	226412	92725.008
LOW DENSITY POLYETHYLENE	TURKEY	4276.075	4596.288
	NEPAL	3121.621	1005.878
	BANGLADESH PR	2262.525	2365.426
	KENYA	1536.6	1248.804
	SOUTH AFRICA	1466.65	1747.926
	Product Total	12663.471	10964.322
HIGH DENSITY POLYTHYLENE	CHINA P RP	84153.145	61752.249
	NEPAL	15169.217	11827.869
	VIETNAM SOC REP	13991.3	10695.144
	PAKISTAN IR	5567.1	4652.006
	TURKEY	5054.87	3929.933
	Product Total	123935.632	92857.201
POLYESTYRENE	BANGLADESH PR	12902.459	10698.951
	EGYPT A RP	10281.57	8176.652
	ITALY	9706.135	8294.708
	TURKEY	6293.933	5098.26
	U ARAB EMTS	5698.663	9336.558
	Product Total	44882.76	41605.129

Table 27:- Top Five Export Destinations of Selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
POLYPROPYLENE (INC. CO-POLYMER)	TURKEY	97076	65197.464
	CHINA P RP	92285.936	59447.471
	PAKISTAN IR	76730.2	53884.962
	ITALY	51040.492	33798.761
	INDONESIA	33249.815	22755.556
	Product Total	350382.443	235084.214
EXPANDABLE POLYESTYRENE	U ARAB EMTS	906.419	896.55
	INDONESIA	704	678.976
	TAIWAN	308	283.922
	BANGLADESH PR	289	284.591
	HONG KONG	286	282.264
	Product Total	2493.419	2426.303
POLY VINYL CHLORIDE	U ARAB EMTS	4560.1	4294.193
	NEPAL	932.343	753.584
	SRI LANKA DSR	157.37	102.311
	BANGLADESH PR	157.152	90.642
	KENYA	152.4	246.211
	Product Total	5959.365	5486.941
LINEAR LOW DENSITY POLYTHYLENE	CHINA P RP	16073.768	11274.343
	PAKISTAN IR	10796	8459.195
	NEPAL	6666.255	5450.151
	BANGLADESH PR	4759.23	3848.38
	KENYA	3377.457	2987.612
	Product Total	41672.71	32019.681
PVC COMPOUND	NEPAL	3409.815	2293.536
	KENYA	3398.736	2268.253
	TANZANIA REP	1911.98	1275.848
	BANGLADESH PR	1731.3	1253.568
	U ARAB EMTS	1424.768	1146.391
	Product Total	11876.599	8237.596
STYRENE BUTADIENE RUBBER	PAKISTAN IR	8097.196	8177.026
	THAILAND	4088.095	4189.245
	BANGLADESH PR	2913.777	3368.686
	SRI LANKA DSR	2701.845	2949.832
	CHINA P RP	1464.265	1304.084
	Product Total	19265.178	19988.873
POLY BUTADIENE RUBBER	SRI LANKA DSR	2375.989	2519.483
	THAILAND	845.202	736.061
	PAKISTAN IR	639.802	564.806
	BANGLADESH PR	459.77	413.42
	TURKEY	302.4	234.881
	Product Total	4623.163	4468.651

Table 27:- Top Five Export Destinations of Selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ETHYL PROPYLENE DIMERS	TURKEY	1942.465	7513.814
	U ARAB EMTS	1026.929	1248.624
	U K	59.018	98.229
	BAHARAIN IS	48.81	66.601
	U S A	48.059	263.411
	Product Total	3125.281	9190.679
ETHYL VINYL ACETATE	U S A	1098.275	1122.912
	IRAN	204	244.8
	U ARAB EMTS	64.3	111.362
	SAUDI ARAB	28.92	55.756
	KOREA RP	24.75	24.344
	Product Total	1420.245	1559.174
NITRILE BUTADIENE RUBBER	U S A	141.597	382.171
	THAILAND	88.62	244.33
	MALAYSIA	49.07	71.731
	U ARAB EMTS	34.72	45.551
	CHINA P RP	29	57.797
	Product Total	343.007	801.58
BUTYL RUBBER	BANGLADESH PR	438.32	1041.148
	SRI LANKA DSR	247.92	568.477
	U ARAB EMTS	35.399	31.774
	CANADA	1.202	2.055
	NEPAL	0.41	0.434
	Product Total	723.251	1643.888
LINEAR ALKYL BENZENE	BANGLADESH PR	3007	2072.9
	U ARAB EMTS	1964.7	1513.061
	TANZANIA REP	567.8	424.077
	NEPAL	275.4	174.266
	SOUTH AFRICA	202	147.801
	Product Total	6016.9	4332.105
ETHYLENE OXIDE	SPAIN	158.85	520.732
	VIETNAM SOC REP	107.76	132.39
	THAILAND	105.52	211.582
	INDONESIA	97.4	78.947
	MALAYSIA	55.856	64.816
	Product Total	525.386	1008.467
ABS RESIN	TAIWAN	57.311	42.259
	INDONESIA	53.875	176.473
	CHINA P RP	35.854	48.142
	RUSSIA	24.05	21.345
	MALAYSIA	23.41	35.417
	Product Total	194.5	323.636

Table 27:- Top Five Export Destinations of Selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
NYLON-6	JAPAN	3351.3	4881.61
	HONG KONG	2377.945	4274.24
	CHINA P RP	1495.052	2299.44
	THAILAND	1250.45	2241.611
	U ARAB EMTS	935.128	1736.563
	Product Total	9409.875	15433.464
POLYMETHYL METHACRYLATE	NIGERIA	1036.803	612.473
	IRAN	807.153	1278.669
	SRI LANKA DSR	722.247	486.921
	PHILIPPINES	713.22	500.862
	U ARAB EMTS	668.011	493.312
	Product Total	3947.434	3372.237
STYRENE ACRYLONITRILE	NIGERIA	595.84	369.159
	SYRIA	40	22.12
	PHILIPPINES	18	26.825
	KENYA	5	4.561
	NEPAL	3.1	0.426
	Product Total	661.94	423.091
POLYESTER CHIPS/PET CHIPS	EGYPT A RP	94952.141	55274.505
	ITALY	82698.52	48657.914
	BANGLADESH PR	75330.969	45072.72
	U ARAB EMTS	74648.223	45585.95
	ISRAEL	46194	26815.376
	Product Total	373823.853	221406.465
POLYTETRAFLUORO ETHYLENE(PTFE)	GERMANY	2607.747	11760.22
	U S A	2157.436	10522.27
	ITALY	1376.728	4904.482
	CHINA P RP	715.205	3815.073
	U K	185.546	1107.983
	Product Total	7042.662	32110.028
BUTADIENE	MALAYSIA	37800	36572.278
	KOREA RP	28617	27125.786
	INDONESIA	15225	14719.083
	CHINA P RP	12596	9680.493
	TAIWAN	7350	5288.752
	Product Total	101588	93386.392
ETHYLENE	NEPAL	27.04	20.638
	TANZANIA REP	0.25	1.812
	BAHARAIN IS	0.006	0.42
	KENYA	0	0.478
	Product Total	27.296	23.348

Table 27:- Top Five Export Destinations of Selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
PROPYLENE	INDONESIA	10500	4445.763
	U S A	0.031	2.661
	GERMANY	0.029	2.284
	NIGERIA	0.01	0.021
	Product Total	10500.07	4450.729
BENZENE	SAUDI ARAB	428235.1	203707.538
	SINGAPORE	86836.02	38854.99
	SPAIN	69201.24	30383.504
	BELGIUM	47425	19094.482
	INDONESIA	45384	23111.531
	Product Total	677081.36	315152.045
MIXED XYLENE	KUWAIT	24	13.779
	AUSTRALIA	20.2	19.131
	MALAYSIA	5.3	28.158
	THAILAND	4.4	0.148
	CONGO P REP	2	1.418
	Product Total	55.9	62.634
ORTHO-XYLENE	CHINA P RP	62475	30228.654
	INDONESIA	34390	16406.873
	TAIWAN	32550	15867.061
	PAKISTAN IR	24678	12090.252
	MALAYSIA	245.46	154.824
	Product Total	154338.46	74747.664
TOLUENE	KENYA	917.86	490.646
	U ARAB EMTS	899	422.498
	SRI LANKA DSR	795.242	402.187
	BANGLADESH PR	625.05	356.198
	PAKISTAN IR	441.08	242.21
	Product Total	3678.232	1913.739
PARAXYLENE	INDONESIA	186897	96355.808
	MALAYSIA	183947	99266.55
	CHINA P RP	178875	99251.721
	PAKISTAN IR	109099	59272.484
	UNSPECIFIED	50128	36573.922
	Product Total	708946	390720.485
ETHYLENE DICHLORIDE	THAILAND	16	7.634
	SAUDI ARAB	0.101	0.462
	KENYA	0.01	0.031
	NEPAL	0.001	0.002
	ZAMBIA	0	0.009
	Product Total	16.112	8.137
	U ARAB EMTS	1875	836.662
	SINGAPORE	197	126.723

Table 27:- Top Five Export Destinations of Selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
BUTANOL	IRAN	64	44.16
	U S A	58	39.76
	SRI LANKA DSR	54.1	30.975
	Product Total	2248.1	1078.28
OXO ALCOHOL	CHINA P RP	945.43	344.911
	NETHERLAND	133.002	112.228
	U S A	132.211	137.913
	BANGLADESH PR	28.12	14.562
	POLAND	14	13.319
	Product Total	1252.763	622.933
2-ETHYL HEXANOL	U ARAB EMTS	2002.5	1233.767
	U S A	15.001	10.577
	NEPAL	11.05	9.852
	BANGLADESH PR	10.17	9.352
	MEXICO	7.7	51.556
	Product Total	2046.421	1315.104
EPICHLHYDRINE	SOUTH AFRICA	36.4	37.269
	BANGLADESH PR	17.72	17.363
	IRAN	0.236	0.425
	BRAZIL	0.011	0.043
	SAUDI ARAB	0.01	0.034
	Product Total	54.377	55.134
ISO BUTYLENE	BANGLADESH PR	0.885	2.961
	Product Total	0.885	2.961
METAXYLENE	KENYA	50.4	26.128
	NEPAL	10	5.5
	DENMARK	2	174.805
	BELGIUM	1.35	9.476
	NIGERIA	0.05	0.689
	Product Total	63.8	216.598
METHYL ISOBUTYL KETONE	CHINA P RP	800	685.142
	PAKISTAN IR	44	29.779
	SRI LANKA DSR	25	23.797
	KENYA	24.165	23.908
	VIETNAM SOC REP	13	13.048
	Product Total	906.165	775.674
PIB	SINGAPORE	335	232.784
	SAUDI ARAB	290.8	369.155
	U ARAB EMTS	248.3	258.827
	THAILAND	178	133.996
	SRI LANKA DSR	165.2	139.205
	Product Total	1217.3	1133.967

Table 27:- Top Five Export Destinations of Selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
POLYCARBONATE	ITALY	1253.622	878.085
	HONG KONG	748.498	546.431
	NETHERLAND	567.62	372.95
	KOREA RP	450.254	367.15
	GERMANY	244.15	200.044
	Product Total	3264.144	2364.66
PROPYLENE OXIDE	BANGLADESH PR	0.1	0.474
	NEPAL	0.4	0.5
	Product Total	0.5	0.974
PROPYLENE GLYCOL	U ARAB EMTS	160.712	163.957
	SINGAPORE	120.484	95.914
	OMAN	107.794	96.714
	IRAN	82	82.15
	SRI LANKA DSR	67.185	72.31
	Product Total	538.175	511.045
POLYVINYL ACETATE RESIN	U S A	2361.152	3039.055
	BELGIUM	1186	1272.867
	TURKEY	812.71	884.648
	KENYA	488.88	275.025
	SPAIN	483	537.695
	Product Total	5331.742	6009.29
UNSATURATED POLYESTER RESIN	SPAIN	2266.529	2041.058
	NIGERIA	1339.599	1269.106
	BANGLADESH PR	1271.82	1971.987
	NEPAL	1225.349	1121.202
	AUSTRALIA	1053.302	1279.88
	Product Total	7156.599	7683.233
CELLULOSE ACETATE BUTYRATE	NEPAL	7	6.176
	GERMANY	1	19.61
	AUSTRIA	0.1	2.376
	HONG KONG	0.01	0.449
	ARGENTINA	0.005	0.161
	Product Total	8.115	28.772
CELLULOSE ACETATE SHEET	THAILAND	42.993	134.911
	NEPAL	41.115	42.566
	U S A	0.62	0.801
	ITALY	0.01	0.029
	Product Total	84.738	178.307
CELLULOSE NITRATE SHEET	BHUTAN	16.53	7.365
	GHANA	1.5	2.59
	NEPAL	1.057	3.42
	BANGLADESH PR	0.4	1.047
	Product Total	19.487	14.422

Table 27:- Top Five Export Destinations of Selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
MELAMINE MOULDING POWDER	NEPAL	8665.698	1430.251
	GABON	246.7	196.107
	CHINA P RP	192	216
	TURKEY	126.004	146.715
	PAKISTAN IR	112.378	89.337
	Product Total	9342.78	2078.41
POLYACETAL RESIN	GERMANY	108.377	94
	KOREA RP	80	62.857
	BANGLADESH PR	79.578	111.027
	PAKISTAN IR	48	39.757
	U S A	25.876	55.246
	Product Total	341.831	362.887
PHTHALIC ANHYDRIDE	SAUDI ARAB	17002.25	10599.782
	U ARAB EMTS	14097	8621.073
	EGYPT A RP	3681	2203.603
	U S A	1224	780.894
	TUNISIA	855	546.841
	Product Total	36859.25	22752.193
STYRENE	U ARAB EMTS	3571.077	2802.932
	PAKISTAN IR	912.93	765.299
	SRI LANKA DSR	528	508.724
	BANGLADESH PR	19.28	18.256
	SOUTH AFRICA	15.2	14.306
	Product Total	5046.487	4109.517
VINYL ACTATE MONOMER	U ARAB EMTS	3646.6	1732.04
	ITALY	2204	1160.857
	IRAN	1798.6	1128.732
	EGYPT A RP	1378	692.299
	NIGERIA	1003	565.744
	Product Total	10030.2	5279.672
ISOPROPANOL	U ARAB EMTS	1942.344	1171.251
	EGYPT A RP	714.3	486.942
	SRI LANKA DSR	710.896	477.046
	PAKISTAN IR	663.48	423.77
	NIGERIA	620	412.964
	Product Total	4651.02	2971.973
POLYOL	EGYPT A RP	6166.996	1583.191
	SINGAPORE	2828.866	4244.843
	SRI LANKA DSR	1903.195	2800.43
	BANGLADESH PR	1888.845	2437.895
	U ARAB EMTS	1803.221	2490.075
	Product Total	28457.597	32759.508

Note : Data Source in respect of imports and exports is DGCI, Kolkata, M/O Commerce and Industry.

Table 28:- Top Five Sources (countries) of Import of selected Petrochemicals during 2016-17			
PRODUCT	COUNTRY	QUANTITY(MT)	VALUE(RS.Lakhs)
ACRYLIC FIBRE	THAILAND	10990.705	12195.685
	GERMANY	9351.026	10493.639
	NEPAL	4104.630	6089.019
	CHINA P RP	3232.207	3749.530
	PERU	2387.469	2229.458
	Product Total	30066.037	34757.331
NYLON FILAMENT YARN	VIETNAM SOC REP	15722.050	26059.188
	TAIWAN	5526.852	9181.963
	CHINA P RP	2745.382	5195.664
	MALAYSIA	2394.427	3237.118
	KOREA RP	746.909	1079.498
	Product Total	27135.62	44753.431
NYLON INDUSTRIAL YARN/TYRE CORD	CHINA P RP	6069.120	7990.837
	BELARUS	836.904	1109.560
	TAIWAN	283.741	417.959
	KOREA RP	179.441	124.783
	GERMANY	130.017	281.421
	Product Total	7499.223	9924.56
POLYESTER FILAMENT YARN	CHINA P RP	39392.044	40162.239
	INDONESIA	12249.169	11030.556
	MALAYSIA	12069.199	11211.913
	KOREA RP	8337.655	10605.886
	TAIWAN	3895.202	4858.656
	Product Total	75943.269	77869.25
POLYESTER STAPLE FIBRE	CHINA P RP	70622.950	45564.913
	KOREA RP	10767.196	9231.235
	INDONESIA	6583.589	4948.685
	THAILAND	3749.432	2587.580
	TAIWAN	3712.626	3437.690
	Product Total	95435.793	65770.103
PROPYLENE FILAMENT	TURKEY	330.950	437.420
	CHINA P RP	272.376	251.433
	KOREA RP	35.828	21.967
	U ARAB EMTS	29.171	55.583
	U S A	17.020	39.660
	Product Total	685.345	806.063
POLYPROPYLENE STAPLE FIBRE	U ARAB EMTS	997.000	995.907
	SAUDI ARAB	463.364	441.163
	CHINA P RP	240.355	272.931
	VIETNAM SOC REP	120.526	117.933
	BELGIUM	78.162	94.122
	Product Total	1899.407	1922.056

ACRYLONITRILE	U S A	37485.000	26531.005
	BRAZIL	30374.910	22861.969
	KOREA RP	18171.767	14580.484
	RUSSIA	17447.000	13316.766
	TURKEY	11336.000	9525.811
	Product Total	114814.677	86816.035
CAPROLACTUM	KOREA RP	20112.000	20809.375
	RUSSIA	12499.000	11414.838
	POLAND	9500.000	8304.493
	THAILAND	4256.000	4070.269
	NETHERLAND	2660.000	2358.560
	Product Total	49027	46957.535
DIMETHYL TEREPHTHALATE	IRAN	940.000	508.277
	KOREA RP	723.600	478.467
	JAPAN	57.600	36.139
	TURKEY	40.000	25.469
	CHINA P RP	0.135	2.850
	Product Total	1761.335	1051.202
MONO EHYLENE GLYCOL	SAUDI ARAB	550170.488	273390.814
	KUWAIT	543756.153	265801.144
	IRAN	83886.800	36580.349
	SINGAPORE	37967.374	19658.864
	U S A	9288.918	3686.188
	Product Total	1225069.733	599117.359
PURIFIED TEREPHTHALIC ACID	CHINA P RP	147021.752	63776.168
	KOREA RP	108800.000	46812.288
	THAILAND	108799.481	46704.728
	BELGIUM	19163.804	9003.809
	TAIWAN	13260.000	5546.324
	Product Total	397045.037	171843.317
LOW DENSITY POLYETHYLENE	SAUDI ARAB	107957.810	87058.202
	U ARAB EMTS	61369.175	48568.786
	QATAR	48673.971	39772.739
	GERMANY	26516.309	26569.420
	U S A	25198.748	19838.258
	Product Total	269716.013	221807.405
HIGH DENSITY POLYTHYLENE	U ARAB EMTS	203603.798	160462.859
	SAUDI ARAB	203477.575	158772.743
	QATAR	141390.359	89900.739
	SINGAPORE	129071.021	118276.816
	THAILAND	71208.432	68470.604
	Product Total	748751.185	595883.761
POLYESTYRENE	KOREA RP	9677.927	11965.030
	SINGAPORE	7868.868	7706.622
	TAIWAN	6962.479	6112.046
	JAPAN	3662.108	8922.747
	MALAYSIA	3531.796	4029.610
	Product Total	31703.178	38736.055

POLYPROPYLENE (INC. CO-POLYMER)	SAUDI ARAB	190660.926	134381.668
	U ARAB EMTS	175512.438	122074.575
	SINGAPORE	143084.884	120164.708
	THAILAND	50740.162	44884.234
	KOREA RP	47601.918	44011.032
	Product Total	607600.328	465516.217
EXPANDABLE POLYESTYRENE	CHINA P RP	2430.825	2161.697
	TAIWAN	918.882	851.933
	CHILE	140.570	95.273
	SPAIN	43.944	34.374
	AUSTRIA	39.325	67.776
	Product Total	3573.546	3211.053
POLY VINYL CHLORIDE	TAIWAN	391393.340	236645.707
	KOREA RP	284494.413	165889.340
	JAPAN	275520.179	170606.404
	CHINA P RP	272559.052	154939.735
	BRAZIL	101207.097	58142.422
	Product Total	1325174.081	786223.608
LINEAR LOW DENSITY POLYTHYLENE	SAUDI ARAB	158415.374	128553.389
	U ARAB EMTS	93140.066	72996.607
	QATAR	65268.965	53189.851
	SINGAPORE	38936.789	34252.231
	KUWAIT	20229.787	15658.178
	Product Total	375990.981	304650.256
PVC COMPOUND	KOREA RP	18274.535	13040.531
	CHINA P RP	7313.904	5735.962
	TAIWAN	5932.379	3763.307
	U S A	5504.020	2613.968
	THAILAND	4554.861	5439.518
	Product Total	41579.699	30593.286
STYRENE BUTADIENE RUBBER	KOREA RP	71056.575	73706.691
	POLAND	24609.543	22593.319
	GERMANY	7560.965	8460.630
	THAILAND	7377.998	6911.262
	ITALY	4818.496	6830.878
	Product Total	115423.577	118502.78
POLY BUTADIENE RUBBER	KOREA RP	28451.327	31616.454
	SINGAPORE	17456.952	21438.508
	RUSSIA	12323.290	11571.151
	FRANCE	5410.252	5915.481
	IRAN	5067.000	4898.188
	Product Total	68708.821	75439.782
ETHYL PROPYLENE DIMERS	U S A	11592.629	13264.450
	JAPAN	10654.135	14039.864
	KOREA RP	8651.204	10271.013
	NETHERLAND	5125.221	7428.934
	CHINA P RP	2822.667	3565.172
	Product Total	38845.856	48569.433

ETHYL VINYL ACETATE	KOREA RP	56798.676	55344.786
	SAUDI ARAB	31526.285	27797.755
	THAILAND	16227.221	15559.097
	BELGIUM	9692.100	9498.358
	CANADA	7131.878	6626.385
	Product Total	121376.16	114826.381
NITRILE BUTADIENE RUBBER	KOREA RP	15623.405	17508.086
	FRANCE	5979.767	9031.462
	JAPAN	4036.937	7045.543
	RUSSIA	3272.022	2864.535
	TAIWAN	2175.795	2723.251
	Product Total	31087.926	39172.877
BUTYL RUBBER	RUSSIA	46709.137	55785.161
	U S A	14160.212	21380.474
	BELGIUM	11079.518	16629.841
	U K	9979.395	16424.347
	SINGAPORE	7919.055	10935.473
	Product Total	89847.317	121155.296
LINEAR ALKYL BENZENE	SAUDI ARAB	89342.000	72507.569
	QATAR	39043.000	30642.501
	IRAN	38977.000	28355.641
	THAILAND	35713.950	26830.546
	CHINA P RP	17493.858	13343.875
	Product Total	220569.808	171680.132
ETHYLENE OXIDE	U S A	110.115	1171.417
	KOREA RP	14.000	13.360
	GERMANY	11.766	96.284
	ARGENTINA	1.139	45.237
	BELGIUM	0.300	1.248
	Product Total	137.32	1327.545
ABS RESIN	KOREA RP	79275.458	87191.309
	THAILAND	8076.857	9009.027
	MALAYSIA	6829.882	7654.176
	TAIWAN	5201.300	5014.493
	JAPAN	956.152	1438.766
	Product Total	100339.649	110307.771
NYLON-6	TAIWAN	56567.785	66537.707
	RUSSIA	25749.370	28665.975
	U S A	17211.556	26381.397
	CHINA P RP	12011.941	24198.588
	KOREA RP	10678.625	18682.900
	Product Total	122219.277	164466.567
POLYMETHYL METHACRYLATE	KOREA RP	12528.134	16597.252
	SINGAPORE	5987.434	6908.254
	JAPAN	2049.004	2935.316
	THAILAND	1461.702	1426.325
	CHINA P RP	1456.717	1696.682
	Product Total	23482.991	29563.829

STYRENE ACRYLONITRILE	KOREA RP	5160.192	4928.586
	THAILAND	1475.940	1333.534
	GERMANY	878.577	887.460
	JAPAN	352.872	444.549
	TAIWAN	227.000	196.702
	Product Total	8094.581	7790.831
POLYESTER CHIPS/PET CHIPS	CHINA P RP	46119.335	28188.926
	IRAN	26627.420	14753.970
	TAIWAN	13624.637	8560.819
	U ARAB EMTS	11443.202	6020.637
	SAUDI ARAB	7383.941	3712.696
	Product Total	105198.535	61237.048
POLYTETRAFLUOROE THYLENE(PTFE)	CHINA P RP	574.645	2289.316
	NETHERLAND	494.609	2637.459
	RUSSIA	472.650	1396.169
	U S A	365.744	2697.340
	ITALY	132.646	675.613
	Product Total	2040.294	9695.897
BUTADIENE	NETHERLAND	2100.000	1611.225
	GERMANY	4.950	39.463
	CHINA P RP	0.010	6.649
	Product Total	2104.96	1657.337
ETHYLENE	SAUDI ARAB	50775.000	34362.761
	SINGAPORE	15353.000	12425.461
	ITALY	8658.000	5614.471
	TURKEY	6107.000	4599.969
	KOREA RP	7.266	17.828
	Product Total	80900.266	57020.49
PROPYLENE	CHINA P RP	423.724	1862.937
	ITALY	5.700	8.961
	U S A	1.186	5.731
	GERMANY	0.013	0.126
	U K	0.005	0.007
	Product Total	430.628	1877.762
BENZENE	GERMANY	0.122	4.876
	U S A	0.120	2.296
	FRANCE	0.015	0.251
	DENMARK	0.005	0.263
	NETHERLAND	0.001	0.022
	Product Total	0.263	7.708
MIXED XYLENE	GERMANY	98.710	113.001
	U S A	8.972	4.782
	SINGAPORE	4.900	4.835
	JAPAN	0.113	1.728
	U K	0.011	0.126
	Product Total	112.706	124.472

ORTHO-XYLENE	SINGAPORE	13364.898	7733.704
	IRAN	9293.000	4726.218
	TURKEY	1041.000	566.148
	GERMANY	1040.704	601.402
	BELGIUM	972.034	548.186
	Product Total	25711.636	14175.658
TOLUENE	SINGAPORE	139677.174	65104.772
	THAILAND	110685.018	52057.909
	IRAN	51436.000	24127.012
	SPAIN	24731.005	10856.906
	KOREA RP	21312.761	10135.487
	Product Total	347841.958	162282.086
PARAXYLENE	SAUDI ARAB	547984.388	304585.231
	KUWAIT	234734.380	131305.321
	SINGAPORE	226084.305	127109.070
	OMAN	122585.573	67825.949
	KOREA RP	20873.000	11635.823
	Product Total	1152261.646	642461.394
ETHYLENE DICHLORIDE	GERMANY	224474.017	38105.298
	SAUDI ARAB	145560.203	25167.408
	QATAR	68902.000	11992.407
	U S A	65050.037	11034.723
	CHINA P RP	1.000	4.472
	Product Total	503987.257	86304.308
BUTANOL	SAUDI ARAB	27494.010	11325.873
	MALAYSIA	17259.000	8299.271
	SOUTH AFRICA	6901.000	3020.915
	SINGAPORE	2951.000	1485.092
	GERMANY	1695.584	965.641
	Product Total	56300.594	25096.792
OXO ALCOHOL	INDONESIA	1091.935	2881.370
	SOUTH AFRICA	995.000	380.689
	GERMANY	462.964	1175.575
	THAILAND	191.520	465.320
	PHILIPPINES	167.450	447.162
	Product Total	2908.869	5350.116
2-ETHYL HEXANOL	SINGAPORE	25833.890	14668.274
	MALAYSIA	17220.270	9728.558
	GERMANY	9902.200	5498.485
	SAUDI ARAB	5136.008	2823.413
	NETHERLAND	4897.000	2480.808
	Product Total	62989.368	35199.538
VINYL CHLORIDE MONOMER	QATAR	203911.746	100691.069
	JAPAN	104888.543	57949.498
	U ARAB EMTS	8600.744	4728.795
	INDONESIA	8404.000	4346.315
	U S A	8120.459	4235.660
	Product Total	344423.492	177368.376

EPICHLHYDRINE	THAILAND	22334.674	16471.346
	KOREA RP	12151.530	8261.485
	TAIWAN	6726.130	4650.372
	JAPAN	3426.150	2424.043
	SAUDI ARAB	1687.800	1177.140
	Product Total	46326.284	32984.386
ISO BUTYLENE	KOREA RP	7019.307	4587.169
	SINGAPORE	4748.000	3620.715
	TAIWAN	1704.000	936.615
	JAPAN	272.165	205.571
	EGYPT A RP	24.000	21.435
	Product Total	13767.472	9371.505
METAXYLENE	U S A	1020.000	923.055
	JAPAN	839.810	921.127
	TAIWAN	748.980	699.392
	CHINA P RP	58.500	56.405
	Product Total	2667.29	2599.979
METHYL ISOBUTYL KETONE	KOREA RP	5404.976	4097.967
	NETHERLAND	4818.510	3552.561
	SOUTH AFRICA	4614.080	3093.779
	U S A	3635.106	2793.926
	TAIWAN	1849.000	1464.169
	Product Total	20321.672	15002.402
PIB	KOREA RP	10642.580	10059.172
	U S A	2844.635	2831.892
	FRANCE	1407.645	1294.855
	GERMANY	678.609	2092.023
	U ARAB EMTS	128.000	65.500
	Product Total	15701.469	16343.442
POLYCARBONATE	THAILAND	69751.833	96883.886
	KOREA RP	17109.332	28090.146
	SPAIN	13662.453	20813.798
	SAUDI ARAB	12418.986	17042.120
	NETHERLAND	7845.560	12864.983
	Product Total	120788.164	175694.933
PROPYLENE OXIDE	SAUDI ARAB	13378.527	12588.434
	SINGAPORE	6235.000	5306.793
	KOREA RP	2218.000	2385.813
	U S A	1045.971	1085.023
	TAIWAN	144.000	147.297
	Product Total	23021.498	21513.36
PROPYLENE GLYCOL	SINGAPORE	13673.004	11055.078
	THAILAND	13070.017	10120.454
	CHINA P RP	11117.230	8037.449
	GERMANY	5164.279	3582.816
	KOREA RP	4689.950	3975.496
	Product Total	47714.48	36771.293

POLYVINYL ACETATE RESIN	GERMANY	2054.045	2248.549
	CHINA P RP	404.685	486.683
	INDONESIA	127.920	80.035
	BELGIUM	93.330	221.813
	SOUTH AFRICA	80.000	88.264
	Product Total	2759.98	3125.344
UNSATURATED POLYSTER RESIN	CHINA P RP	14001.275	11989.233
	TAIWAN	11759.884	7793.352
	U ARAB EMTS	4046.718	3788.994
	ITALY	2649.288	3980.176
	U K	1484.035	3024.741
	Product Total	33941.2	30576.496
ETHYL BENZENE	CHINA P RP	176.800	176.924
	GERMANY	74.235	68.926
	SINGAPORE	56.120	19.052
	U K	0.309	1.794
	NETHERLAND	0.248	0.173
	Product Total	307.712	266.869
CELLULOSE ACETATE SHEET	CHINA P RP	681.249	372.188
	ITALY	365.351	168.824
	GERMANY	12.717	14.271
	HONG KONG	3.249	1.594
	TAIWAN	2.400	1.523
	Product Total	1064.966	558.4
CELLULOSE NITRATE SHEET	JAPAN	67.070	224.020
	CHINA P RP	7.646	24.595
	ITALY	0.547	1.562
	NETHERLAND	0.003	0.016
	Product Total	75.266	250.193
MELAMINE MOULDING POWDER	THAILAND	6138.398	6628.105
	TAIWAN	2090.820	2202.490
	JAPAN	1261.883	1676.738
	CHINA P RP	1229.543	1165.746
	GERMANY	815.442	1315.249
	Product Total	11536.086	12988.328
POLYACETAL RESIN	MALAYSIA	13932.819	13218.895
	KOREA RP	9150.533	7876.303
	THAILAND	7308.644	6044.484
	U S A	3318.147	3134.946
	NETHERLAND	1741.350	2112.070
	Product Total	35451.493	32386.698
PHTHALIC ANHYDRIDE	KOREA RP	33765.788	20410.998
	TAIWAN	18252.000	10452.375
	INDONESIA	8470.001	4945.633
	THAILAND	7303.505	4492.485
	IRAN	6509.750	3727.180
	Product Total	74301.044	44028.671

STYRENE	SAUDI ARAB	269268.000	207491.077
	SINGAPORE	247384.145	189386.696
	KUWAIT	109600.000	84392.175
	IRAN	61979.000	46433.634
	INDONESIA	14846.000	10869.012
	Product Total	703077.145	538572.594
VINYL ACTATE MONOMER	SINGAPORE	101751.950	56342.716
	SAUDI ARAB	32866.000	15907.973
	CHINA P RP	27297.270	14873.488
	U S A	88.400	33.715
	FRANCE	0.200	0.062
	Product Total	162003.82	87157.954
ISOPROPANOL	KOREA RP	20582.062	11215.800
	NETHERLAND	15561.658	8847.196
	GERMANY	15393.070	8326.207
	TAIWAN	14037.802	8733.609
	U S A	12011.242	6971.031
	Product Total	77585.834	44093.843
POLYOL	CHINA P RP	40857.695	42460.032
	KOREA RP	28339.544	35182.116
	SINGAPORE	24776.048	26287.110
	THAILAND	20774.099	24669.720
	U S A	14380.215	26328.291
	Product Total	129127.601	154927.269

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

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

MONTH	RS./US\$
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
August-16	66.94
July-16	67.21
June-16	67.28
May-16	66.91
April-16	66.47
March-16	67.03
February-16	68.24
January-16	67.25
December-15	66.60
November-15	66.12
October-15	65.08
September-15	66.19
August-15	65.07
July-15	63.63
June-15	63.86
May-15	63.80
April-15	62.72
March-15	62.45
February-15	62.04
January-15	62.23
December-14	62.75
November-14	61.70
October-14	61.34
September-14	60.86
August-14	60.90
July-14	60.06
June-14	59.73

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

MONTH	RS./US\$
May-14	59.31
April-14	60.36
March-14	61.01
February-14	62.25
January-14	62.08
December-13	61.91
November-13	62.63
October-13	61.62
September-13	63.75
August-13	63.21
July-13	59.79
June-13	58.46
May-13	55.01
April-13	54.38
March-13	54.40
February-13	53.77
January-13	53.32
December-12	54.65
November-12	54.78
October-12	53.02
September-12	54.61
August-12	55.56
July-12	55.49
June-12	56.03
May-12	54.47
April-12	51.80
March-12	50.32
February-12	49.16
January-12	51.35

Note : Worked out on the basis of average daily exchange rates, as notified by RBI.

Source:<http://dbie.rbi.org.in/DBIE/dbie.rbi?site=home>

Table 30:- World Exports of Chemicals by top 10 countries- 2016

Value in US\$ Million

Rank	HS Code									
	28		29		30		31		32	
	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value
1st	China	12135	China	42164	Germany	77098	Russian Federat	6637	Germany	12203
2nd	USA	12063	USA	35285	Switzerland	67455	China	6557	USA	7798
3rd	Germany	8873	Belgium	31219	USA	51469	Canada	4304	China	6085
4th	Australia	4593	Ireland	27719	Belgium	41975	USA	3884	Japan	4283
5th	Canada	3895	Germany	25493	United Kingdom	32580	Belarus	2414	Belgium	3490
6th	Japan	3776	Switzerland	19398	Ireland	31776	Germany	2339	Netherlands	3329
7th	France	3540	Rep. of Korea	17924	France	30126	Morocco	2134	United Kingdom	3283
8th	Rep. of Korea	3534	Japan	15938	Italy	22478	Netherlands	2003	Italy	3109
9th	Brazil	3301	Singapore	15327	Netherlands	16663	Belgium	1860	France	2875
10th	Netherlands	3138	Netherlands	13800	India	13043	Qatar	1232	Spain	2584
World Export		92770		329747		488688		46581		71852

Table - 30 : World Exports of Chemicals by top 10 countries- 2016

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	26342	China	62350	USA	2564	China	16561	China	12114
2nd	Germany	23627	Germany	62157	Japan	2208	Rep. of Korea	2855	USA	2307
3rd	China	13445	USA	61673	Rep. of Korea	2156	Other Asia, nes	2691	India	2047
4th	France	10780	Rep. of Korea	27649	Germany	1378	Germany	2065	Indonesia	2026
5th	Japan	9537	Belgium	27222	Russian Federation	1293	Japan	2061	Germany	1963
6th	Netherlands	8301	Japan	23407	Belgium	1204	United Arab Emirates	2048	Rep. of Korea	1540
7th	Belgium	7200	China, Hong Kong SAR	21544	Singapore	902	Italy	1979	Japan	1352
8th	United Kingdom	6302	Netherlands	21333	Other Asia, nes	893	India	1925	Turkey	1317
9th	Italy	5363	France	19484	Malaysia	660	USA	1850	China, Hong Kong SAR	1168
10th	Singapore	5237	Italy	19066	France	510	China, Hong Kong SAR	1498	Italy	1063
World Export		169002		516192		16920		44809		34019

Table - 30 : World Exports of Chemicals by top 10 countries- 2016

Value in US\$ Million

HS Code				
	All Chemicals		All Chemicals excluding Pharmaceuticals	
Rank	Country	Trade Value	Country	Trade Value
1st	Germany	217197	China	171832
2nd	USA	205235	USA	153766
3rd	China	178844	Germany	140098
4th	Belgium	118358	Belgium	76382
5th	Switzerland	96127	Japan	62666
6th	France	78723	Rep. of Korea	61479
7th	Netherlands	69771	Netherlands	53108
8th	Japan	66730	France	48597
9th	Ireland	65558	Italy	40782
10th	United Kingdom	65131	Other Asia, nes	36823
World Export		1810580		1321892

@-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 : 15.09.2017

Table 31:- World Imports of Chemicals by top 10 countries- 2016

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	11751	USA	49777	USA	92505	Brazil	6003	Germany	6470
2nd	China	9025	China	43906	Germany	49096	USA	5780	China	4236
3rd	Germany	6502	Belgium	30672	Belgium	34892	India	4589	USA	3865
4th	Japan	5844	Germany	30395	United Kingdom	32885	China	2408	France	3533
5th	Rep. of Korea	5369	India	14767	Switzerland	24674	France	1866	Italy	2550
6th	India	4821	Japan	14414	Japan	24388	Indonesia	1556	United Kingdom	2461
7th	France	4706	France	14265	France	22068	Germany	1299	Rep. of Korea	2446
8th	Canada	3237	Italy	14211	Italy	21389	Turkey	1276	Canada	2185
9th	Other Asia, nes	3084	Switzerland	12496	China	20771	Australia	1262	Netherlands	2174
10th	Belgium	2765	Rep. of Korea	10951	Spain	13922	Mexico	1238	Mexico	2126
World Import		99339		355653		492842		48666		65913

Table - 31 : World Imports of Chemicals by top 10 countries- 2016

Rank	Value in US\$ Million									
	HS Code									
	38		39		4002		54		55	
	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value	Country	Trade Value
1st	China	14505	China	61049	China	5356	China	2913	China	2040
2nd	Germany	13889	USA	50374	USA	1403	USA	2173	Turkey	1954
3rd	USA	13850	Germany	40304	Germany	1112	Turkey	2133	USA	1763
4th	France	8185	Mexico	22144	Belgium	923	Germany	1643	Germany	1673
5th	Rep. of Korea	6661	France	21933	India	785	Italy	1468	Indonesia	1326
6th	Netherlands	6341	Italy	18419	Malaysia	766	Indonesia	1413	Italy	1130
7th	Other Asia, nes	5985	United Kingdom	17132	Indonesia	573	Mexico	1085	Cambodia	972
8th	Italy	5368	Belgium	16892	Italy	525	Brazil	1046	Rep. of Korea	869
9th	Belgium	5328	Canada	14818	France	516	Rep. of Korea	1000	Mexico	749
10th	Japan	5012	Japan	13932	Poland	478	Japan	819	Brazil	729
World Import		162020		502338		19123		32443		28361

Table - 31 : World Imports of Chemicals by top 10 countries- 2016

Rank	Value in US\$ Million					
	HS Code					
	All Chemicals			All Chemicals excluding Pharmaceuticals		
	Country	Trade Value		Country	Trade Value	
1st	USA	233240		China	145437	
2nd	China	166208		USA	140735	
3rd	Germany	152383		Germany	103287	
4th	Belgium	95588		Belgium	60696	
5th	France	78531		France	56464	
6th	United Kingdom	70554		Italy	46358	
7th	Italy	67748		India	43663	
8th	Japan	67370		Japan	42982	
9th	Netherlands	50208		Mexico	41472	
10th	Switzerland	46864		Rep. of Korea	38296	
	World Import	1806698		World Import	1313856	

@-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: 18.09.2017

Table 32:- India's share in World Exports and Imports of Chemicals-2016

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	1244	92770	1.34	18	4821	99339	4.85	6
29	ORGANIC CHEMICALS	11253	329747	3.41	11	14767	355653	4.15	5
30	PHARMACEUTICAL PRODUCTS	13043	488688	2.67	10	1698	492842	0.34	41
31	FERTILISERS.	87	46581	0.19	46	4589	48666	9.43	3
32	TANNING OR DYEING	2474	71852	3.44	11	1587	65913	2.41	15
38	MISCELLANEOUS CHEMICAL PRODUCTS.	3150	169002	1.86	17	4409	162020	2.72	14
39	PLASTIC AND ARTICLES THEREOF.	5213	516192	1.01	21	11391	502338	2.27	13
4002	SYNTHETIC RUBBER AND FACTICE	57	16920	0.34	24	785	19123	4.10	5
54	MAN-MADE FILAMENTS.	1925	44809	4.30	8	726	32443	2.24	18
55	MAN-MADE STAPLE FIBRES.	2047	34019	6.02	3	589	28361	2.08	17
All Chemicals @		40494	1810580	2.24	14	45361	1806698	2.51	12
Chemicals (excluding Pharmaceutical products)		27451	1321892	2.08	17	43663	1313856	3.32	7
Total of all HS code commodities		260327	14672741	1.77	19	356705	14005648	2.55	13

@-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 2015-16 to 2017-18 (June ,17)

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

Ranks	Sector	<u>2015-16</u> (April – March)	<u>2016-17</u> (April – March)	<u>2017-18</u> (April,17 – June,17)	<u>Cumulative Inflows</u> (April '00 - June '17)	% age to total Inflows (In terms of US\$)
1.	SERVICES SECTOR **	45,415 (6,889)	58,214 (8,684)	12,134 (1,883)	328,702 (61,359)	18 %
2.	COMPUTER SOFTWARE & HARDWARE	38,351 (5,904)	24,605 (3,652)	8,480 (1,316)	145,269 (25,985)	8%
3.	CONSTRUCTION DEVELOPMENT: TOWNSHIPS, HOUSING, BUILT-UP INFRASTRUCTURE	727 (113)	703 (105)	1,616 (251)	116,255 (24,544)	7 %
4.	TELECOMMUNICATIONS (radio paging, cellular mobile, basic telephone service)	8,637 (1,324)	37,435 (5,564)	565 (88)	130,729 (24,034)	7 %
5.	AUTOMOBILE INDUSTRY	16,437 (2,527)	10,824 (1,609)	4,613 (716)	96,831 (17,390)	5 %
6.	DRUGS & PHARMACEUTICALS	4,975 (754)	5,723 (857)	1,811 (281)	77,631 (14,988)	4 %
7.	TRADING	25,244 (3,845)	15,721 (2,338)	4,955 (769)	89,513 (14,979)	4%
8.	CHEMICALS (OTHER THAN FERTILIZERS)	9,664 (1,470)	9,397 (1,393)	4,381 (679)	73,733 (13,792)	4%
9.	POWER	5,662 (869)	7,473 (1,113)	1,139 (177)	61,226 (11,766)	3 %
10	HOTEL & TOURISM	8,761 (1,333)	6,140 (916)	2,152 (334)	58,001 (10,477)	3 %

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

(ii) Cumulative Sector- wise FDI equity inflows (from April, 2000 to June, 2017) are at - Annex-'B'.

(iii) 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.

Source : http://dipp.nic.in/sites/default/files/FDI_FactSheet_June2017_2_0.pdf

Table 34:- Sector-wise FDI Inflows (in US \$ million)

Industry Groups	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Services Sector	23640.41	3366.81	5343.47	4883.91	2225.1	3252.97	8079.75	8684.07	59476.49
Telecommunication	8930.61	1658.66	1962.92	303.87	1306.95	2895.02	1324.32	5563.69	23946.04
Power	4627.39	1272.35	1398.80	535.68	1066.08	657.03	918.82	1112.98	11589.13
Petroleum and Natural Gas	2665.52	487.36	185.87	2042.73	112.23	1075.42	106.63	180.4	6856.16
Chemicals (other than Fertilizer)	2495.78	396.21	6951.96	-963.12	786.75	669.4	1563.31	1392.8	13293.09
Trading	2104.94	666.71	544.99	639.16	1343.39	2761.18	3812.1	2338.39	14210.86
Drugs and Pharmaceuticals	1670.77	211.99	7311.95	1123.46	1279.33	1523.37	728.63	857.39	14706.89
Agriculture services	1505.46	-112.61	54.37	161.47	91.02	57.87	86.73	76.43	1920.74
Food Processing Industries	1042.62	189.64	177.34	401.46	3982.9	516.7	505.0	727.2	7542.91
Textiles(Including Dyed ,Printed)	817.26	139.71	165.20	103.85	198.9	162.9	264.6	619.0	2471.42
Fermentation Industries	770.14	57.72	199.56	107.21	814.6	243.1	184.7	110.9	2487.82
Paper and Pulp (including Paper products)	446.31	6.79	407.35	5.09	26.9	27.9	173.5	197.6	1291.43
Rubber Goods	286.23	17.20	187.45	643.56	369.2	254.0	326.6	262.8	2347.02
Soaps , Cosmetics and Toilet Preparations	152.07	103.10	217.15	160.07	108.5	175.5	195.0	92.6	1203.92
Fertilizers	109.35	18.19	127.81	42.55	20.7	224.7	21.6	0.9	565.69
Leather , Leather Goods and Pickers	42.62	9.81	8.30	46.70	6.1	36.5	14.8	2.3	167.21
Timber Products	18.80	1.58	29.60	29.17	6.2	20.4	41.7	10.2	157.69
Coal Production	15.64	0.00	9.14	0.00	3.0	0.0	0.0	0.0	27.73
Dye-Stuffs	13.54	5.38	0.58	0.00	0.0	54.9	3.3	10.7	88.40
Defence Industries	0.15	-0.10	3.67	0.40	0.8	0.1	0.1	0.0	5.12

Source:DIPP <http://eaindstry.nic.in/> dated 19.09.2017

Section – V

Index of Industrial Production

Table 35:- Monthly Production Growth in 'Chemicals and Chemical Products' vis-a-vis Manufacturing Sector during April 2016 to March 2017 (Based on Index of Industrial Production- 2004-05)

Period	Chemicals and chemical products	Manufacturing	General
Weight	100.59	755.27	1000.00
Production Growth (%)			
Apr-16	-6.8	-12.7	-11.7
May-16	7.7	3.9	3.7
Jun-16	1.7	1.4	0.7
Jul-16	0.9	-3.8	-4.0
Aug-16	-2.9	0.1	-0.3
Sep-16	-1.5	2.4	2.4
Oct-16	0.4	-2.8	-0.8
Nov-16	-5.2	-1.4	-1.3
Dec-16	2.2	5.0	4.8
Jan-17	5.6	5.7	4.6
Feb-17	-1.9	-5.3	-5.3
Mar-17	4.3	12.0	12.6
Index of Industrial Production (Base : 2004-05=100)			
Mar'16	148.8	208.1	198.7
Apr-16	138.7	181.7	175.5
May-16	149.4	188.7	182.0
Jun-16	152.0	191.4	183.2
Jul-16	153.4	184.2	175.9
Aug-16	148.9	184.3	175.3
Sep-16	146.6	188.7	179.5
Oct-16	147.2	183.5	178.0
Nov-16	139.6	180.9	175.6
Dec-16	142.7	189.9	184.0
Jan-17	150.7	200.8	192.5
Feb-17	147.8	190.1	182.3
Mar-17	154.1	213.0	205.3

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

Table 35A:- Monthly Production Growth in 'Chemicals and Chemical Products' vis-a-vis Manufacturing Sector during April 2015 to May 2016 (Based on Index of Industrial Production: 2011-12)

Period	Chemicals and chemical products	Manufacturing	General
Weight	7.87	77.63	100.00
Production Growth (%)			
Apr-16	-9.0	-11.3	-10.9
May-16	9.3	7.4	6.7
Jun-16	-2.0	-1.1	-1.3
Jul-16	1.4	-1.4	-2.4
Aug-16	0.3	0.2	-0.3
Sep-16	-2.2	1.2	1.5
Oct-16	0.2	0.2	1.8
Nov-16	-5.1	-4.6	-3.7
Dec-16	1.5	4.9	5.0
Jan-17	3.0	1.4	1.2
Feb-17	-1.7	-2.8	-3.2
Mar-17	9.2	10.9	11.7
Apr-17	-13.0	-11.6	-11.9
May-17	4.7	7.1	6.4
Index of Industrial Production (Base : 2011-12=100)			
Mar-16	120.4	128.5	127.6
Apr-16	109.6	114.0	113.7
May-16	119.8	122.4	121.3
Jun-16	117.4	121.1	119.7
Jul-16	119.1	119.4	116.8
Aug-16	119.5	119.6	116.5
Sep-16	116.9	121.0	118.2
Oct-16	117.1	121.3	120.3
Nov-16	111.1	115.7	115.9
Dec-16	112.8	121.4	121.7
Jan-17	116.2	123.1	123.1
Feb-17	114.2	119.7	119.2
Mar-17	124.7	132.7	133.2
Apr-17	108.5	117.3	117.3
May-17	113.6	125.6	124.8

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

Table 36:- Annual Production Growth in Chemicals and Chemical Products Vis -a-Vis Manufacturing Sector during 2005-06 to 2016-17 (Based on Index on Industrial Production: 2004-05)

Years	Chemicals and Chemical Products	Manufacturing	General
Weight	100.59	755.27	1000.00
Production Growth (%)			
2005-06	1.0	10.3	8.6
2006-07	9.3	15.0	12.9
2007-08	7.2	18.4	15.5
2008-09	-2.9	2.5	2.5
2009-10	5.0	4.8	5.3
2010-11	2.0	9.0	8.2
2011-12	-0.4	3.0	2.9
2012-13	3.8	1.3	1.1
2013-14	8.9	-0.8	-0.1
2014-15	-0.3	2.3	2.8
2015-16	3.8	2.0	2.4
2016-17	2.9	0.0	0.7
Index of Industrial Production (Base: 2004-05=100)			
2005-06	101.0	110.3	108.6
2006-07	110.4	126.8	122.6
2007-08	118.4	150.1	141.7
2008-09	115.0	153.8	145.2
2009-10	120.7	161.3	152.9
2010-11	123.1	175.7	165.5
2011-12	122.7	181.0	170.3
2012-13	127.3	183.3	172.2
2013-14	138.6	181.9	172.0
2014-15	138.2	186.1	176.9
2015-16	143.5	189.8	181.1
2016-17	147.6	189.8	182.4

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

Table 36A:- Annual Production Growth in Chemicals and Chemical Products Vis -a-Vis Manufacturing Sector during 2012-13 to 2016-17 (Based on Index on Industrial Production: 2011-12)

Years	Chemicals and Chemical Products	Manufacturing	General
Weight	7.87	77.63	100.00
Production Growth (%)			
2012-13	3.9	4.8	3.3
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
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

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

Table 37:- Weights of Products Covered Under Chemical and Chemical Products (Industry Division 24 of NIC- 2004)

NIC Code	Description of Item	Weights	NIC Code	Description of Item	Weights
24111	Aniline	0.23382	24211	Carbendzim(Bavistin)	0.06193884
24111	Caustic soda	2.23357	24211	Chlorpyriphos	0.388127612
24111	Dissolved Acetylene Gas	0.02162	24211	Cypermethrin	0.615837081
24111	Liquid chlorine	0.4796	24211	Di ethyl easter technical(2, 4-D)	0.006173984
24111	Oxygen	0.17132	24211	Endosulphan	0.194786655
24111	Soda ash	1.45395	24211	Fenvalerate	0.03785775
24112	Phosphoric Acid	0.22259	24211	Mancozab	0.917637659
24112	Sulphuric Acid, Incl. Oleum	0.31828	24211	Monocrotophos	0.691255362
24112	Titanium dioxide	0.31976	24211	Quinalphos	0.052288375
24114	Dyes	1.39416	24211	Triazophos	0.252067369
24116	Acetic acid	0.61269	24219	Rubber Chemical	0.491621073
24116	Acetone	0.16853	24222	Paints of All Kinds	2.246458071
24116	Formaldehyde	0.17606	24223	Printing Ink	0.806970604
24116	Maleic anhydride	0.06519	24224	Phthalic anhydride	0.549416999
24116	Methanol	0.45526	24232	Antibiotics & It's Preparations	23.83924996
24116	Phenol	0.3558	24232	Vitamins	3.013092721
24116	Purified terephthalic acid	4.22792	24233	Ayurvedic Medicaments	2.696724657
24117	Sodium Hydrosulphate/Sodium	0.05596	24241	Synthetic Detergents	1.839803034
24118	Fatty Acid	0.52167	24241	Toilet Soap	1.91120726
24118	Glycerine	0.06273	24241	Washing Soap	0.666415308
24121	Ammonia	0.06339	24243	Ethylene oxide	0.329622856
24121	Ammonia Sulphate(A/S)	0.4186	24243	Linear alkyl benzene	1.72126954
24121	Calcium Ammonium Nitrate(CAN)	0.0586	24243	Whitening Agents	0.091827553
24123	Caprolactum	0.81765	24245	Tooth Powder	0.019689061
24123	Urea	6.43218	24246	Hair Shampoo	0.29245236
24124	Complex grade fertilizers	1.19926	24246	Tooth Paste	0.649917144
24124	Dia Ammonium Phosphate(DAP)	3.18576	24247	Hair Oil	0.249539303
24124	Single Super Phosphate (SSP)	1.24419	24248	Agarbattis and Dhoop	0.410645013
24131	Poly butadiene rubber	0.14087	24291	Safety Matches	0.789160881
24131	Styrene butadiene rubber	0.0375	24292	Explosives	0.720418734
24132	PVC Resins	1.2379	24295	Adhesives	1.28905474
24132	Synthetic Resins	0.95828	24295	Empty Capsules	0.488672743
24134	Benzene	0.87324	24295	Gelatin	0.495302247
24134	Ethylene	4.00187	24297	Guar Gum Splits	0.631036721
24134	High density polyethylene	1.83767	24297	Leather Finishing Chemicals & Auxiliaries	0.28626146
24134	Linear low density polyethylene	1.14883	24298	salt, processed	0.530548718
24134	Mono ethylene glycol	1.16619	24299	Acrylonitrile	0.312462845
24134	Paraxylene	1.9321	24299	Butadiene	0.873801525
24134	Poly vinyl chloride	1.38084	24301	Polyester staple fibre	0.716696378
24134	Polypropylene(incl. co-polymer)	3.0237	24301	Viscose Staple Fibre	0.327289654
24134	Polystyrene	0.6733	24303	Acrylic fibre	0.20903829
24134	Synthetic Rubber	0.22589	24304	Nylon filament yarn	0.070853646
24139	ABS Resin	0.17964	24304	Nylon industrial yarn/tyre cord	0.134848248
24211	Acephate	0.68879	24304	Polyster filament yarn	1.190026563
24211	Atrazin	0.00255			

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

**Table 37A:- Weights of Products Covered Under Chemical and Chemical Products
(Industry Division 20 of NIC- 2008)**

NIC 2008	Item groups	Weights (in %)	NIC 2008	Item groups	Weights (in %)
20111	Oxygen	0.0423	20129	Diammonium Phosphate (DAP)	0.0761
20112	Acetic Acid	0.0191	20129	Superphosphate	0.0332
20112	Phosphoric acid	0.0157	20131	Polyester chips or Polyethylene terephthalate(PET) chips	0.1108
20112	Purified Terephthalic Acid (PTA)	0.3512	20131	Polymers (incl. Polyethylene, PVC, Poly propylene)	0.5954
20112	Sulphuric Acid	0.0479	20131	PTFE (TEFLON)	0.0244
20114	Dyes and pigments	0.2355	20132	Caprolactam	0.0457
20115	ABS resin	0.0188	20132	Synthetic rubber (incl. PBR, SBR)	0.0295
20116	Calcium Carbonate	0.0572	20211	Detergent powder and washing powder	0.2578
20116	Caustic soda (sodium hydroxide)	0.1638	20211	Pesticides-technical grade	0.2116
20116	Ethyl acetate	0.0571	20221	Paints (all types)	0.3874
20116	Isopropyl alcohol	0.0178	20221	Varnish (all types)	0.0209
20116	Monoethylene glycol, MEG	0.0413	20223	Printing ink	0.0795
20116	Soda ash/ washing soda	0.1200	20229	Thinner	0.0110
20116	Titanium dioxide	0.0362	20231	Toilet soap (excl. baby soap)- incl. liquid soap and foam	0.6078
20116	Zinc sulphate	0.0150	20232	Organic surface active agents/ surfactants, except soap (incl. dishwashing soaps, wetting and cleansing agents)	0.1378
20118	Aromatic Chemicals	0.0806	20233	Detergent cake, washing soap cake/ bar	0.4607
20119	Aniline	0.0154	20235	Tooth paste	0.3223
20119	Butadiene	0.0335	20236	Hair dye	0.0468
20119	Catalyst, chemical	0.0415	20236	Hair oil	0.0556
20119	Expandable Polystyrene , EPS (thermocool)	0.0521	20236	Hair shampoo	0.0929
20119	Fatty Acid	0.0254	20237	Creams and lotions for topical application	0.1255
20119	Linear Alkyl Benzene	0.0563	20238	Agarbatti	0.1706
20119	Liquid chlorine	0.0595	20291	Safety matches (match box)	0.0638
20119	Phthalic anhydride, PAN	0.0353	20292	Fire works/pyrotechnic articles	0.0366
20119	Polyol	0.0636	20292	Gun powder, detonators/ prepared explosives	0.0397
20119	Sodium Silicate	0.0204	20293	Fragrances & Oil essentials	0.1967
20121	Urea	0.5590	20295	Adhesive formulations other than natural gum	0.3985
20122	NPK fertilizers	0.3897	20295	Gelatin	0.0233
20123	Ammonia	0.2101	20297	Methanol	0.0291
20123	Ammonium nitrate	0.0118	20299	Hydrogen Peroxide	0.0500
20123	Ammonium sulphate	0.0261	20299	Mosquito coil	0.0215
20123	Formaldehyde	0.0121	20302	Man-made fibres (incl. Viscose and Artificial Fibres)	0.1614
20123	Nitric Acid	0.0181			

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

Section – VI

Inflation Based on Wholesale Price Index

Table 38:- Annual Inflation of Chemicals & Chemical products vis-à-vis other commodities during 2005-06 to 2016-17 (Based on Wholesale Price Index: 2004-05)

Year	All Commodities	Food Articles	Manufactured Products	Chemicals & Chemical Products
Weight	100	14.34	64.97	12.02
Inflation(%)				
2005-2006	4.47	5.38	2.42	3.79
2006-2007	6.59	9.62	5.66	4.96
2007-2008	4.74	6.97	4.78	3.57
2008-2009	8.05	9.09	6.16	4.64
2009-2010	3.80	15.27	2.22	-0.26
2010-2011	9.56	15.60	5.70	5.33
2011-2012	8.94	7.30	7.26	8.61
2012-2013	7.36	9.90	5.41	6.62
2013-2014	5.98	12.76	2.99	3.63
2014-2015	2.00	6.08	2.42	2.64
2015-2016	-2.49	3.43	-1.10	-1.48
2016-2017	3.70	5.11	2.58	0.31
Wholesale Price Index(Base : 2004-05=100)				
2005-2006	104.47	105.38	102.42	103.79
2006-2007	111.35	115.52	108.22	108.94
2007-2008	116.63	123.57	113.39	112.83
2008-2009	126.02	134.8	120.38	118.07
2009-2010	130.81	155.39	123.05	117.76
2010-2011	143.32	179.63	130.07	124.04
2011-2012	156.13	192.74	139.51	134.72
2012-2013	167.62	211.82	147.06	143.64
2013-2014	177.64	238.85	151.46	148.85
2014-2015	181.19	253.38	155.12	152.78
2015-2016	176.67	262.06	153.42	150.52
2016-2017	183.2	275.44	157.38	150.98

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

Table 38A:- Annual Inflation of Chemicals & Chemical products vis-à-vis other commodities during 2012-13 to 2016-17 (Based on Wholesale Price Index: 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
Wholesale Price Index(Base : 2011-12=100)				
2012-2013	106.90	110.9	105.3	108.3
2013-2014	112.50	124.5	108.5	113.3
2014-2015	113.90	131.5	111.2	116.1
2015-2016	109.70	134.90	109.20	112.60
2016-2017	111.60	140.3	110.7	111

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

Table 39:- Monthly Inflation of Chemicals & Chemical Products vis-a-vis Other Commodities during April 16 to March 17 (Based on Wholesale Price Index: 2004-05)

Month	All Commodities	Food Articles	Manufactured Products	Chemicals & Chemical Products
Apr-16	1.43	2.12	0.91	0.33
May-16	1.35	2.64	0.39	0.47
Jun-16	1.50	2.94	0.06	0.13
Jul-16	0.71	2.79	0.26	0.00
Aug-16	-0.49	-0.66	0.13	-0.20
Sep-16	-0.05	-1.61	0.26	-0.07
Oct-16	0.22	-0.46	0.38	0.13
Nov-16	-0.05	-0.86	0.00	0.00
Dec-16	-0.11	-2.77	0.25	-0.07
Jan-17	0.98	-0.59	0.38	0.33
Feb-17	0.22	0.11	-0.06	0.40
Mar-17	-5.50	-3.39	-2.90	-1.45
Whole Sale Price Index (Base: 2004-05=100)				
Mar-16	175.3	259.5	154.1	149.6
Apr-16	177.8	265.0	155.5	150.1
May-16	180.2	272.0	156.1	150.8
Jun-16	182.9	280.0	156.2	151.0
Jul-16	184.2	287.8	156.6	151.0
Aug-16	183.3	285.9	156.8	150.7
Sep-16	183.2	281.3	157.2	150.6
Oct-16	183.6	280.0	157.8	150.8
Nov-16	183.5	277.6	157.8	150.8
Dec-16	183.3	269.9	158.2	150.7
Jan-17	185.1	268.3	158.8	151.2
Feb-17	185.5	268.6	158.7	151.8
Mar-17	185.8	268.9	158.9	152.2

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

Table 39A:- Monthly Inflation of Chemicals & Chemical Products vis-a-vis Other Commodities during April 16 to March 17 (Based on Wholesale Price Index: 2011-12)

Month	All Commodities	Food Articles	Manufactured Products	Chemicals & Chemical Products
Apr-16	1.21	3.30	0.37	0.54
May-16	1.28	2.25	0.55	0.18
Jun-16	1.18	2.20	0.18	-0.36
Jul-16	0.09	0.35	0.27	0.36
Aug-16	-0.54	-1.31	-0.09	-0.90
Sep-16	0.18	-0.49	0.18	-0.36
Oct-16	0.09	0.00	0.36	0.00
Nov-16	0.36	0.07	0.18	0.18
Dec-16	-0.18	-3.10	0.09	-0.27
Jan-17	0.81	-0.80	0.45	0.45
Feb-17	0.36	0.07	0.18	0.54
Mar-17	0.18	0.73	0.45	0.36
Whole Sale Price Index (Base: 2011-12)				
Mar-16	107.7	133.4	108.8	110.9
Apr-16	109.0	137.8	109.2	111.5
May-16	110.4	140.9	109.8	111.7
Jun-16	111.7	144.0	110.0	111.3
Jul-16	111.8	144.5	110.3	111.7
Aug-16	111.2	142.6	110.2	110.7
Sep-16	111.4	141.9	110.4	110.3
Oct-16	111.5	141.9	110.8	110.3
Nov-16	111.9	142.0	111.0	110.5
Dec-16	111.7	137.6	111.1	110.2
Jan-17	112.6	136.5	111.6	110.7
Feb-17	113.0	136.6	111.8	111.3
Mar-17	113.2	137.6	112.3	111.7

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

Table 40:- WPI (Base year 2004-05) of Chemicals & Chemical Products (Group Wise) during 2005-06 to 2016-17

DESCRIPTION	WEIGHT	2005-2006	2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
CHEMICALS & CHEMICAL PRODUCTS	12.0	103.8	108.9	112.8	118.1	117.8	124.0	134.7	143.6	148.9	152.8	150.5	150.98
BASIC INORGANIC CHEMICALS	1.2	106.43	109.48	117.08	126.19	125.00	126.26	138.24	147.78	150.63	156.13	155.27	155.62
BASIC ORGANIC CHEMICALS	2.0	103.62	110.98	111.96	117.98	115.68	124.39	135.04	140.27	147.46	150.86	140.16	143.35
FERTILIZERS	2.7	102.24	104.37	106.29	106.82	108.15	116.80	132.58	149.01	152.28	154.91	158.18	157.47
PESTICIDES	0.5	102.23	108.42	106.73	110.45	110.61	113.62	114.85	121.16	125.94	135.73	137.72	141.34
PAINTS, VARNISHES & LACQUERS	0.5	104.26	105.68	110.56	117.59	117.54	122.64	128.48	143.59	147.63	149.92	152.22	152.47
DYESTUFFS & INDIGO	0.6	102.29	110.62	114.97	115.51	111.86	116.34	122.47	126.92	132.59	144.78	141.94	143.41
DRUGS & MEDICINES	0.5	101.27	102.56	108.11	111.41	112.72	115.40	119.64	124.24	126.82	129.31	129.59	128.77
PERFUMES, COSMETICS, TOILETRIES ETC	1.1	104.49	111.13	119.12	129.20	134.76	138.52	145.34	151.94	157.27	160.67	163.19	164.78
TURPENTINE, PLASTIC CHEMICALS	0.6	109.55	115.23	115.31	116.88	117.38	123.43	136.06	140.02	147.59	156.40	154.10	155.16
POLYMERS INCLUDING SYNTHETIC RUBBER	1.0	103.03	108.79	115.49	119.58	116.32	123.37	130.38	135.33	142.82	152.32	146.03	145.65
PETROCHEMICAL INTERMEDIATES	0.9	105.08	116.59	121.00	133.45	127.70	137.37	156.19	164.24	170.41	161.97	150.12	145.85
MATCHES, EXPLOSIVES & OTHER CHEMICALS	0.6	102.68	107.14	114.38	121.60	123.83	128.72	135.45	142.60	149.84	153.49	153.88	154

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

Table 40A:- WPI (Base year 2011-12) of Chemicals & Chemical Products (Group Wise) during 2012-13 to 2016-17

DESCRIPTION	WEIGHT	2012-2013	2013-2014	2014-2015	2015-2016	2016-2017
Chemicals and Chemical Products	6.47	108.30	113.30	116.10	112.60	111.00
Basic Chemicals	1.43	107.20	112.10	114.10	105.80	104.7
Fertilizers and Nitrogen Compounds	1.48	113.50	116.50	118.90	121.40	118.7
plastic and synthetic rubber in primary form	1.00	108.90	118.50	124.40	115.30	113.7
Pesticides and Other Agrochemical Products	0.45	107.50	111.10	120.70	122.60	116.8
paints, Varnishes and Similar Coatings, Printing Ink and Mastics	0.49	105.50	109.70	111.90	109.80	108.5
Soap and Detergents, Cleaning and Polishing Preparations, Perfumes and Toilet Preparations	0.61	106.80	111.50	112.40	112.30	113.7
Other Chemical Products	0.69	104.80	110.70	111.80	108.40	106.5
Man-Made Fibres	0.30	102.30	105.60	100.90	93.30	94.1

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

Section – VII

Miscellaneous

Table 41:- Selected Indicators of the Indian Economy

S.No.	Indicator	Unit/base	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
1	Human Population (mid FY)	Million	1220	1235	1251	1267	1283	1299
2	GDP							
	(i) At current prices	Rs.'000 crore	8736	9944	11234	12445	13682	15184
	(ii) At 2011-12 prices	Rs.'000 crore	8736	9213	9801	10537	11381	12190
	at 2011-12 prices	Growth (%)		5.5	6.4	7.5	8.0	7.1
3	GVA at basic prices							
	(i) At current prices	Rs.'000 crore	8107	9203	10363	11482	12459	13670
	(ii) At 2011-12 prices	Rs.'000 crore	8107	8546	9064	9719	10491	11185
4	GVA at basic prices (at 2011-12 prices)	Growth (%)		5.4	6.1	7.2	7.9	6.6
5	Per capita Net National Income							
	(i) At current prices	Rupees	63462	70983	79118	86454	94130	103219
	(ii) At 2011-12 prices	Rupees	63462	65538	68572	72862	77803	82269
6	Gross Saving to Gross National Disposable Income	Rates	33.8	33.1	31.4	32.4	31.7	
7	Rate of Gross Capital Formation to GDP at current prices	Rates	39.0	38.7	33.8	34.4	33.3	
8	Index of Industrial Production	Growth (%)	2.9	1.1	-0.1	2.8	2.4	0.7
9	Foreign Trade							
	(i) Exports	US \$ billion	306.0	300.4	314.4	310.4	262.3	276.5
	(ii) Imports	US \$ billion	489.3	490.7	450.2	448.0	381.0	382.7
	(iii) Trade Balance	US \$ billion	-183.4	-190.3	-135.8	-137.7	-118.7	-106.2
10	Current Account Balance	US \$ million	-78155	-88163	-32296	-26859	-22151	-15296
10	Foreign Exchange Reserves(End of FY)	US \$ billion	294.4	292.0	304.2	341.6	360.2	369.9
11	Nominal Exchange Rate	Rs./US\$	47.92	54.41	60.50	61.14	65.5	67.07
12	Foreign Investment (Net FDI + net Portfolio Investment)	US \$ million	39231	46711	26386	73456	31891	43224
13	Fiscal Deficit (Central Government)	Rs. Crore	515990	490190	502858	510817	532791	534274
		% of GDP	5.9	4.9	4.5	4.1	3.9	3.5
14	WPI(Average of 12 months)	Inflation (%)	8.94	7.35	5.98	2.00	-2.49	3.69
15	Agricultural Production (Food grain)	MMT	259.3	257.1	265.0	252.0	251.6	275.7
								(4th AE)
16	Consumer Price Index							
	Industrial Workers	2001=100	195	215	236	251	265	276
	Agricultural Labourers	1986-87=100	611	672	750	800	835	870
	Rural Labourers	1986-87=100	611	673	751	802	839	875
	Rural	2010=100	113.1	124.5	136.4			
	Urban	2010=100	110.4	121.8	133.3			
	Combined	2010=100	111.9	123.3	135.0			
	Rural	2012=100			112.6	119.5	126.1	132.4
	Urban	2012=100			112	118.1	123.0	127.9
	Combined	2012=100			112.3	118.9	124.7	130.3

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

AE: Advanced Estimate

Table 42:- Growth Rates of Core Industries (in %)(Base Year 2011-12)

Sector	Weight	2012-13	2013-14	2014-15	2015-16	2016-17	Apr-Jul 2016-17	Apr-Jul 2017-18
Coal	10.3335	3.2	1	8.0	4.8	3.2	5	-3.3
Crude Oil	8.9833	-0.6	-0.2	-0.9	-1.4	-2.5	-2.9	0.05
Natural Gas	6.8768	-14.4	-12.9	-5.3	-4.7	-1	-3.4	4.9
Refinery Products	28.0376	7.2	1.4	0.2	4.9	4.9	8.7	0.7
Fertilizers	2.6276	-3.3	1.5	1.3	7	0.2	1.5	-1.5
Steel	17.9166	7.9	7.3	5.1	-1.3	10.7	6.7	6.9
Cement	5.372	7.5	3.7	5.9	4.6	-1.2	4.5	-3.5
Electricity	19.853	4	6.1	14.8	5.7	5.8	8	5.4
Overall Index	100	3.8	2.6	4.9	3	4.8	6	2.5

#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 19/09/2017

Table 42(A):- Index of Core Industries (Base year 2011-12)

Sector	Weight	2012-13	2013-14	2014-15	2015-16	2016-17	Apr-Jul	Apr-Jul
							2016-17	2017-18
Coal	10.3335	103.2	104.2	112.6	118	121.8	108.8	105.3
Crude Oil	8.9833	99.4	99.2	98.4	97	94.5	95.1	95.2
Natural Gas	6.8768	85.6	74.5	70.5	67.2	66.5	65.4	68.7
Refinery Products	28.0376	107.2	108.6	108.8	114.1	119.7	119.3	120.1
Fertilizers	2.6276	96.7	98.1	99.4	106.4	106.6	101.7	100.3
Steel	17.9166	107.9	115.8	121.7	120.2	133.1	127.7	136.5
Cement	5.372	107.5	111.5	118.1	123.5	122	129.3	124.7
Electricity	19.853	104	110.3	126.6	133.8	141.6	144	151.8
Overall Index	100	103.8	106.5	111.7	115.1	120.5	118.8	121.7

Source: Office of Economic Adviser, DIPP <http://eaindustry.nic.in/home.asp> Accessed on 19/09/2017

Table 43:- Consumption of Naphtha, Natural Gas and Fuel oil

Name of Product	Description	Unit	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17*
Naphtha	Production	K Tonnes	18788	19196	18825	19018	18505	17391	17861	19946
	Import	K Tonnes	1734	2063	2091	1762	1020	1034	2931	2768
	Export	K Tonnes	10043	10655	10139	8647	8322	7008	7116	8762
	Availability	K Tonnes	10479	10603	10777	12133	11204	11416	13676	13952
	Consumption	K Tonnes	10134	10676	11222	12289	11305	11082	13271	13254
Natural Gas	Production	MMSCM	47496	52219	47559	40679	35407	33657	32249	31897
	Import	MMSCM	12092	13077	17465	17455	17247	18657	21835	24867
	Availability	MMSCM	59588	65296	65024	58134	52654	52314	54084	56764
	Consumption **	MMSCM	48344	52019	60684	53915	48994	46955	47850	50778
Fuel Oil	Production	K Tonnes	18346	20519	18433	15054	13405	11919	9727	9962
	Import	K Tonnes	896	1013	1203	1038	1331	902	1170	964
	Export	K Tonnes	5186	6734	7895	5922	6159	4762	2806	2248
	Availability	K Tonnes	14056	14798	11740	10170	8578	8059	8091	8678
	Consumption	K Tonnes	11629	10789	9307	7656	6236	5961	6632	7188
Naphtha	Fertilizers Sector	K Tonnes	844	892	962	898	516	301	316	350
	Petrochemical Sector	K Tonnes	6968	7500	8141	9412	9464	9530	10350	10368
Natural Gas **	Fertilizer Industries	MMSCM	13168	11464	14003	14733	15869	15190	16135	15429
	Petrochemicals Industry	MMSCM	1264	1309	1858	2486	2405	2890	3733	4170
Fuel Oil ^	Chemicals & allied	K Tonnes	393	333	299	228	204	212	214	242

*: Provisional

**: Includes of consumption of LNG in 2011-12 & onwards.

^: Revised for 2012-13 to 2015-16

Note: The reasons for the variation between the consolidated availability and the consumption can be attributed to stock changes, conversion factor (volume/energy), Flaring (in case of Natural gas) and the provisional data reported by the companies.

Table 44:- Persons in workforce in Industry Division 20,21 and Industry Group 222 (according to usual status) in 2011-12

Description	Unit	Rural			Urban			Rural + Urban
		Male	Female	Persons	Male	Female	Persons	Persons
Projected population	million	431.7	409.8	841.5	199.8	186.1	385.9	1227.4
Persons in the work force in all sectors	lakh	2346	1018	3364	1092	273	1365	4729
Persons in the work force in all sectors	per 10000	5434	2484	3998	5465	1467	3537	3853
Persons in work force in Industry Division 20 of NIC 2008	per 10000	16	15	15	51	54	52	25
Persons in work force in Industry Division 21 of NIC 2008	per 10000	7	2	5	53	24	47	17
Persons in work force in Industry Division 20 of NIC 2008	lakh	3.8	1.5	5.3	5.6	1.5	7.0	12.3
Persons in work force in Industry Division 21 of NIC 2008	lakh	1.6	0.2	1.8	5.8	0.7	6.4	8.3
Persons in work force in Division 20 and 21 of NIC 2008	lakh	5.4	1.7	7.1	11.4	2.1	13.5	20.6
Persons in work force in Industry Group 222 of NIC 2008	lakh	8	1	6	43	49	44	16
Persons in work force in Industry Group 222 of NIC 2008	lakh	1.9	0.1	2.0	4.7	1.3	6.0	8.0

Note: The industry division 24 of NIC 2004 is equivalent of industry division 20 (manufacture of chemical & chemical products), 21(manufacture of pharmaceuticals, medicinal chemicals and botanical products) and Industry group 222:manufacture of Plastic Products of NIC 2008.

Source:Key Indicators of Employment and Unemployment in India, NSS 68th Round (July 2011- June 2012), NSSO

Table 45:- Production of Molasses in India during 2008-09 to 2015-16*(Figure in Lakh MT)*

States/UT	Production of Molasses							
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Andhra Pradesh	2.69	3.2	3.56	4.97	4.32	3.23	2.82	3.45
Bihar	0.82	0.76	1.06	1.20	2.93	3.14	2.5	2.7
Gujarat	5.26	5.08	4.98	5.91	4.20	2.21	4.92	6.99
Haryana	6.78	5.11	7.17	7.40	8.65	7.55	2.69	2.48
Karnataka	10.18	9.65	13.41	14.77	14.79	17.25	17.44	18.93
Maharashtra	15.56	24.89	32.64	30.88	26.64	25.86	37.42	30.76
Punjab	1.38	0.72	1.39	2.25	2.37	3.08	7.75	8.98
Tamil Nadu	7.79	7.50	9.99	11.85	10.31	7.51	7.04	7.7
Uttar Pradesh	22.59	29.14	32.83	38.88	42.46	35.35	37.15	30.85
Uttarakhand	1.48	1.80	1.86	2.29	1.68	1.69	1.56	1.33
Telagana	New State					1.31	1.32	1.15
Total	74.53	87.85	108.89	120.40	118.35	108.18	122.61	115.32

Source: Compiled on the basis of information received from State Excise Departments of 11 major Sugarcane producing States.

Table 46:- State-wise/Year-wise Production of Alcohol from Molasses in India during 2008-09 to 2015-16

<i>(Figure in Lakh litre)</i>								
States/UT	Production of Alcohol							
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
Andhra Pradesh	1459.33	739.98	507.77	1324.06	1561.22	1122.00	1242.76	1796.22
Bihar	352.01	183.14	279.66	428.16	539.22	666.63	539.65	619.70
Gujarat	849.03	510.22	686.44	1084.43	839.88	629.84	999.33	473.43
Haryana	112.98	64.17	162.05	175.43	196.32	214.10	164.15	126.29
Karnataka	2403.14	2154.09	2823.53	3823.73	3656.99	3298.51	3917.42	4825.65
Maharashtra	4414.18	3368.69	3762.65	3851.81	6633.86	5985.97	8290.00	7315.00
Punjab	913.19	249.68	582.72	565.24	523.27	462.29	628.32	776.80
Tamil Nadu	1595.46	1700.75	2119.43	2301.72	2288.69	1765.52	1595.46	1685.40
Uttar Pradesh	6814.79	4516.05	6546.59	7201.42	7916.45	8982.77	7116.43	7781.96
Uttarakhand	866.99	495.48	297.72	923.41	974.20	945.30	840.26	929.25
Telagana	New State					122.65	124.62	156.9
Total	19781.10	13982.25	17768.56	21679.41	25130.10	24195.58	25458.40	26486.60

Source: Compiled on the basis of information received from State Excise Departments of 11 major Sugarcane producing States.

Table 47:- Export and Import of Ethanol (ITC HS code no. 22072000) during 2006-07 to 2016-17

(Quantity in thousand Litres & Value in Rs. Lakh)

Year	Export			Import		
	Quantity	Value	Price (Rs./LTR)	Quantity	Value	Price (Rs./LTR)
2006-07	10083	2516	24.95	39239	10788	27.49
2007-08	13540	4147	30.63	5042	2771	54.96
2008-09	4424	1548	35.00	71543	25660	35.87
2009-10	4270	1684	39.43	278957	67535	24.21
2010-11	18872	6049	32.05	105982	34533	32.58
2011-12	30974	12729	41.10	53936	26983	50.03
2012-13	19613	8613	43.91	4606	2650	57.53
2013-14	22502	10748	47.76	61368	37111	60.47
2014-15	12286	6843	55.69	114506	59712	52.15
2015-16	7332	4187	57.11	233843	96674	41.34
2016-17	3666	2000	54.56	379222	150136	39.59

Source: DGCIS Portal ,accessed on 19.09.2017

Table 48:- Employment in Chemicals and Chemicals products (Industry division 24, NIC 2004) during 2003-04 to 2014-15

S. No.	Industry	Number of Persons Engaged											
		2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
1	Chemicals and Chemicals products (Industry division 24, NIC 2004)	740441	784907	825435	877083	892944	961306	1005167	1100320	1223243	1165914	1326933	1323309
2	Industries Other than Chemicals and Chemicals products	7129640	7668717	8286245	9451351	9559591	10366179	10786888	11594533	12206713	11784111	12211181	12558077
3	All Industries	7870081	8453624	9111680	10328434	10452535	11327485	11792055	12694853	13429956	12950025	13538114	13881386
4	Share in Employment (%)												
	(a) Share of Chemicals and Chemicals products	9.41	9.28	9.06	8.49	8.54	8.49	8.52	8.67	9.11	9.00	9.80	9.53
	(b) Share of Other than Chemicals and Chemicals products	90.59	90.72	90.94	91.51	91.46	91.51	91.48	91.33	90.89	91.00	90.20	90.47
5	Growth Rate in Employment (%)												
	(a) Chemicals and Chemicals products	-1.94	6.01	5.16	6.26	1.81	7.66	4.56	9.47	11.17	-4.69	13.81	-0.27
	(b) Industries Other Than Chemicals and Chemicals products	-0.71	7.56	8.05	14.06	1.15	8.44	4.06	7.49	5.28	-3.46	3.62	2.84
	(c) All Industries	-0.83	7.41	7.78	13.35	1.20	8.37	4.10	7.66	5.79	-3.57	4.54	2.54

Note: 1. The description of product groups at 4-digit level under the division 24, NIC 2004 is given at page-3.

2. Figures for total person engaged for the period from 2008-09 to 2013-14 has been complied by adding figures in respect of Industry Division 20, 21 and 268 of NIC 2008

Source : Annual Survey of Industries (Factory Sector), Ministry of Statistics & Programme Implementation, New Delhi.

Table 49:- Employment in Chemicals and Chemicals products (Industry Division 20, NIC-2008) during 2010-11 to 2014-15

S.No.	Industry	Number of Person Engaged				
		2010-11	2011-12	2012-13	2013-14	2014-15
1	Chemicals and Chemicals products (Industry Division 20, NIC 2008)	630017	674018	633659	708401	712994
2	Industries Other than Chemicals and Chemicals products	12064836	12755938	12316366	12829713	13168392
3	All Industries	12694853	13429956	12950025	13538114	13881386
4	Share in Employment (%)					
	(a) Share of Chemicals and Chemicals products	4.96	5.02	4.89	5.23	5.14
	(b) Share of Other than C&PC	95.04	94.98	95.11	94.77	94.86
5	Growth Rate in Employment (%)					
	(a) Chemicals and Chemicals products	7.02	6.98	-5.99	11.80	0.65
	(b) Industries Other Than Chemicals and Chemicals products	7.69	5.73	-3.45	4.17	2.64
	(c) All Industries	7.66	5.79	-3.57	4.54	2.54

Note: As per NIC- 2008, Chemical & Chemical products are covered under the industry division 20. The description of product groups at 4-digit level under the division 20, NIC 2008 is given at page-4.

Source : Annual Survey of Industries (Factory Sector), Ministry of Statistics & Programme Implementation, New Delhi.

Table 50:- 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	2011-12	2012-13	2013-14	2014-15	2015-16
Industry Division 20: Chemical and chemical products (Corporate)	121309	126614	127623	133585	147812
Industry Division 20: Chemical and chemical products (Household)	995	1317	950	1067	1079
Industry Division 20: Chemical and chemical products (Corporate +Household)	122304	127931	128573	134652	148891
Growth over previous year (%)		4.6	0.5	4.7	10.6
Industry Division 21: Pharmaceutical; medicinal chemicals and botanical products (Corporate)	89780	85196	100555	112730	127141
Industry Division 21: Pharmaceutical; medicinal chemicals and botanical products (Household)	764	413	708	625	727
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	90544	85609	101263	113355	127868
Total Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	212848	213540	229836	248007	276759
Growth over previous year (%)		0.3	7.6	7.9	11.6
Manufacturing (Corporate)	1230439	1362291	1474509	1633979	1804944
Manufacturing (Household)	179546	210546	238943	249959	259876
Manufacturing (Corporate +Household)	1409985	1572837	1713452	1883938	2064820
Growth over previous year (%)		11.5	8.9	9.9	9.6
GVA at basic prices for All Economic activities	8106946	9202692	10363153	11481794	12458642
Growth over previous year (%)		13.5	12.6	10.8	8.5
Share of Manufacturing sector in GVA	17.4	17.1	16.5	16.4	16.6
Share of Chemical and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)in GVA	1.51	1.39	1.24	1.17	1.20
Share of Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21) in GVA	2.63	2.32	2.22	2.16	2.22
Share of chemical and chemical products (Industry Division 20)in Manufacturing Sector	8.67	8.13	7.50	7.15	7.21
Share of chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)in Manufacturing Sector	15.10	13.58	13.41	13.16	13.40

Source: National Accounts Statistics 2017, CSO, Ministry of Statistics & Programme Implementation

Table 51:- 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	2011-12	2012-13	2013-14	2014-15	2015-16
Industry Division 20: Chemical and chemical products (Corporate)	121309	116682	112375	114852	132104
Industry Division 20:Chemical and chemical products (Household)	995	1214	837	917	955
Industry Division 20: Chemical and chemical products (Corporate +Household)	122304	117896	113212	115769	133059
Growth over previous year (%)		-3.6	-4.0	2.3	14.9
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products (Corporate)	89780	81284	93090	100255	116885
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products (Household)	764	394	656	555	630
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	90544	81678	93746	100810	117515
Total Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	212848	199574	206958	216579	250574
Growth over previous year (%)		-6.2	3.7	4.6	15.7
Manufacturing (Corporate)	1230439	1288919	1346108	1471710	1643999
Manufacturing (Household)	179546	197954	214601	217794	228116
Manufacturing (Corporate +Household)	1409985	1486873	1560709	1689504	1872115
Growth over previous year (%)		5.5	5.0	8.3	10.8
GVA at basic prices for All Economic activities	8106946	8546275	9063649	9719023	10490514
Growth over previous year (%)		5.4	6.1	7.2	7.9
Share of Manufacturing sector in GVA	17.4	17.4	17.2	17.4	17.8
Share of Chemical and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)in GVA	1.51	1.38	1.25	1.19	1.27
Share of Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21) in GVA	2.63	2.34	2.28	2.23	2.39
Share of chemical and chemical products (Industry Division 20) in Manufacturing Sector	8.67	7.93	7.25	6.85	7.11
Share of chemical and chemical products, including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)in Manufacturing Sector	15.10	13.42	13.26	12.82	13.38

Source: National Accounts Statistics 2017, CSO, Ministry of Statistics & Programme Implementation

Table 52:- 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	2011-12	2012-13	2013-14	2014-15	2015-16
Manufacturing (Corporate)	6000370	6574610	7289565	7805667	7769354
Manufacturing (Household)	543076	605579	678919	706398	726225
Manufacturing (Corporate +Household)	6543446	7180189	7968484	8512065	8495579
Chemical and chemical products (Corporate) (Industry Division 20)	462850	509110	553764	625273	649602
Chemical and chemical products (Household) (Industry Division 20)	4971	6578	4745	5327	5388
Total Chemical and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)	467821	515688	558509	630600	654990
Pharmaceutical; medicinal chemicals and botanical products -Corporate (Industry Division 21)	190144	204098	230764	256469	264289
Pharmaceutical; medicinal chemicals and botanical products -Household (Industry Division 21)	3814	2063	3536	3119	3629
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	193958	206161	234300	259588	267918
Total Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	661779	721849	792809	890188	922908

Source: National Accounts Statistics 2017, CSO, Ministry of Statistics & Programme Implementation

Table 53:- 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	2011-12	2012-13	2013-14	2014-15	2015-16
Manufacturing (Corporate)	6000370	6210073	6615483	7069936	7490557
Manufacturing (Household)	543076	569651	611979	618691	642939
Manufacturing (Corporate +Household)	6543446	6779724	7227462	7688627	8133496
Chemical and chemical products (Corporate) (Industry Division 20)	462850	469170	487601	537590	580294
Chemical and chemical products (Household) (Industry Division 20)	4971	6062	4178	4580	4769
Total Chemical and chemical products excluding Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20)	467821	475232	491779	542170	585063
Pharmaceutical; medicinal chemicals and botanical products -- Corporate (Industry Division 21)	190144	194724	213633	228088	242129
Pharmaceutical; medicinal chemicals and botanical products -- Household (Industry Division 21)	3814	1968	3274	2774	3145
Total Pharmaceutical; medicinal chemicals and botanical products (Industry Division 21)	193958	196692	216907	230862	245274
Total Chemical and chemical products including Pharmaceutical; medicinal chemicals and botanical products (Industry Division 20 and 21)	661779	671924	708686	773032	830337

Source: National Accounts Statistics 2017, CSO, Ministry of Statistics & Programme Implementation

Table 54:- All India Estimate of Selected Characteristics of Factory Sector for Industry Division 24: NIC 2004: Chemicals and Chemical products

Characteristics	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
No of factories (no.)	11177	11896	11900	15863	16118	16339	16430	16627
No of workers (no.)	611022	659519	691150	754902	830437	792303	875945	888244
Total Output (Rs. crore)	301218	412241	501349	491382	631133	666553	729342	790183
Total Inputs (Rs. crore)	228293	316085	333411	375418	480890	515019	563692	613426
Gross Value Added (Rs. crore)	72925	96156	167939	115964	150243	151534	165651	176757

Note: The description of product groups at 4-digit level under the division 24, NIC 2004 is given at

Source: Collated from Annual Survey of Industries, Ministry of Statistics & Programme Implementation

Table 54A:- 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 Megnetic and Optical Media (industry Division 268)

Description	2011-12	2012-13	2013-14	2014-15
Industry Division 20: Chemical and chemical products				
No of factories (no.)	11276	11426	11465	11715
No of workers (no.)	505122	463645	494253	519000
Total Output (Rs. crore)	449007	472968	513903	557244
Total Inputs (Rs. crore)	362970	383618	420686	461953
Gross Value Added (Rs. crore)	86036	89350	93217	95292
Industry Division 21:Pharmaceutical; medicinal chemicals and botanical products				
No of factories (no.)	4839	4907	4961	4908
No of workers (no.)	325294	328437	381664	369196
Total Output (Rs. crore)	181536	190282	214564	231834
Total Inputs (Rs. crore)	117495	128906	142230	150713
Gross Value Added (Rs. crore)	64041	61376	72333	81120
Industry Division 268:Maufacture of Megnetic and Optical Media				
No of factories (no.)	3	6	4	4
No of workers (no.)	21	221	28	48
Total Output (Rs. crore)	590	3303	875	1105
Total Inputs (Rs. crore)	424	2495	775	760
Gross Value Added (Rs. crore)	166	808	100	345

Source: Collated from Annual Survey of Industries, Ministry of Statistics & Programme Implementation

Table 55:- 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)			
	2011-12	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14	2014-15	2011-12	2012-13	2013-14	2014-15
Andhra Pradesh	892	378	375	401	400403	260128	256195	241972	2593697	1761153	1710297	1709055
Assam	72	79	82	82	110354	105575	123235	123649	315072	304291	327554	280134
Bihar	35	43	45	48	2525	4035	2759	4850	8714	32945	38559	45252
Chhattisgarh	87	96	94	94	6759	18035	13741	12167	51128	83044	99698	90695
Goa	51	50	43	49	74026	259201	111388	185975	985807	1098234	865753	873829
Gujarat	2058	1974	2160	2241	2752199	2840257	3048975	2310593	13256514	13890876	15899266	16377573
Haryana	220	212	203	258	88376	76494	109458	230883	617104	673573	829529	1144328
Himachal Pradesh	188	214	225	200	230688	527844	419399	811380	858930	1741534	1815860	2902117
Jammu & Kashmir	126	130	131	155	165448	156320	145075	177220	678301	648032	629763	633314
Jharkhand	87	95	92	83	68908	14008	44009	52409	317488	198556	197773	204030
Karnataka	503	467	507	553	137609	205278	252251	308325	888872	985707	1349510	1627636
Kerala	145	217	141	140	174739	106808	109558	112723	617200	632972	661040	580152
Madhya Pradesh	275	250	271	259	194443	172617	168386	289811	993733	978568	1065138	1113758
Maharashtra	1809	1941	1851	1866	1675960	1873331	2227826	1805835	7706704	7784602	9639069	9148788
Meghalaya	5	8	4	3	5407	3943	3839	3305	10328	6689	7968	7283
Orissa	79	84	78	78	87938	116561	231234	214559	1110286	1078033	1072839	1225941
Punjab	182	160	154	158	99277	86748	97894	75556	748439	781526	804384	936265
Rajasthan	325	356	326	323	519941	387218	237822	235706	2572578	3516023	2081775	1920567
Sikkim	4	4	4	4	20074	35217	27236	121330	73691	95775	95497	32172
Tamil Nadu	2398	2432	2477	2495	511281	411248	359028	513454	3165390	2393999	2530250	3501312
Tripura	7	7	11	10	197	294	304	307	556	605	727	686
Uttarkhand	183	217	201	240	284943	347148	356180	626942	834599	1247479	1463263	2609193
Uttar Pradesh	678	636	646	688	548065	443090	450180	529410	2469980	2658686	2951198	3412604
West Bengal	322	294	297	291	170220	49802	31444	73656	2209018	2333733	2621475	2033195
Dadra & N Haveli	192	188	181	172	91058	96072	68725	204414	676284	680746	499422	1566385
Daman & Diu	133	154	140	113	65051	71943	114631	114664	636930	543772	947205	570041
Chandigarh	3	4	4	NA	312	304	379	NA	4799	4487	6024	NA
Delhi	79	88	78	75	19264	94368	61320	41718	207993	356089	288526	260479
Puduchery	137	128	134	106	98065	60541	130624	87953	290386	230776	399319	242372
Telagana	New State	520	512	528	New State	110508	118521	106993	New State	554181	491508	579136
All India	11276	11426	11465	11715	8603637	8935034	9321718	9529158	44900681	47296827	51390338	55724410

Note: The description of product groups at 4-digit level under the division 20, NIC 2008 is on page-4. \$ figures for 2009-10 to 2011-12 pertain to combined Andhra Pradesh

Source :Annual Survey of Industries (Factory Sector) 2011-12, 2012-13, 2013-14 & 2014-15 Ministry of Statistics & Programme Implementation;

NA: Not Available

Table 56:- Exports of Major Chemicals and Petrochemicals as % of Production and Imports of Major Chemicals and Petrochemicals as % of Consumption

(In Thousand Tonnes)

Group	Description	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Major Chemicals	Production	8465	9121	9409	9459	9643	9660	9884	10234
Major Petrochemicals									
A. Basic major Petrochemicals		10895	11950	12755	13047	13406	13443	14900	15506
B. Intermediates		13086	13722	15722	16138	16313	16816	18690	15690
C. Other Petro-based Chemicals		1679	1739	1940	1979	1970	1963	2159	2174
Total Major Chemicals and Petrochemicals		34125	36531	39827	40624	41331	41882	45633	43603
Major Chemicals	Exports	1261	1337	1429	1220	1221	1061	1138	1484
Major Petrochemicals									
A. Basic major Petrochemicals		1466	1913	2304	2298	2614	2253	2742	2956
B. Intermediates		1257	1561	1677	1795	1977	2034	2430	2190
C. Other Petro-based Chemicals		65	184	184	137	96	124	129	144
Total Major Chemicals and Petrochemicals		4050	4996	5594	5451	5908	5472	6439	6773
Major Chemicals	Imports	2828	2792	3397	4253	4333	5025	5360	5400
Major Petrochemicals									
A. Basic major Petrochemicals		2837	3338	3353	4223	4295	5068	5665	5920
B. Intermediates		1933	2396	2095	2405	2950	3253	3245	3540
C. Other Petro-based Chemicals		1321	1808	1785	2037	2204	2373	2740	2651
Total Major Chemicals and Petrochemicals		8919	10334	10629	12919	13782	15717	17009	17511

Table 56:- Exports of Major Chemicals and Petrochemicals as % of Production and Imports of Major Chemicals and Petrochemicals as % of Consumption

(In Thousand Tonnes)

Group	Description	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
Major Chemicals	Consumption\$	10032	10576	11377	12493	12756	13623	14105	14150
Major Petrochemicals									
A. Basic major Petrochemicals		12265	13374	13804	14972	15086	16258	17822	18470
B. Intermediates		13763	14557	16141	16748	17286	18034	19505	17041
C. Other Petro-based Chemicals		2935	3362	3540	3879	4078	4211	4770	4680
Total Major Chemicals and Petrochemicals		38994	41870	44862	48092	49206	52127	56203	54341
Major Chemicals	Exports as % of Production	14.9	14.7	15.2	12.9	12.7	11.0	11.5	14.5
Major Petrochemicals									
A. Basic major Petrochemicals		13.5	16.0	18.1	17.6	19.5	16.8	18.4	19.1
B. Intermediates		9.6	11.4	10.7	11.1	12.1	12.1	13.0	14.0
C. Other Petro-based Chemicals		3.9	10.6	9.5	6.9	4.9	6.3	6.0	6.6
Total Major Chemicals and Petrochemicals		11.9	13.7	14.0	13.4	14.3	13.1	14.1	15.5
Major Chemicals	Imports as % of Consumption	28.2	26.4	29.9	34.0	34.0	36.9	38.0	38.2
Major Petrochemicals									
A. Basic major Petrochemicals		23.1	25.0	24.3	28.2	28.5	31.2	31.8	32.1
B. Intermediates		14.0	16.5	13.0	14.4	17.1	18.0	16.6	20.8
C. Other Petro-based Chemicals		45.0	53.8	50.4	52.5	54.0	56.3	57.4	56.6
Total Major Chemicals and Petrochemicals		22.9	24.7	23.7	26.9	28.0	30.2	30.3	32.2

Note: Product coverage under each group is given at page v and vi. \$ Derived consumption as Production+ Imports-Exports

Table 57:- Exports of all Chemicals as % of Value of output and Imports of all Chemicals as % of Consumption

(Rs. In Crore)

Item	Code	2011-12	2012-13	2013-14	2014-15	2015-16
Exports of Pharmaceutical products	HS code 30	40817	54774	67404	70815	84481
Exports of Fertilizers	HS code 31	397	480	492	555	673
Exports of all Chemicals (including Pharmaceutical products and Fertilizers)	HS codes 28,29,30,31,32,38,39,4002,54 and 55	176544	206082	245758	249183	266516
Imports of Pharmaceutical products	HS code 30	8131	9522	9371	9961	10742
Imports of Fertilizers	HS code 31	44996	40412	32639	39106	45973
Imports of Chemicals and Chemical products	HS codes 28,29,30,31,32,38,39,4002,54 and 55	229546	259844	283322	311790	318595
Value of Output of Chemicals and Chemical products at current prices	Industry Division 20 and 21: NIC 2008	661779	721849	792809	890188	922908
Consumption of Chemicals and Chemical products	Value of Output + Imports - Exports	714781	775610	830373	952795	974987
Exports of all Chemicals as % of Value of Output		26.7	28.5	31.0	28.0	28.9
Imports of all Chemicals as % of Derived Consumption		32.1	33.5	34.1	32.7	32.7

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: Data source in respect of Imports, Exports (Chapter-wise) is DGCIS Portal as on 21.07.2017

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