

# Indian Chemical Industry

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## A. Executive summary

### A.1. Key segments

The Indian chemical industry comprises primarily of three key segments; **basic chemicals** including petrochemicals, fertilizers, inorganic chemicals and other industrial chemicals, **specialty chemicals** and **knowledge chemicals** including pharmaceuticals and agro-chemicals. The large number and wide spectrum of chemical products can be classified into several categories, including inorganic and organic (commodity) chemicals, plastics and petrochemicals, dyes and pigments, fine and specialty chemicals, pesticides and agro-chemicals, and fertilizers. The chemical industry is one of the most diversified industrial sectors in India and has come to form the backbone of India's industrial and agricultural development by providing critical building blocks for downstream industries and end products for private consumers.

### A.2. Growth driven industry: facts

The Indian chemical industry is estimated to be approx USD 83 billion in 2010 which is about 2.5% of the global chemical industry and contributed 3% of the country's GDP. It is ranked 6<sup>th</sup> largest in the world and 3<sup>rd</sup> largest in Asia in terms of the value added (at constant 2000 prices). It is estimated that the chemical industry accounts for approximately 14% of domestic industrial activity<sup>1</sup> and in 2008-09 it accounted for about 10.9% of the total exports and 6.7% of total imports of the country.<sup>2</sup> The Indian Department of Chemicals & Petrochemicals has estimated an annual growth rate of 8 and 12.6% through 2012 for chemical and petrochemical production, respectively.<sup>3</sup>

Due to the global downturn in 2008-09, demand for chemicals from large end-use industries such as construction, automotives, electronics, etc dropped by 4-5% of the levels it had achieved in 2008. Post 2009 as the global economy began to improve and recover, the Indian chemical industry has also been quick to follow suit in the path to recovery largely driven by domestic demand. It is expected to grow at 10-12% p.a. to reach USD 130 billion by 2015. Specialty chemicals and pharmaceuticals are expected to grow at a faster pace than the other sub-segments of the industry.<sup>4</sup> As the product patent regime has come into force from January 2005, several chemical units have since then become more innovative and have started acquiring the state of the art R&D establishments which will help in development of newer molecules.

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<sup>1</sup> Annual Report 2009-2010, Department of Chemicals and Petrochemicals

<sup>2</sup> FICCI Report on Indiachem 2009 Gujarat Conference

<sup>3</sup> Ibid at 1

<sup>4</sup> Handbook on Indian Chemical Industry, 2010 by TATA Strategic Management Group, FICCI and Roland Berger Strategy Consultants

### A.3. Localization

The industry is primarily located in the western and southern regions of India, with approximately half of the industry concentrated in Gujarat. Other significant areas of production exist in Maharashtra, Rajasthan, Uttar Pradesh, Maharashtra, Punjab, Tamil Nadu, Madhya Pradesh, Kerala, and Andhra Pradesh.<sup>5</sup> Between the years 2005 and 2009, the Indian chemicals market grew annually by an average of 11% to reach a value of USD 92.7 billion. The year wise breakup of the industry is sited in table 1:

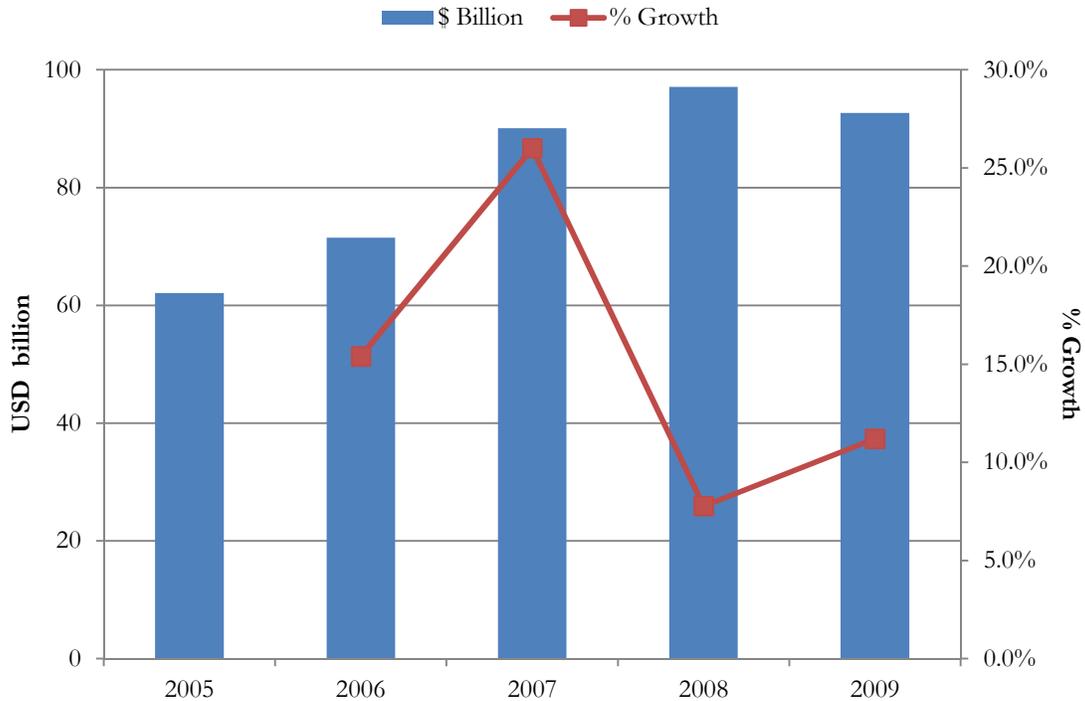
**Table 1: India Chemicals Market Values: USD billion, 2005-2009<sup>6</sup>**

Year	USD billion	INR billion <sup>7</sup>	% Growth
2005	62.1	2784.8	
2006	71.5	3206.4	15.14%
2007	90.1	4040.8	26.01%
2008	97.1	4354.8	7.77%
2009	92.7	4157.2	-4.53%
CAGR, 2005-2009			11.2%

<sup>5</sup> <http://chemicals.nic.in/stat0107.pdf> as visited on June 24, 2011

<sup>6</sup> <http://www.americanchemistry.com/Jobs/EconomicStatistics/Industry-Profile/Global-Business-of-Chemistry> as visited on June 24, 2011

<sup>7</sup> Considering USD 1 = INR 44.8 (*as in 2010*)

**Figure 1: Indian Chemicals Market Value: 2005-2009**

The key export destination markets are USA, UK, France, Netherlands, Belgium, Spain, South Africa, Bangladesh, Malaysia and Singapore.<sup>8</sup>

#### **A.4. Regulatory norms**

In the chemical sector, 100% Foreign Direct Investment (“**FDI**”) is permissible. Manufacturing of most chemical products inter-alia covering organic/in-organic, dyestuffs & pesticides is de-licensed, except for the following selected products which continue to require government approval for industrial licensing due to their hazardous nature:<sup>9</sup> (i) hydrocyanic acid & its derivatives, (ii) phosgene & its derivatives, and (iii) isocyanates & di-isocyanates of hydrocarbons.

The chemical industry (other than fertilizers) stands at the 10<sup>th</sup> position amongst all sectors receiving FDI, and has attracted approximately USD 3.15 billion (13,078 crore) from

<sup>8</sup>Ibid at 1

<sup>9</sup> Ibid at 1

foreign investors since 2000. During the financial year 2010-2011, FDI totaling USD 398 million was made in this sector.<sup>10</sup> Indian FDI policy is much liberalized. The investments in the Indian chemical industry are often highly capital intensive with long gestation periods.<sup>11</sup>

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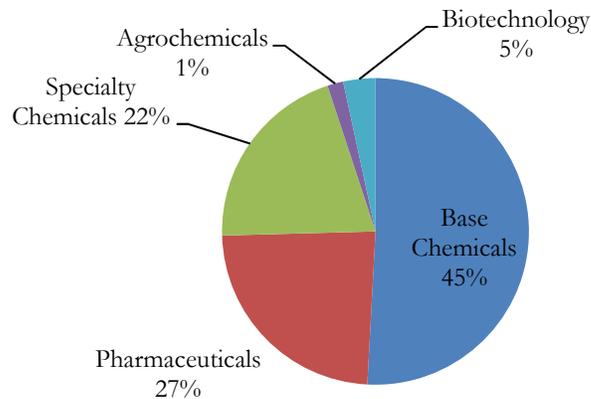
<sup>10</sup> [http://www.dipp.nic.in/fdi\\_statistics/india\\_FDI\\_March2011.pdf](http://www.dipp.nic.in/fdi_statistics/india_FDI_March2011.pdf)

<sup>11</sup> Ibid at 1

## B. Global scenario

In order to understand the Indian chemical industry it becomes pertinent to know the characteristics of the global chemical industry, the challenges it faces and the trends in the market so as to know how this knowledge based industry that supplies to almost all sectors of the economy thrives. Global chemical industry is estimated to be USD 3.5 trillion and considered one of the fastest growing sectors of the manufacturing industry. Global sales in this sector in 2010 were an estimated USD 3.5 trillion. It grew at a rate of 9% during 2004-2008 but witnessed a dramatic downturn in 2008-09 due to the global economic recession. Post 2009 the global economy is on its way to recovery. Global chemical production continues to be dominated by US and China, which have a 19.5 and 18.5% share of the global market, respectively. Region wise, Europe and Asia dominate chemical imports with nearly 38 and 37% of the global imports of chemicals in 2009, respectively. Asia has become the leading market for the chemical industry globally, accounting for an estimated 38% of global sales followed by the EU and NAFTA accounting for 29% and 21% respectively. Post the 2008 – 2009 economic down turn, the industry is estimated to grow at 5.3% CAGR during the period of 2008-13.<sup>12</sup>

### GLOBAL CHEMICAL INDUSTRY<sup>13</sup>



<sup>12</sup> Ibid at 4

<sup>13</sup> Ibid at 4

The base chemicals form the largest segment accounting for 45% of the total industry, followed by pharmaceuticals accounting for 27%, specialty chemicals attributing 22% followed by bio-technology and agro-chemicals at 5% and 1%, respectively. Of these specialty chemicals are expected to grow at a faster pace in the next few years in comparison to their global counterparts.

### **B.1. Industry segmentation**

The industry includes a wide variety of products from commodity chemicals to research driven specialized products. On a broader base, the industries can be divided into three categories, namely basic, specialty and knowledge based. The main industries under each head are as follows:

<b>Segments</b>	<b>Characteristics</b>	<b>Constituent industries</b>
<b>Basic</b>	<ul style="list-style-type: none"> <li>▪ High volume, low value-added</li> <li>▪ Limited product differentiation across manufactures</li> <li>▪ High entry barriers on account of high capital spend and stringent regulations</li> </ul>	<ul style="list-style-type: none"> <li>▪ Petrochemicals</li> <li>▪ Fertilizers</li> <li>▪ Inorganic chemicals</li> <li>▪ Man-made fibres</li> <li>▪ Chlor-Alkali</li> <li>▪ Other industrial chemicals</li> </ul>
<b>Specialty</b>	<ul style="list-style-type: none"> <li>▪ High product differentiation and value addition</li> <li>▪ Typically smaller production units with more flexibility</li> <li>▪ Low capital investments levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ Dyes &amp; pigments</li> <li>▪ Leather chemicals</li> <li>▪ Construction chemicals</li> <li>▪ Personal care ingredients</li> <li>▪ Food additives</li> <li>▪ Industrial gases</li> <li>▪ Polymer additives</li> </ul>
<b>Knowledge</b>	<ul style="list-style-type: none"> <li>▪ Differential chemical and biological substances used to induce specific out comes in humans, animals, plants and other life forms</li> <li>▪ High investments in R&amp;D and marketing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Agro-chemicals</li> <li>▪ Pharmaceuticals</li> <li>▪ Biotechnology</li> </ul>

**Note:** The categorization is illustrative and representative and does not include the entire universe of chemical industries.

**B.2. Trends in global chemical industry**

The global players are developing their domestic markets before spreading into other countries with business opportunities. As China and India are the major countries of future demands, both have shown inclination to establish and maintain a commodity industry, however, with different strategies. China has been developing coal-based petrochemical industry while India has set up the petroleum, chemical and petrochemical investment regions (“**PCPIRs**”) with focus on downstream integration. The global players have to complete its transformation from a production and technology driven industry to a technology driven customer oriented industry. Information technology is increasingly been used in R&D for collaborative research in technical areas like manufacturing and chemical process development, and decreasing product development time as well as time taken for clinical trials. Post recession, companies have been focusing on cost reduction for competitive advantage, giving more importance to R&D, restructuring, and also while sharpening its business focus, moving to high-end specialties.

### C. Indian scenario

The Indian chemical industry, which has several characteristics specific to Indian context, has evolved from a producer and supplier of basic chemicals to the domestic market in a highly regulated environment to an industry with diverse product portfolio in an open economy. The size of the Indian chemical industry was estimated at USD 83 billion in the FY 2010. Of this 53% was accounted for by base chemicals and 24% by pharmaceuticals. With this size, its contribution in total Indian industrial output is 14%. The chemical industry is among the oldest and fastest growing domestic industries in India, contributing substantially towards industrial and economic growth of the nation. The industry in India produces nearly 70,000 types of commercial products over a wide range of categories ranging from cosmetics and toiletries, to plastics and pesticides. This multi product and multi faceted industry is mostly concentrated in the western part of India where almost half of the industry is located. These main areas are as follows:

- Jamnagar – Gujarat
- Mumbai – Maharashtra
- Chennai – Tamil Nadu
- Hyderabad – Andhra Pradesh
- Cochin – Kerala
- Calcutta – West Bengal
- Udaipur – Rajasthan

Almost all segments such as organic chemicals, inorganic chemicals, agro-chemicals, coatings, dyes and pigments, soaps and cosmetics, fertilizers and specialty chemicals have a sizeable share of the overall market. Besides global corporations such as ICI, Hoechst, Dupont, BASF, Bayer, there are thousands of large, medium and small-scale companies in this sector.

India had been a net importer of chemicals in early 1990s, but has changed its status to being an exporter in the subsequent years. From the trade flow perspective, export of chemicals and petrochemicals together accounted for 10.9% of the country's total exports in 2008-09 and the corresponding figures for imports was only 6.7%. The change has come due to implementation of various large scale chemical units in the country which help towards achieving self sufficiency in their domestic demands. The chemical exports are notably high in basic chemicals and petroleum products. Along with petroleum, plastics and linoleum segment is also witnessing a high growth rate in the recent years.<sup>14</sup>

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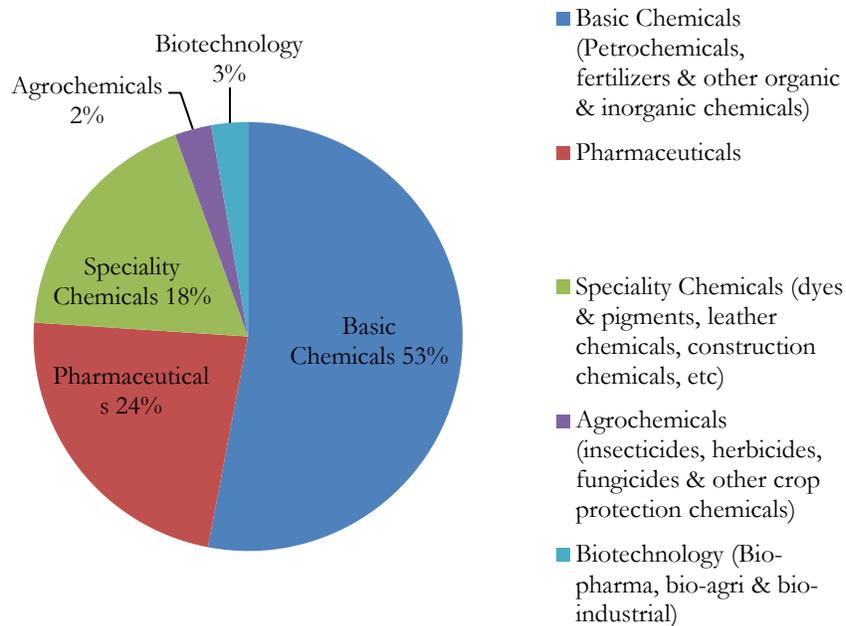
<sup>14</sup> Ibid at 1

The Indian chemical industry manufactures a wide spectrum of products spanning basic, specialty and knowledge. As of now, basic segment leads with 57% but the knowledge segment is growing at a much faster rate than basic or specialty.

The major constituents of the Indian chemical industry are:

- Petrochemicals
- Inorganic Chemicals
- Organic Chemicals
- Paints and Dyes
- Agro-chemicals
- Fine and Specialty Chemicals
- Fertilizers

**INDIAN CHEMICAL INDUSTRY FY 2010**



**C.1. Petrochemicals**

The Indian petrochemical industry is one of the fastest growing sectors of the economy. While Naptha and natural gas are the main feedstock and fuel for petrochemicals,

the end products comprise mainly of synthetic fibres, polymers, elastomers, synthetic detergents intermediates and performance plastics. Petrochemical products are used in a wide spectrum of end products ranging from housing, clothing, toys, construction, furniture, automobiles, medical appliances and so on.

The Indian basic petrochemicals market grew at a rate of 5% from USD 5 billion in FY 2005 to an estimated USD 6.5 billion in FY 2010. Demand for basic petrochemicals is expected to further grow at a CAGR of 9% to reach 10.27mmtpa by FY 2015. The end products market for polymers, synthetic fibres, elastomers and surfactants has grown at a CAGR of 8% from USD 6.8 billion in FY 2005 to USD 10 billion in FY 2010.<sup>15</sup> At an aggregate level, demand for petrochemicals in India is expected to grow at 13% & 12% per annum in 2010 and 2011.<sup>16</sup>

India's aggregate demand for petrochemicals in 2009 was 13% over the 2008 aggregate because of the domestic demand with India coming out of the financial crisis faster than several other nations. In FY 2010, production of polymers accounted for 69% of the total production of major petrochemicals, synthetic fibers accounted for 23%, elastomers 2% and surfactants 6%.<sup>17</sup> Plastics are widely used in agriculture, water management, packaging, automation, electronics, telecommunication, health and hygiene. Similarly, synthetic rubbers are used in the transportation sector, and synthetic fibres and detergents are used in textiles and detergents respectively. In an attempt to increase investment and domestic demand in this industry, consumption of synthetics and plastics fibres, facilitate investment in emerging areas of petrochemicals and promote R&D, the government also put in place a National Policy on Petrochemicals on April 12, 2007.

The main Indian companies in the Indian chemical industry are Reliance Industries Limited (RIL), Indian Petrochemical Corporation Limited (IPCL), Finolex, Gas Authority of India Limited (GAIL), Indian Oil Corporation (IOC) and Haldia Petrochemicals Limited (HPL).

## **C.2. Inorganic Chemicals**

Inorganic chemicals industry in India is pegged at USD 2.5 billion annually, accounting for less than 4.5% of the global market.<sup>18</sup> This segment covers several basic products like caustic, chlorine, sulphuric acid, etc. These chemicals are used across industry in processes or various products manufacturing for e.g. detergents, glass, soap, fertilizer, alkalies, etc. The growth rate for the segment in the last decade had reached as high as 9%.

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<sup>15</sup> Ibid at 4

<sup>16</sup> FICCI Report on Indiachem 2009 Gujarat Conference

<sup>17</sup> Ibid at 4

<sup>18</sup> [http://www.in.kpmg.com/pdf/KPMG\\_Chemtech\\_Report](http://www.in.kpmg.com/pdf/KPMG_Chemtech_Report)

The important products in this category are soda ash, caustic soda, liquid chlorine, carbon black, calcium carbide besides various other chemicals.<sup>19</sup>

### C.3. Organic Chemicals

Organic chemicals have played a vital development role by providing inputs to other industrial sectors such as paints, adhesives, pharmaceuticals, dye stuffs and intermediates, leather chemicals and pesticides. The consumption of organic chemicals in India has increased at a CAGR of 6.4% from 2.02 million metric tons per annum (“mmpta”) in FY 2004 to 2.76 mmpta in FY 2009. The net imports have grown at a CAGR of more than 20% from 0.55 mmpta in FY 2004 to 1.51 mmpta in FY 2009. The main cause for lower domestic production of organic chemicals has been the oversupply in the global markets leading to cheaper imports of organic chemicals in to India. Other than India, the major producers of organic chemicals are USA, Germany, UK, Japan and China.<sup>20</sup>

This industry covers a wide spectrum of chemicals some of the key sub-segments include; Acetic acid, Methanol, Formaldehyde, Acetone, Acetic Anhydride, phenol, Nitrobenzene. Of these, methanol, acetic acid, formaldehyde and phenol constitute more than 60% of the domestic production of organic chemicals in India. As per the Department of Chemicals and Petrochemicals, the production details of the major organic chemicals in FY 2009 India are as follows:<sup>21</sup>

- Methanol: 18%
- Formaldehyde: 18%
- Acetic Acid: 20%
- Phenol: 6%
- Others: 38%

India is the second largest producer of ethanol in Asia because of the fact that India hosts a large sugar industry that provides molasses, which is the key input in the production of ethanol. Indian exports in this segment are mainly of formaldehyde, ethanol, ethylene glycol, acetic acid, phthalic anhydride. In 2010 India exported mainly to USA, China P. Rep., UAE, Netherlands and Germany.<sup>22</sup>

<sup>19</sup> <http://www.indianchemicalportal.com/chemical-industry-overview/inorganic-chemicals.html>

<sup>20</sup> As published by the Chemicals & Cosmetics Export Promotion Council as set up by the Ministry of Commerce and Industry, Government of India on their official website [www.Chemexcil.Gov.in](http://www.Chemexcil.Gov.in)

<sup>21</sup> Ibid at 4

<sup>22</sup> <http://www.chemexcil.gov.in/IndianScenario.aspx>

## C.4. Paints and Dyes

### C.4.1 Paints

The Indian paint industry is estimated at USD 3.4 billion. It can be further classified into decorative (*caters to residential and commercial buildings*) and industrial (*caters to automobiles, auto ancillaries, consumer durables, containers, etc*) paints. This industry has been growing at 1.5-2 times the GDP growth with a CAGR of 13.5% over the last 5 years. In the last 2 years the growth slowed down primarily on account of the economic down turn. 80% of the market is captured by the organized sector. The major players in this industry are Asian Paints, Kansai Nerolac, Berger Paints and ICI. With growth in the construction sector and improvement of the economy, the paint industry is expected to grow at a CAGR of 14% in the next 5 years.<sup>23</sup>

While in India the per capita consumption is 1 kg, in other developed countries it is 15-25 kgs. The segment wise break-up of the paint industry in India is as follows:<sup>24</sup>

Segments	2008-09 (market size in tones)	2013-14 (market size in tones)
<b>Decorative paints</b>	1,300,000	2,190,000
<b>Industry coatings auto coatings</b>	62,000	96,600
<b>Other industry coatings</b>	2,78,000	4,27,800
<b>Total</b>	<b>1,640,000</b>	<b>2,715,000</b>

### C.4.2 Dyes

There are 12 types of dyes, classified on the basis of the usage. The important dyes are basic dyes, azo acid and direct dyes; disperse dyes, reactive dyes, sulphur dyes, vat dyes, organic pigments, naphthols and optical brighteners. India accounts for 7% of the global share of the dyestuffs industry and produces 150,000 tons p.a.<sup>25</sup> The estimated size of the dyes industry is USD 4 billion. Approximately 60% of the industrial output is exported.<sup>26</sup> This sector can be segmented into small and big players. Two states, namely Gujarat and Maharashtra account for 90% of the dyestuff production in India. The Indian dye and dye intermediates market is expected to grow at a CAGR of 6.3% from 700,000 tons in FY 2007 to 1,200,000 tons in FY 2015 due to the growth in the end-use segments. The main end use segments for dyestuffs are textiles, paper and leather industries which together account for approximately 88% of the total demand in this sector. Dyestuffs are vital inputs for several

<sup>23</sup> Ibid at 4

<sup>24</sup> Indian Chemical Industry by Mr. S.R. Lohokare, MD National Peroxide Limited published on [www.indianchemicalcouncil.com/articles.htm](http://www.indianchemicalcouncil.com/articles.htm)

<sup>25</sup> Ibid at 4

<sup>26</sup> Ibid at 24

industries such as textile, paper and packaging, leather, food, polymer, coating, printing ink. The exports of dyes from the nation are encouraged due to ban on the production of dyes in several developed nations chiefly due to pollution.

The main players in this industry are Atul, Clariant India, Kiri Dyes and IDI. Dyestuffs are exported to Europe, South East Asia and Taiwan to cater to the textile industries in these countries. In 2010 India exported mainly to Pakistan IR, Indonesia, China P.RP, Saudi Arabia and USA.<sup>27</sup>

Growth of demand will depend upon increased consumption in the textile, printing, paints and plastics markets.

### C.5. Agro-chemicals

India is the fourth largest producer of agro-chemicals globally, after the US, Japan and China. In spite of the fact that India is one of the largest agro-based economy and sizeable agricultural activity, its agro-chemicals consumption is one of the lowest in the world with a per hectare consumption of just 0.58 kg compared to 4.5 kg in the US and 11 kg in Japan. The global agro-chemical market was valued at USD 51.2 billion in 2009.<sup>28</sup> Europe is the biggest market for agro-chemicals. The Indian agro-chemicals market grew at 11% in 2009, driven by greater awareness among farmers, increased consolidation of land holdings and the rising distribution reach of Indian companies. It is expected to grow at 7.5%, to reach over USD 1.7 billion by 2012, driven by various factors including need for food grain self-sufficiency and the momentum in floriculture and horticulture sectors.<sup>29</sup>

The key segments in this industry are insecticides, fungicides, herbicides, bio-pesticides, plant growth regulators, nematocides, rodenticides, fumigants, etc. The consumption pattern of the agro-chemicals varies with region as well as crop. Paddy is the largest consumer of pesticides consuming around 28% of the total pesticides consumed in India followed by cotton which accounts for 20%. It is followed by other cash crops like sugarcane, tobacco etc. Indian agro-chemicals industry has significant exports of agro-chemicals.

The major companies in this segment are United Phosphorus, Rallis, Excel, Hoeschst, Agrevo, Novartis, Bayer, Nagarjuna Agrichem and Punjab Chemicals. These companies are classified in two categories; technical and formulators. The former have a limited number of players in the range of 40 while there are more than 500 players in the Formulators section.

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<sup>27</sup> Ibid at 20

<sup>28</sup> Ibid at 20

<sup>29</sup>[http://articles.economicstimes.indiatimes.com/2011-03-02/news/28649428\\_1\\_bio-pesticides-chemical-pesticides-bio-fertilisers](http://articles.economicstimes.indiatimes.com/2011-03-02/news/28649428_1_bio-pesticides-chemical-pesticides-bio-fertilisers)

### **C.6. Fine and Specialty Chemicals**

Specialty chemicals cover a wide variety of products including additives, fine chemicals, construction chemicals, water treatment chemicals, advanced polymers, adhesives, sealant and specialty paints, pigments and coatings. The specialty chemicals segment (*including knowledge chemicals*) is estimated at USD 27 billion. It constitutes about 1/3<sup>rd</sup> of the chemical industry. This sector caters to a large segment of end users including construction, automotive, polymers, personal care products, water treatment, textile, paints coating, etc.

The main Indian companies in this segment are Pidilite Industries, Sudarshan Chemicals, Jubilant Organosys. It is estimated that the specialty chemicals (*including knowledge chemicals*) market in India has the potential to grow at a rate of 15% p.a. to reach USD 40 billion by FY 2014.<sup>30</sup>

### **C.7. Fertilizers**

The fertilizer industry continues to be a price regulated industry in India. It is regulated by the government and since this sector is of national importance the government of India regulates investment, production, distribution and pricing. It is expected to grow faster than the global fertilizer industry, largely due to high, unrealized domestic demand. The peculiarity of this sector is its partial dependence in the monsoons for demand. Fertilizer consumption in India is amongst the lowest in the world. Fertilizer consumption fell in FY 2009 in comparison to FY 2008 on account of the global downturn. Farmers in most other countries reduced or postponed investment in agricultural inputs. There are 128 plants in India, these produce urea, complex fertilizers, single super phosphate and ammonium sulphate.

The private sector leads in production of urea and phosphatic fertilizers. The major producers are IFFCO, National Fertilizer Limited, Kribhco, RCFL, Chambal Fertilizers and Tata Chemicals. The turnover as per FAI was approximately USD 28.49 billion and the imports of fertilizers during 2008-09 were USD 13.03 billion based upon government of India statistics.<sup>31</sup> The fertilizer demand in India is expected to grow at 4% CAGR from FY 2009 to reach 63 million tons in FY 2015.

### **C.8. Indian chemical industry trends & characteristics**

The fragmented chemical industry of India lacked export focus and had low levels of R&D. Industry fragmentation and lower economies of scale rendered the industry non-competitive when compared to global players. However, with the PCPIR policy which envisaged promoting investment and making India a hub for domestic as well as

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<sup>30</sup> Ibid at 4

<sup>31</sup>Ibid at 24

international market, it is expected that India will redefine the rules of the petrochemical industry. PCPIR are delineated investment regions for planned investments with both processing and non-processing areas which shall close the cost gap and make Indian producers more competitive potentially creating an advantage in exports as well. The real strength of Indian industry lies in the large domestic market, the geographical location, availability of raw materials, availability of technical manpower, and increasing domestic R&D and testing facilities, among others. Growth has been driven in the recent past by twin factors of developing customer based domestic market and tapping the global markets. This has been possible due to improved price realization through enhanced efficiencies and lower costs.

The major trends that can be seen across the segments are that the domestic market continues to offer high growth potential, competitive pressure is increasing in both the imports and global players coming in India and the increasing focus on lowering of costs. In light of this trend, the focus of the industry should be or rather has been on understanding the precise requirements of customers, increasing R&D efforts to develop the molecules per the demands of the customers and develop high quality low cost manufacturing facilities.

## **D. Applicable investment related regulatory norms**

The Indian government has allowed 100% FDI in chemicals sector and most of the chemical products fall under automatic route for foreign investment i.e. no prior permission is required for starting a venture in India. However, in following cases the government approval is required to be taken through Foreign Investment Promotional Board (“FIPB”) or Secretariat of Industrial Assistance (“SIA”):

### **D.1. Products that require an Industrial License**

- i. Chemical products retained under compulsory licensing are:<sup>32</sup>
  - Hydro cyanic acid and its derivatives.
  - Phosgene and its derivatives.
  - Isocyanate and di-isocyanates of hydrocarbon not elsewhere specified (like Methylisocyanate).
- ii. Production of chemicals reserved for small scale sector by non-small Scale Industrial (“SSI”) units like water soluble wood preservative based on copper chrome, arsenic boric compounds, Dyes (basic yellow, green etc).

### **D.2. All proposals falling outside notified sectoral policy/caps i.e. where the proposed investment exceeds the allowed sectoral cap for FDI**

As a matter of fact, most of the chemical industry products fall under 100% automatic route. For the products outside automatic route, the government is taking steps to bring these also under the automatic route. The latest change<sup>33</sup> in this regard is in hazardous chemicals (i.e. hydrocyanic acid and its derivatives, phosgene and its derivatives, isocyanates and di-isocyanates of hydrocarbon), wherein FDI up to 100% is allowed under automatic route subject to industrial license requirements. In SSI, FDI limit has been placed at 24% and in cases where such limit exceeds, such an SSI loses its SSI status. Further, for equity participation in excess of this or if a non-SSI unit wishes to manufacture a reserved item, it will have to obtain an industrial license and undertake a minimum export obligation of 50% of production.<sup>34</sup>

### **D.3. FDI under automatic route**

Chemical products in which FDI is permitted under automatic route and where no industrial licence is required, there is no need to secure prior approval either by FIPB or

<sup>32</sup> <http://chemicals.nic.in/chem1.htm>.

<sup>33</sup> Vide Press Note 4 dated February 10, 2006 by Ministry of Commerce and Industry

<sup>34</sup> DIPP Manual

Reserve Bank of India (“**RBI**”). The investors are only required to notify the concerned regional office of the RBI within 30 days of receipt of inward remittances of share subscription or allotment money and file the required documents, i.e. form FC-GPR, with the concerned regional office of the RBI within 30 days of issue of shares to foreign investors.

Further, in order to commence its business operations it is required to file an Industrial Entrepreneur Memorandum (“**IEM**”) in the prescribed format. The form can be filed with Public Relation and Complaint Section either in person or can be delivered by post. The IEM form has to be submitted along with a prescribed fee vide a crossed demand draft. The current fee payable is INR 1,000 (USD 22.73) for up to 10 items proposed to be manufactured. For every subsequent 10 items to be manufactured an additional fee of INR 250 (USD 6) needs to be paid. Once the IEM is filed with the ministry, an acknowledgement containing the SIA registration number is issued. Thereafter, no approval is required to be obtained and the unit can start its operations. However, an IEM would stand cancelled if the proposal requires a compulsory license. Once the unit starts commercial production, they have to file information relating to its activity in Part ‘B’ of the IEM to PR&C section in SIA without payment of any fee.

#### **D.4. Procedure for obtaining industrial license**

SIA grants industrial licenses on the recommendation of the Licensing Committee. An application is to be made in Form FC-IL. The application form had to be submitted along with the prescribed fee to the Public Relation and Complaint Section of Department of Industrial Policy & Procedures. The prevailing rate of fee is INR 2,500 (USD 56.82) which is subject to revision by the government. The decisions with respect to the approval or rejection of the application are conveyed within 4-6 weeks of filing the application.

## **E. Summary**

Indian chemical industry is of key importance from the point of view of domestic industries i.e. it caters to various industries and has a high potential of growth in the Indian market. So far because of high demand in the domestic market itself, most of the chemical producers were focused on meeting domestic demand rather than exports. The export prospects are also seemed to be good in the light of the fact that Asian region is increasingly emerging as a larger producer as well as consumer of chemical products. However, due to lack of research and development, the Indian industry lacks technical know-how and there are few Indian companies in this field, which have attained global competency levels. Indian government has given protection to few chemical products especially dyestuff products by placing these under SSI scheme. However, with the opening up of Indian markets for FDI, the government is in the process of delisting such products from this scheme. In petrochemical industry, companies like RIL, IPCL and GAIL have created huge infrastructure and are counted amongst the best in the industry, in both quantity as well as quality.