

**FUND FOR RESEARCH INTO INDUSTRIAL DEVELOPMENT,
GROWTH AND EQUITY (FRIDGE)**

NEDLAC



**STUDY TO PREPARE VARIOUS SOUTH AFRICAN
MANUFACTURING SECTORS FOR EFFECTIVE NEGOTIATIONS
FOR THE PROPOSED SACU/CHINA AND SACU/INDIA TRADE
NEGOTIATIONS.**

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**PARTS OF THE CONTENTS OF THIS REPORT ARE SENSITIVE
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LIST OF ABBREVIATIONS

AAA	Acrylic acid and acrylates
ABS	Acrylonitrile butadiene styrene
API	Active Pharmaceutical Ingredients
CAGR	Compounded Annual Growth Rate
CEF	Central Energy Fund
CIF	Cost Insurance Freight
CSP	Customised Sector Programme
CVD	Countervailing Duty
DEPB	Duty Entitlement Pass Book
DTA	Domestic Tariff Area
EPCG	Export Promotion Capital Goods
EPZ	Export Processing Zone
EXIM	Export-Import
FDA	Food and Drug Administration of the United States of America
FEI	Fluoro-chemical Expansion Initiative
FIPB	Foreign Investment Promotion Board
FDI	Foreign Direct Investment
FOB	Free On Board
FTA	Free Trade Agreement
FTZ	Free Trade Zone
GDP	Gross Domestic Product
HDPE	High Density Polyethylene
HS	Harmonised System
IDC	Industrial Development Corporation
LDPE	Low Density Polyethylene
LLDPE	Linear Low Density Polyethylene
MFN	Most Favoured Nation
NAMA	Non-agricultural Market Access
NFE	Net Foreign Exchange
NTBs	Non Tariff Barriers
PBR	Polybutadiene rubber
PC	Polycarbonate

PET	Polyethylene terephthalate
P ₃ HI	Petroleum, Petrochemicals and Plastics Hub Initiative
PP	Polypropylene
PVC	Polyvinylchloride
PS	Polystyrene
PU	Polyurethanes
PTA	Preferential Trade Agreement
R & D	Research and Development
SBR	Styrene butadiene rubber
SEZ	Special Economic Zone
SIC	Standard Industrial Classification
SIP	Strategic Industrial Projects
SMEs	Small Medium Enterprises
TBI	Titanium Beneficiation Initiative
TPR	Trade Policy Review
WTO	World Trade Organization

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EXECUTIVE SUMMARY

Growth and development of the Indian chemical sector

1. The Indian chemical industry grew steadily at 9.3% p.a. in the five years since the year 2000 from a base of R164 billion to R 220 billion in 2004. India accounts for 2% of the global chemicals market, it is the twelve largest in terms of volume globally and the third largest in Asia. The Indian chemical industry is expected to grow at a CAGR of 10.8%p.a. to reach US\$ 60 billion in revenue by 2010. The size of the Indian chemical industry is about 30% bigger than the South African chemical industry. These figures suggest that the Indian chemical industry could be a huge threat to South African chemical industry in its home market and that of its export destinations. However, the Indian chemical industry also offers attractive opportunities to the South African chemical industry largely because of the untapped market potential in India.
2. Growth is to be achieved with the twin objectives of increased exports and investment in high technology sectors. Policies in support of the objectives include de-regulation like doing away with licences; increasing the level of foreign ownership in companies; the lowering of import duties; tax based incentives; support to R&D, aggressive schemes based on the drawback of duty principle for imported feed stocks; intermediates and capital goods; and location benefits in export processing zones. Some of these like the DEPB, EPCG and the Advance License schemes may in their application constitute subsidies to the chemical sector.
3. Development of the Indian chemical industry furthermore benefits from a robustly growing economy with specific sector attributes that add momentum to growth in chemical markets on top of growth in the economy. The agrochemical (fertilizers and pesticides) industries, is benefiting from a developing and large agro-based sector. Polymer demand is expected to reach 7.3 million tons by the year 2007 and 12.4 million tons by 2011. India is expected to be the third largest consumer of plastics after the USA and China by the year 2010. Growth in the plastics industry is expected to outperform that of GDP consistently with a rate of 12% - 15% p.a. India has a well entrenched domestic pharmaceutical industry and over

the next few years products worth over US\$ 45 billion are expected to go off patent. On the feed stocks side India is well placed in the production of chlor-alkali products.

4. Highly skilled scientific human resource and a competitive one for that matter, has been the bedrock of the advancement of the Indian chemical industry. Because of this knowledge base, the Indian chemical industry is able to attract contract research and custom manufacturing opportunities more than any of its peers in the developing world. It is this skilled workforce that is expected to sustain the growth of the Indian chemical industry more especially in sub-sectors that need formulation know-how like the fine and speciality chemicals and pharmaceuticals.
5. Given the impediments to competitiveness faced by Indian chemical manufacturers like poor infrastructure and frequent power outages, the high rate of growth of the chemical sector seems to be achieved because of suitable policies and incentives; attractive and expanding markets in India and in high growth in the economies of its neighbours that is supported by competitive and skilled human resources.

Growth and development of the South African chemical sector

6. The South African chemical industry has been experiencing a lacklustre growth for the previous years at a rate half that of India's in production and exports and this is expected to continue in the short term, at least until the new sector development strategy has been fully implemented with the targeted interventions. Among other things, the slow growth in South African chemicals can be attributed to factors such as the small local market, high cost of capital, distance from low cost raw material and inadequate skills. Added to these growth barriers is the complexity and cost of regulatory compliance. The SIP scheme used to be the pre-eminent investment incentive from which heavy manufacturing industry benefited including upstream chemicals. The Strategic Industrial Projects (SIP) programme was open to applications for five years up to 31 July 2005. Subsequent to the termination of SIP the process of developing beneficiation incentives in line with Government Program of Action has begun.

7. South Africa has developed a Chemical Sector Development Strategy. The objectives of which are: - beneficiation of mineral, natural resources and upstream feedstock where economically viable to produce high value added products, increased competitiveness of the sector, and establishment of a meaningful level of cooperation between the social partners (i.e. government, business and labour) in the chemical sector. The strategy is still to be released publicly.

Trade structure of the Indian chemical sector

8. India's chemical exports (excluding liquid fuels) almost doubled between 2000 and 2004. The exports of plastic and products (198.9%); inorganic chemicals (152.3% from a very low base); rubber and products (108.9%); and pharmaceutical products (103.3%) were the fastest growing of the different sub-groups. Export growth of the sub-groups exporting fertilizers; tanning extracts and essential oils were lower than average Exports of organic chemicals; pharmaceutical products; and plastics and products are the dominant ones among the sub-groups.
9. Despite good growth in chemicals manufacturing the Indian chemical industry has been unable to meet domestic demand for sub-sectors that require chemical intermediates such as pharmaceuticals and textiles. Imports increased somewhat faster than exports and in 2004 were 109.5 % higher than in 2000. Increases higher than the average occurred in the imports of organic chemicals (147.3%); plastics and products (140.9%); rubber and products (137.6%) and miscellaneous chemicals (119.3%). Imports of organic chemicals and of plastics and products constitute more than 50% of Indian imports. Imports of inorganic chemicals are 14.9% of the total and that of fertilizers 9.1%. (Liquid fuels deleted from analysis.)

Trade between India and South Africa

10. The imports and exports of chemicals (excluding liquid fuels) by India tends to balance in the aggregate. Imports amounted to US\$10.4 billion in 2004. South

Africa supplied 2.3% of India's imports and managed to sustain a positive balance with India that came to US\$ 104 million in 2004.

11. South African imports in US\$ were 49.3% higher in 2004 than in 2000. Rapid increases in imports occurred in pharmaceutical products; fertilizers, essential oils, soap, active surface agents, and plastics and products. Plastics and products (19.8%) is the single most important sub-group in imports followed by pharmaceutical products (17.0%); inorganic chemicals (13%) and organic chemicals (15.7%).
12. Growth in South Africa's imports from India was faster than its average to the world. Imports of organic chemicals; pharmaceuticals; tanning extracts etc.; plastics and rubber and products grew at high rates. 84% of South Africa's imports from India are concentrated in these sub-groups. South African imports from India are 1.2% of the latter's exports.
13. South African exports expressed in US\$ and excluding liquid fuels in 2004 were 53% higher than in 2000. The sub-sectors that performed extraordinary well were essential oils with exports 117% higher; plastics 86%; and organic chemicals 81.5 % higher. Increases in exports of rubber and products; starches; and miscellaneous chemicals were more than 70% between 2000 and 2004. Export of inorganic chemicals (27.9% of the total) remained the most important while that of organic chemicals increased from 17.7% in 2000 to 21% in 2004. The export of plastics and products became the third most important sub-group with 13.6% of the total in 2004. Exports of miscellaneous chemicals also gained in importance.
14. South Africa supplied 2.3% of Indian imports in 2004. The increase in exports to India between 2000 and 2004 was 62.3 % that is in excess of the aggregate to the world of 53%. The most significant increase occurred in organic chemicals. South Africa's exports are concentrated in: organic; and inorganic chemicals and explosives.

Tariff duties

15. India's bound tariff rates for industrial products are quite high, mostly at 40%. Many sensitive products are not bound against tariff increases. In the chemicals, plastics and rubber sectors many lines are not bound. All South Africa's tariff lines are bound with the exception of a few chemical lines.
16. India's basic duties are very uniform, mostly at 15% (as from 1 March 2005). However the tariff structure is not transparent with the contents of a large number of notifications and general exemption notices not incorporated in the basic duty schedule. India applies additional taxes on imports and the structure is not transparent. Cost of exporting can thus be higher than expected and tariff concessions granted by India may in certain cases be of no real value. During negotiations on tariff concessions, SACU should make sure that the preferences offered by India will result in actual reductions in the currently applied rate.

Non-tariff barriers

17. NTBs are a further complication when exporting to India. NTB's remain a major problem for exporters to India although the situation has improved over the past few years. The NTBs with the most affect on exports to India are policy unpredictability and uncertainty; customs procedures and delays; customs valuation; port and other transport infrastructural problems; general burdensome red tape; and labelling requirements.

Trade policy measures

18. India is also prone to using trade remedies. It has become the country that uses anti-dumping duties most of all countries. The chemical sector especially is a victim of anti-dumping duties with 20% of all anti-dumping duties that have been imposed by India and an additional 11.9% on plastics.

Recommendations on a defensive position.

From a cross cutting perspective

1. The Indian economy is 4 times South Africa's and the population 23 times. India's economy is the 10th largest in the world with high growth potential. South Africa is more open to international trade (66% of GDP) than India (31%). Indian exports to South Africa are expanding and because of the difference in size and trade intensity,

the impact on the South African market can be much more extensive than the other way round.

- 2 The applied tariff rates of some product groups will be subject to reduction over a period of time in terms of NAMA (non-agricultural market access) if the Doha Round is successfully concluded. NAMA introduces a degree of uncertainty with respect to future MNF tariff levels that may render bilateral concessions premature.

From a sector specific perspective

3. By considering that India's chemicals sector is:
 - on a high growth path;
 - actively pursuing opportunities in international markets;
 - competitive and enjoys attractive conditions in markets for resources and for industry output.; and
 - supported to become even more competitive with the help of a range of incentives,the Indian chemical industry poses a threat to the South African industry in the local and in third markets and trade negotiators should thus be concerned in granting concessions to India in chemical products.
4. Should any offers be contemplated they need to be worked out in conjunction with the constituents of the chemical sector.
5. The list in Appendix 4 can be a guide in circumstances requiring that tariff lines be found that can be included in a bi-lateral trade offer. The list comprises South Africa's more important imports of chemical products.
6. Concessions should not be granted on products that enjoy WTO-unfriendly support as these products, in principle, are candidates for countervailing duties.

Recommendations for an offensive position.

From a cross cutting perspective

1. By considering that
 - the Indian market is expanding and thus offers business opportunities;
 - increases in prosperity are expected to be sustained by exports, India's services sector and its growing segment of middle class consumers;

suggest that opportunities for concessions on South African exports of chemical products be pursued.

From a sector specific perspective

2. India's chemical industries are on a strong growth path and should offer an increasing number of export opportunities to South African business. A positive trade balance in South Africa's favour is indicative of an ability to benefit from the Indian chemicals market that could be enhanced further by bi-lateral tariff concessions.
3. A request for tariff concessions needs to be compiled in consultation with the constituents of the chemical industry. The list of offensive products in Appendix 3 can serve as a guide to compile a set of concessions that can be sought from India.
4. South Africa could benefit from its apparent comparative strength in the trade in upstream chemical products. In terms of direct opportunities that South Africa could capitalize on in the Indian market and where concessions could be recommended are:
 - pharmaceutical feedstock; by prioritising plant derived pharmaceutical feedstock as this has already shown potential;
 - Polypropylene for polymers with market growth at 11% per annum accompanied by high growth in imports of polypropylene; and
 - phosphoric acid because of India's huge fertilizer industry
5. Indian NTB's are a major deterrent to imports and:
 - negotiators need to ensure that tariff concessions are real and not eroded by non-tariff barriers;
 - prospective exporters should enter the Indian market preferably in partnership with an Indian counterpart.

INTRODUCTION

NEDLAC launched a study into the implications of the envisaged trade agreement between SACU and India for a number of South African manufacturing sectors. It is accepted that the trade agreement with India initially will be selective in the format of a Preferential Trade Agreement (PTA) instead of a Free Trade Agreement (FTA). The

primary objectives of the study are to obtain an insight into the environment of doing business in India and among others into the attributes of its chemical industry.

A number of aspects cut across the different sectors that NEDLAC singled out for investigation. These aspects are bi- and multi-lateral trade agreements that India has entered into; macro aspects; the business environment; and the general trade and industrial policies as opposed to sector specific ones. Although they are important in the formulation of sector strategies in the coming trade negotiations it was required that they be reported on separately. Thus, some of the more important implications for sector strategies following the analysis of cross cutting aspects are recapped in the following paragraphs.

TRADE AGREEMENTS

India supports multi-lateral trade relations through the WTO. Since it believes that the multilateral system cannot drive south-south trade as such, India is pursuing bilateral and regional trade agreements. These economic cooperation agreements need to be the building blocks and drivers of global trade. India does not want to be omitted from the preferential benefits of such trade arrangements and is willing to open its economy and import more from regional countries.

Implementation of the policy entails numerous trade agreements with regions, trading blocs and bi-lateral ones with countries. India's current strategy is to secure economic relations with key developing countries, firstly within the Asian region and secondly with selected countries in other regions. Delhi seeks to tie the trade interests of its South Asian neighbours with its own growing economy. While the agreements focus on trade facilitation a number of them extend beyond that in the form of Comprehensive Economic Cooperation agreements.

When negotiating future FTAs with developed countries in particular, India will seek to secure benefits for its service sectors where its economy enjoys comparative advantages while at the same time protecting some Indian services. India will also be cautious to sign an FTA with China given China's comparative advantage in manufacturing, discrepancies like the low cost of finance in China and the notion that China will benefit more than India because India's tariffs are higher than China's.

Negotiations for a PTA between South Africa and India will depart from a position where average tariffs levied on imports from India are substantially lower than that faced by South African exports to India. The Indian inorganic chemicals and pharmaceutical industries are among those expected to benefit from trade agreements. India would probably also negotiate for benefits in the South African services sectors. However, it need to be mentioned that India's priority would be trade with its Asian partners and PTA with South Africa, although important, would possibly lie on the periphery of the bigger picture of India's trade interests.

MACRO MATTERS

The South African and Indian economies are adapting to the demands of the global economy coming from trade protective pasts. Both economies are relatively stable with inflation under control and lower than 5%. Growth in the Indian economy is substantially more robust on the back of an investment ratio to GDP of almost 28% compared with South Africa's 16.5%. The norm for growth in GDP in recent years came to 6% for India and 4% for South Africa. India strives to raise growth to 8% and South Africa has a vision of 6% growth.

Investment in India and the financing thereof is fundamentally on a much sounder footing than found in South Africa. However, growth in the Indian economy is constrained by bottle necks in all spheres of infrastructure and by its stringent labour regulations and opposition to privatisation. Therefore, inefficiency overhangs persists in large pockets of the Indian economy that are in the hands of the public sector.

Bold programmes are underway to improve the supply of infrastructure. Construction of infrastructure is a source of growth in its own right. In the mean time private concerns find it necessary to erect own infrastructure to safeguard their operations.

India's population is 23 times that of South Africa and its GDP just less than four times. Sustained rapid growth and a large population promise to propel the Indian economy to one of the largest mass markets in the world in the longer term. The Indian economy is already the 10th largest in the world. Indian firms can thus expect to benefit from economies of scale. Competition from Indian producers will in all probability be a threat

to their South African counterparts but Indian markets will offer opportunities to South Africans.

The production structure of India portrays the pattern found in developing countries with a dominating agricultural sector. The manufacturing sector is more prominent in the South African economy than the contribution that manufacturing is making to the Indian economy. The South African economy (66%) is substantially more exposed to international trade than India's (31%). Both countries run deficits in the import and export of merchandise. However, India balances its deficit with strong IT export services and by remittances from Indians living abroad. South Africa relies on capital inflows to balance the trade account.

In 2004 the value of the Rand in \$, and that of the Rupee, was practically the same as in 1999 at 7 Rupee to the Rand. The effect of the intermittent currency upheaval of 1999/2001 thus disappeared. If at all, future changes in the Rupee/Rand rate should reflect a weakening of the Rand because of the fundamentals of the Indian balance of payments being stronger than South Africa's.

BUSINESS ENVIROMENT

India is relatively stable politically although terrorist activity (Kashmir) is the second highest in the world. Tensions that may arise between the central and state governments may sometimes project some measure of political instability.

The Indian government has traditionally had a legacy of protectionism for their economy and this has translated into a bureaucratic system that is inefficient and has some measure of corruption. However, as part of the reform process, the government has endeavored to address bureaucratic obstacles for foreign investors through the creation of investment agencies for investment approvals such as the FIPB, reducing the necessary licensing requirements and ceding more authority to state governments to allow for easier investment and business facilitation. The government has also made it a priority to reduce corruption.

An Inter-State Trade Council was established to promote involvement of the States in export promotion, assist in developing export related infrastructure, assist in removing

taxes and local levies imposed on inputs required for export production. The Indian Government has a range of incentives and concessions available to eligible corporations in certain specific industries of the chemical sector. Broadly, the tax incentives include tax holidays for corporate profits, accelerated depreciation allowances and deductibility of certain expenses subject to certain conditions. Concessions apply to profits from new undertakings like for example the greenfield investment in new fertilizer manufacturing capacity based on natural gas and location in special economic zones. Various rebate and duty drawback schemes such as the DEPB and EPCG exist to promote exports.

India has implemented significant economic reforms, but still suffers from an underdeveloped financial sector while India's infrastructure faces the twin challenges of expansion and modernisation. The major area requiring upgrading and investment is the transportation infrastructure - roads, ports and airports - which is currently far below the standard of other emerging market economies and poses a serious obstacle to FDI in the country.

Incentives are to be introduced for investment in certain sectors, which include telecommunication, ports, airports, railways, roads, energy and construction development with a view to improving competitiveness of the Indian economy. Tax incentives, customs duty concessions for imports of equipment/machinery and the implementation of SEZs within the country are further incentives for investment. .

In recent years, India has emerged as a favourite investment destination. India has emerged as an across the board low cost base. FDI into India targets the IT and automotive industries and some metal industries. The retail sector offers major opportunities and many global players have indicated interest. However, FDI is not fully allowed in this sector. The Indian chemical industry attracted FDI of US\$ 2.9 billion for the period 1991 to 1999. This investment was equivalent to just over 7% of total FDI in India.

Intellectual property rights in India, including patents, trademarks, copyright issues and industrial designs is protected by a well-established statutory, administrative and judicial framework that is constantly improved. However, the protection of intellectual property remains an area of concern for foreign investors.

TRADE AND INDUSTRIAL POLICIES - GENERAL

India and South Africa switched from inward to outward oriented trade and industrial policies since the early 1990's. For both countries this meant the scrapping of import quotas and the reform of import tariffs and the down phasing thereof.

To further internationalisation, competitiveness and investment in industry, India undertook a number of reforms that included the adoption of a market related exchange rate; the privatisation of industries and their deregulation (de-licensing). On the back of this India is receiving FDI that together with the vibrant IT services sector and the upcoming middle class consumers, are expected to support high growth. A range of tax and other incentives apply.

The sectors that have been opened up to foreign competition by the liberalising reform program are contributing to the significant expansion in the production and quality of durable consumer goods, motor cars, scooters, consumer electronics, computer systems, and white goods. However, future manufacturing performance will depend on further reform especially with regard to heavy industry largely still owned by the state. However, the appetite for reform by the present coalition government seems to be less than that of its predecessors.

The chemical sector of India produces a third of manufacturing output and generates 36% of manufacturing profit.

Inadequate infrastructure, bureaucracy, restrictions in hiring and firing in the labour market and improper access to finance for the small scale sector are the major impediments to growth in India. The main obstacles that need to be addressed by the government include reducing entry and exit barriers for the manufacturing sector and removing infrastructure bottlenecks. Bureaucracy proved to be a major obstacle as well as investment in infrastructure.

The sector specific analysis to arrive at sector strategies for the trade negotiations is taking place with the foregoing in mind. The emphasis of the sector analysis is to be on features of the Indian chemical industry, the markets and on protection and associated

aspects but without a detailed evaluation of trade flows. Threats and opportunities are to be identified and defensive and offensive strategies developed with regard to the envisaged trade deal.

CROSS CUTTING THREATS AND OPPORTUNITIES.

These can be summarised as below.

THREATS

1. The Indian economy is adapting from a protective past to the demands of becoming a globalised economy. A number of reforms were introduced to achieve that and growth progressed to more than 6% p.a. with a vision to sustain 8% growth p.a. However, the reforms are threatened by serious infrastructure constraints, stringent labour regulations and opposition to privatisation.
2. A range of incentives is in force that includes tax holidays, accelerated depreciation, tax concessions, EPZ and other development zones' Liberal draw back of duty compensation to exporters apply and exporters have preferential access to finance.
3. India's priority is to conclude trade agreements with Asian countries/trading blocks. A PTA with South Africa may thus be less important than with its Asian neighbours.
4. The applied tariff rates of some product groups will be subject to reduction over a period of time in terms of NAMA (non-agricultural market access) if the Doha Round is successfully concluded. NAMA introduce a degree of uncertainty with respect to future MFN tariff levels that may render bi-lateral concessions premature.
5. The Indian economy is 4 times South Africa's and the population 23 times. Its economy is the 10th largest in the world with high growth potential. South Africa is more open to international trade (66% of GDP) than India (31%). Indian exports to South Africa are expanding and because of the difference in size and trade intensity, the impact on the South African market can be much more extensive than the other way round.

6. Although legislation is considered to be sufficient concerns about the safeguarding of international property rights continue to prevail among foreign investors.

OPPORTUNITIES

7. A PTA with India will start off with South African tariffs lower than India's with the benefit of the likelihood that Indian tariffs being lowered more than South Africa's.
8. The Indian market is expanding and thus offers business opportunities Growing prosperity is expected to be sustained by exports, India's IT services sector and its growing middle class consumers.
9. Prevalence of non-tariff barriers, cumbersome bureaucracy and a predilection for the use of trade remedies may distract from the attractiveness of trade opportunities. The Indian market should preferably be entered in partnership with a local business counterpart.

1 SECTOR DEVELOPMENT POLICIES

1.1 Indian Chemical Industry

Strategy/development plan

India's industrial policy lays the foundation for augmenting exports and encourages foreign investment in high technology sectors. Industrial licensing has been done away with except in the case of a small list of hazardous chemicals such as chlorine, caustic soda, and phosgene. A full list of these chemicals appears in Appendix 1. The composition of the list reveals that the reason why these products are under industrial licensing is for the protection of the Indian chlor-alkali and agrochemical (fine and speciality chemicals) manufacturing industries in particular rather than for health and environmental protection.

The removal of industrial licensing has made it possible for entrepreneurs to set up chemical operations by following what is called the Industrial Entrepreneur's Memorandum, which gives exemption from industrial approval. The government has also increased the limit of foreign investment in Indian chemical companies from 41% to 51% of equity. Foreign investment in the chemical industry is therefore covered under automatic approval of foreign equity up to 51%. On top of this India's foreign investment policy makes provision for the FIPB to recommend higher levels of foreign equity of even up to 100% based on the special requirement and merit of each case. This provision allowed Indian chemical companies to acquire state of the art technology as well as capital for investment in their operations (Source: PSi, 2002).

The Indian government is also reducing customs duties on chemical products as a result of their WTO obligations. Import tariff duties were reduced from a peak of 125% in 1990 to a new peak of 35% in 1999. The reduction of customs duties is expected to put the competitiveness of the Indian chemical industry under pressure as a result of foreign companies wanting to establish and/or expand their presence in the domestic market (Source: PSi, 2002).

Implementation/incentives/EPZ

The import duty structure is generally unfavourable (Source: RocSearch, 2006) and incentives available to the chemical industry in India could be said to be biased mostly towards the promotion of exports. For instance, capital goods, consumables and spares are allowed to be imported at concessional rates of customs duty subject to an export obligation to be fulfilled over a period of time based on what is called the EPCG scheme. The Zero Duty scheme which runs for a period of eight years covers among others product categories dyes, dye intermediates, inorganic and organic chemicals. Hence, India's major chemical export products are inorganic chemicals [HS 28], organic chemicals [HS 29] and dyeing extracts [HS 32]. Under the Zero Duty scheme as an example, for importing machinery with CIF value of US\$ 0.23 million or more the importer pays zero duty on the machinery with an obligation to export products worth on FOB basis six times the CIF value of the machinery or five times the CIF value of the machinery on NFE basis. Another export promoting concession is the 10% duty scheme which runs for a period of five years (Source: PSi, 2002).

EPZ in India exist in the form of what are called FTZ, and/or DTA, and/or SEZ. The government of India encourages setting up 100% export oriented manufacturing facilities in these areas. Manufacturing operations based in these areas/zones are allowed to import duty free capital goods and raw materials excluding prohibited items. The duty free provision also applies to import of second hand capital goods. Under these areas/zones the minimum net foreign exchange earnings as a percentage of exports requirement for the chemical industry is 20% with a minimum export performance of US\$ 1 million or five times the CIF value of imported capital goods, whichever is higher. Rejected products of up to 5% of FOB value of exports is permitted for sale in the DTA subject to provisions of EXIM policy. However sale of up to 50% of FOB value of exports is also permitted in the DTA but subject to payment of applicable duties and fulfilment of the minimum net foreign exchange earnings as previously described (PSi, 2002).

There is also what is called Advance License Scheme, which grants advance licenses with a view to provide required input at international prices to the merchant exporter or manufacturer exporter. Imports of input which is physically incorporated in the export product are permitted against the duty free advance license. Therefore, the Advance License Scheme protects Indian manufacturers from fluctuations in international prices

by providing advance procurement of feedstock at pre-determined prices. DEPB scheme or draw back rates is also available to the exporters as an alternative to the advance license scheme. The objective of the DEPB scheme is to neutralize the incidence of basic customs duty and surcharge on the import content of the export product. The duty credit under the scheme is calculated by considering the import content and value addition as per standard output/input norms (Source: PSi, 2002).

There are also other policy initiatives such as fiscal incentives to R & D units to encourage R & D and export focus of the chemical industry. Due to such measures and steps to streamline procedures concerning development of new molecular entities, clinical research and new drugs delivery systems, the fine and speciality chemicals and pharmaceutical industries in particular remain one of the strongest in the Indian chemical industry (Source: RocSearch, 2006).

The fine and speciality chemicals product categories are not the only beneficiaries of the favourable policy incentives in the Indian chemical industry. Another backbone of the Indian chemical industry is the agriculture-friendly policies of the government. For example, as part of its effort to increase urea manufacturing, the government is granting concessions on the basis of long run average cost for Greenfield urea projects based on natural gas. Still on urea, another policy relates to the de-bottle-necking, revamping and modernization of the existing urea plants. Minimum capacity enhancement has been fixed at 10% and additional production is to be based on natural gas as raw material. For such additional production, the urea plants get the prevailing price under the new pricing scheme with a provision for escalation or decrease on the basis of variation in the natural gas prices (Source: RocSearch, 2006).

When it comes to policy implementation, although new pollution control laws have been introduced in recent years, enforcement remains generally weak with the consequences of lower potential demand for pollution control chemicals such as water treatment chemicals for example, in spite of market availability (Source: RocSearch, 2006).

Trade discriminatory incentives

Other than the usual tariff duties there are several trade discriminatory incentives in the Indian chemical industry that exist in the form of various incentives schemes. Among those are the EPCG that favours exports in chemical products such as dyes, dye intermediates, inorganic and organic chemicals. Another trade discriminatory incentive scheme is the Advance Licence Scheme. The availability of EPZs that house 100% export manufacturing facilities could also be interpreted as another form of trade discriminatory incentives in the Indian chemical industry.

1.2 South African Chemical Industry

Strategy/development plan

During the State of the Nation Address in February 2005, the State President made a commitment to the extent that government will make an effort to finalize sector development strategies and programmes with regard to the chemical sector. The CSP team was then put together for the purpose of coming up with a chemicals sector strategy. The endeavours of this team culminated in the publication of the Chemicals Sector Development Strategy by **the dti** during October 2005 for public comment. According to the Minister of Trade and Industry the chemicals sector development strategy document is neither hard nor fast nor a formula for instant success; it is offered as the basis for continuing to forge constructive engagement with stakeholders. – a partnership based on best practice that must be effective at the national, provincial and sectoral levels

The chemicals sector development strategy provides a platform to translate key strategic challenges facing the sector into goals and key action programmes, as well as a framework for industry players to develop and align their own unique growth, employment and competitiveness strategies. The following strategic themes have been identified to address the challenges facing the chemicals sector. These broad strategic themes are to be given special attention over the next five years.

. The key strategic themes are:

- Beneficiation of mineral, natural resources and upstream feedstocks where economically viable.

- Global competitiveness of the chemical sector.
- Partnership approach to chemical value matrix.

Each of these strategic themes demands government and other stakeholders to jointly seek key action programmes and related interventions that must be implemented in order to deal with the strategic challenges faced by the chemicals sector. These three strategic themes have been divided into three beneficiation and two crosscutting key action programmes. These key action programmes will contribute to addressing the key strategic challenges and have been identified as follows:

- Titanium beneficiation initiative (TBI)
- Fluoro-chemical expansion initiative (FEI)
- Petroleum, petrochemicals and plastics hub initiative (P₃HI)
- Best practice initiative
- Siyaphambili Chemical Industry Development

The dti developed and published the chemicals sector development strategy document with particular reference to the following national economic aspirations:

- Improvement of global competitiveness
- Enhancements of exports
- Attraction of local and foreign investments
- Maintenance and creation of new employment
- Encouragement of broad based Black Economic Empowerment

The essence of the chemical sector development strategy though could be interpreted in a nutshell as three-fold; the beneficiation of abundantly available natural resources (e.g. titanium and fluorspar) to produce high value added products, increased competitiveness of the sector, and establishment of a meaningful level of cooperation between the role players in the chemical sector, viz. business, government, and labour.

The chemical sector development strategy document acknowledges that historically there has been a lack of partnership within the chemical sector between the role-players. This state of affairs could be attributable to the lacklustre performance of the chemical sector and the government's intention is not to allow this unfortunate situation to continue unabated. To show the government's strategic intent on forging cooperation of all the stakeholders in the chemical sector, the government saw a need to establish a

specific organisation that is representative of all the stakeholders in the chemical industry. Such a body will be in the form a chemical sector development company appropriately named *Siyaphambili Chemical Development*. *Siyaphambili Chemical Development* will be established as a Section 21 company to facilitate a unified position on broad based interests such as development and policy at the macro level in order to ensure that the chemical sector stakeholders do not continue operating “in silos of sectoral interests”. Therefore, *Siyaphambili Chemical Development* will be a mechanism for ongoing strategic interaction between role players in the chemical sector.

Implementation/incentives/EPZ

The dti has set timeframes for the implementation of the chemicals sector development strategy over the next five years until 2014. Sub-sector specific projects like the downstream beneficiation of polypropylene and acrylic acid for example, will be implemented during this period. Since the chemicals sector strategy is still in an evolving phase, the achievement of the set timeframe will depend on the cooperation of the stakeholders. So as not to miss the set timeframe **the dti** has developed benchmarks against which to measure and report on progress. In terms of implementation *Siyaphambili Chemical Development* would be the body responsible for the implementation of the CSP interventions and the Chemical Sector Summit agreements as well the sector coordination across all spheres of government (national, provincial and local).

The chemical sector does not have any sector or sub-sector specific incentives. Several types of incentive schemes exist like for example the SIP programme which was a tax-incentive programme designed to encourage investments. The programme, which was managed by The Enterprise Organisation a division within **the dti**, does not exist anymore. Among the several types of incentive schemes there is none meant exclusively for the chemical sector. For the duration of its existence, eleven chemical sector projects have benefited from the SIP programme to the tune of R 6.1 billion. The SIP is generally regarded by experts as by far the most successful incentive programme that **the dti** has ever implemented especially with regard to job creation. Therefore a new programme is needed to replace the SIP. In trying to come up with new incentives the approach to be taken by **the dti** as mentioned in the chemical sector development

strategy document could be interpreted as balanced as it addresses both the upstream and downstream industries within the chemical sector. For example, one of the proposed new incentives of the chemical sector development strategy is the development and implementation of tax-based beneficiation incentives in line with cabinet approval for the upstream sector and facilitating the removal of import parity pricing practices for the downstream sector as one of the means or interventions to remove obstacles that are in the way of achieving the government's economic aspirations.

The South African chemical sector does not have exclusive export processing zones.

Trade discriminatory incentives

Trade discriminatory incentives could be interpreted as measures that have the effect of restricting or discouraging trade. Such effect could be as a result of the following three factors acting either collectively or individually; viz. trade policy measures, technical regulations, and administrative procedures. There are no known trade discriminatory incentives in the broad chemical sector other than ordinary customs tariffs. However, commercial agreements between suppliers (upstream) and clients (downstream) as well as between licence holders (multinational companies) and licensees (local subsidiaries) in the chemical sector could have the effect of trade discriminatory incentives. For example, some upstream suppliers have a policy of offering favourable terms to their downstream clients that export their final products compared to those whose products are consumed in the domestic market only. Furthermore, some multinational companies restrict their local subsidiaries to export products to particular markets only, and often less lucrative markets than it would have been the case without the market access restriction that is based on the licence agreement.

1.3 Considerations

1. The development objectives of the Indian chemical sector are increased exports and investment in high technology sectors.
2. Policies to achieve the aims revolve around de-regulation like doing away with licences , increasing the level of foreign ownership in companies, the lowering of import duties, support to R&D, schemes based on the drawback of duty principle

for imported feedstocks, intermediates and capital goods and locational benefits in export processing zones.

3. Development of the Indian chemical industry furthermore benefits from a robustly growing economy with specific sector initiatives like in agriculture that add momentum to growth in chemical markets on top of growth in the economy.
4. South Africa is developing a Chemical Sector Development Strategy. The objectives are the beneficiation of abundantly available natural resources to produce high value added products, increased competitiveness of the sector, and establishment of a meaningful level of cooperation between the social partners in the chemical sector.,
5. The Sector Investment Program is the pre-eminent incentive to the industry. The scheme is running out and need to be replaced by a similar tax based investment facility.

2 OVERVIEW OF MARKETS

2.1 Indian Chemical Industry

Structure, size, products, labels/brands

The Indian chemical industry is classified broadly into petrochemicals, basic chemicals (inorganic chemicals and organic chemicals), fine and speciality chemicals, bulk drugs (pharmaceuticals), agrochemicals (fertilizers and pesticides), dyes and pigments, and polymers (plastics and rubbers).

The Indian chemical industry grew steadily over the next five years since the year 2000 from a base of R 164 billion. Two years later, the size of the Indian chemical market was approximately R 193 billion in 2002 and even much bigger at R 220 billion in 2004. India accounts for 2% of the global chemicals market, it is the twelve largest in terms of

volume globally and the third largest in Asia (Source: RocSearch, 2006). The size of the Indian chemical industry is therefore about 30% bigger than the South African chemical industry.

Growth

Growth in the chemical industry has a positive correlation with the country's economic performance. Historically, growth of the Indian chemical industry has closely tracked the growth pattern of India's GDP. A factor that augurs well for the Indian chemical industry, especially the agrochemical (fertilizers and pesticides) industries, is that India is still a predominantly agriculture-based economy. Thus the chemical industry in India has an opportunity to ride on the government's commitment towards agriculture-led development in rural India (Source: RocSearch, 2006). The rate of growth of the Indian chemical industry over the period 1998 to 2002 has been double the Asian growth rate in the chemical industry and over five times the global growth rate. According to government sources in India the chemical industry has maintained steady growth over the past decade. In fact, the Indian chemical industry continued to grow despite the global slump in the chemical market experienced during the period 2000 – 2002. One of contributing factors to this growth could be India's new commitment to intellectual property rights, which is accompanied by increased prospects of contract manufacturing and research (Source: PSi, 2002).

India has a well entrenched domestic pharmaceutical industry and over the next few years products worth over US\$ 45 billion are expected to go off patent. This is expected to open up a huge market for generic products.

Per capita consumption of polymers in India is still below the world norm at 4.1 kg. Polymer demand is expected to reach 7.3 million tons by the year 2007 and 12.4 million tons by 2011. In fact, India is expected to be the third largest consumer of plastics after the USA and China by the year 2010. Growth in the plastics industry is expected to outperform that of GDP consistently with a rate of 12% - 15% p.a.

At a CAGR of 9.3%, the Indian chemical industry has grown steadily from R 164 billion in 2000 to R 220 billion in 2004. Backed by strong economic fundamentals and expectation

of well over 7% GDP growth, the Indian chemical industry is expected to grow at a CAGR of 10.8% to reach US\$ 60 billion in revenue by 2010 (Source: RocSearch, 2006).

International trade

In this paragraph India's exports and imports are analysed according to the 2-digit HS Classification. The trade in liquid fuels is excluded as specified in the Terms of Reference. Data was sourced from UN COMTRADE via Quantec and are in US\$.

Exports

Export of chemicals in 2004 was 98% higher than in 2000. Exports of plastics and products showed the steepest growth. The increase between 2000 and 2004 brought the share of plastics and products to 19.4% of chemical exports. Exports of Pharmaceuticals also achieved a higher share as did exports of rubber and products and exports of inorganic chemicals, both from a low base. Exports of organic chemicals grew marginally slower but remained more than 34% of total exports.

Table 3.1 Exports, export structure and increase in exports 2000 to 2004 for selected 2-digit HS headings for chemicals.

Category	2000	2004	2000	2004	2004>
	US\$ mil	US\$mil	%	%	2000 %
Inorganic chemicals	239	603	4.7	6.0	152.3
Organic chemicals	1,757	3,434	34.6	34.1	95.5
Pharmeceutical products	960	1,951	18.9	19.4	103.2
Fertilizers	9	13	0.2	0.1	44.4
Tanning extracts, dyes, paints, etc.	526	635	10.3	6.3	20.7
Essential oils and resinoids, perfumery, cosmetics	216	281	4.3	2.8	30.1
Soap, organic surface-active agents, washing preparations, waxes, candles, etc.	36	67	0.7	0.7	86.1

Category	2000	2004	2000	2004	2004>
	US\$ mil	US\$mil	%	%	2000 %
Modified starches, glues, etc.	54	98	1.1	1.0	81.5
Explosives etc.	13	24	0.3	0.2	84.6
Miscellaneous chemical products	452	674	8.9	6.7	49.1
Plastics and articles thereof	644	1,925	12.7	19.1	198.9
Rubber and articles thereof	179	374	3.5	3.7	108.9
Total	5,085	10,078	100.0	100.0	98.0

Imports

Table 3.2 Imports, import structure and increase in imports 2000 to 2004 for selected 2-digit HS headings for chemicals

Category	2000	2004	2000	2004	2004>
	US\$ mil	US\$mil	%	%	2000 %
Inorganic chemicals	1,105	1,617	22.3	14.9	46.3
Organic chemicals	1,627	4,023	32.8	38.7	147.3
Pharmaceutical products	153	280	2.7	2.7	83.0
Fertilizers	452	917	9.1	9.1	102.9
Tanning extracts, dyes, paints, etc.	196	402	4.0	3.9	105.1
Essential oils and resinoids, perfumery, cosmetics	80	126	1.6	1.2	58.5
Soap, organic surface-active agents, washing preparations, waxes, candles, etc.	105	140	2.1	1.4	33.3

Category	2000	2004	2000	2004	2004>
	US\$ mil	US\$mil	%	%	2000 %
Modified starches, glues, etc.	33	69	0.7	0.7	109.1
Explosives etc.	3	5	0.1	0.1	66.7
Miscellaneous chemical products	394	864	8.0	8.3	119.3
Plastics and articles thereof	599	1,443	12.1	13.9	140.9
Rubber and articles thereof	210	499	4.2	4.8	137.6
Total	4,957	10,385	100	100	109.5

In 2004 imports were 109% higher than in 2000. Above average growth occurred in the import of organic chemicals, miscellaneous chemical products, plastics and products and rubber and articles.

Present and expected consumption patterns

At a rate of 3 kg per capita in 2001, the per capita consumption of chemicals in India was far below the world norm of 20 kg per capita (Source: PSi, 2002). This consumption rate is expected to increase to about 8 kg per capita by the year 2007 (Source: RocSearch, 2006). Similarly, India's consumption of polymers of 4.1 kg per capita in 2004 was below the world norm of 20 kg per capita. It is therefore in product categories such as plastics that consumption is expected to increase significantly over the long term to boost overall consumption in the Indian chemical industry.

Despite good growth in chemicals manufacturing the Indian chemical industry has been unable to meet domestic demand for economic sub-sectors that require chemical intermediates such as pharmaceuticals and textiles. The value of imports in dollar terms has been on an increase for the previous five years.

Location

The two western states of Gujarat and Maharashtra together account for the biggest share of chemical production in India. Western India is home to about 45 – 50% of total Indian chemical industry.

Chemical plants are most located in:

- Gujarat – Jamnagar; Surat; Vadodara
- Maharashtra – Mumbai; Raigat; Patalganga; Thane
- Tamil Nadu – Chennai
- Andhra Pradesh – Hyderabad
- Kerala – Cochin
- West Bengal – Calcutta
- Rajasthan – Kota; Udaipur

The pharmaceutical industry in particular is located in the Hyderabad Belt in the state of Andhra Pradesh while the organic chemicals manufacturing industry is located mainly in Gujarat and Maharashtra. Generally, the location of chemical manufacturing facilities suggests an industry that has relatively less logistics costs because of its location in various port cities of the various states (Source: PSi, 2002), however, this is not the case in practice.

Business Cycles

The Indian chemical industry typically experiences cyclical phases in demand and thus income growth. During periods of high demand, companies invest in capacity expansions which eventually lead to overcapacity during periods of low demand and relatively less revenue streams. Then the companies react by idling capacity. Only those companies with sound financials are able to survive the downturns. SMEs are particularly vulnerable to cyclical phases. Companies that are insulated from seasonality are those in the fine and speciality chemicals manufacturing industries (Source: RocSearch, 2006).

2.2 South African Chemical Industry

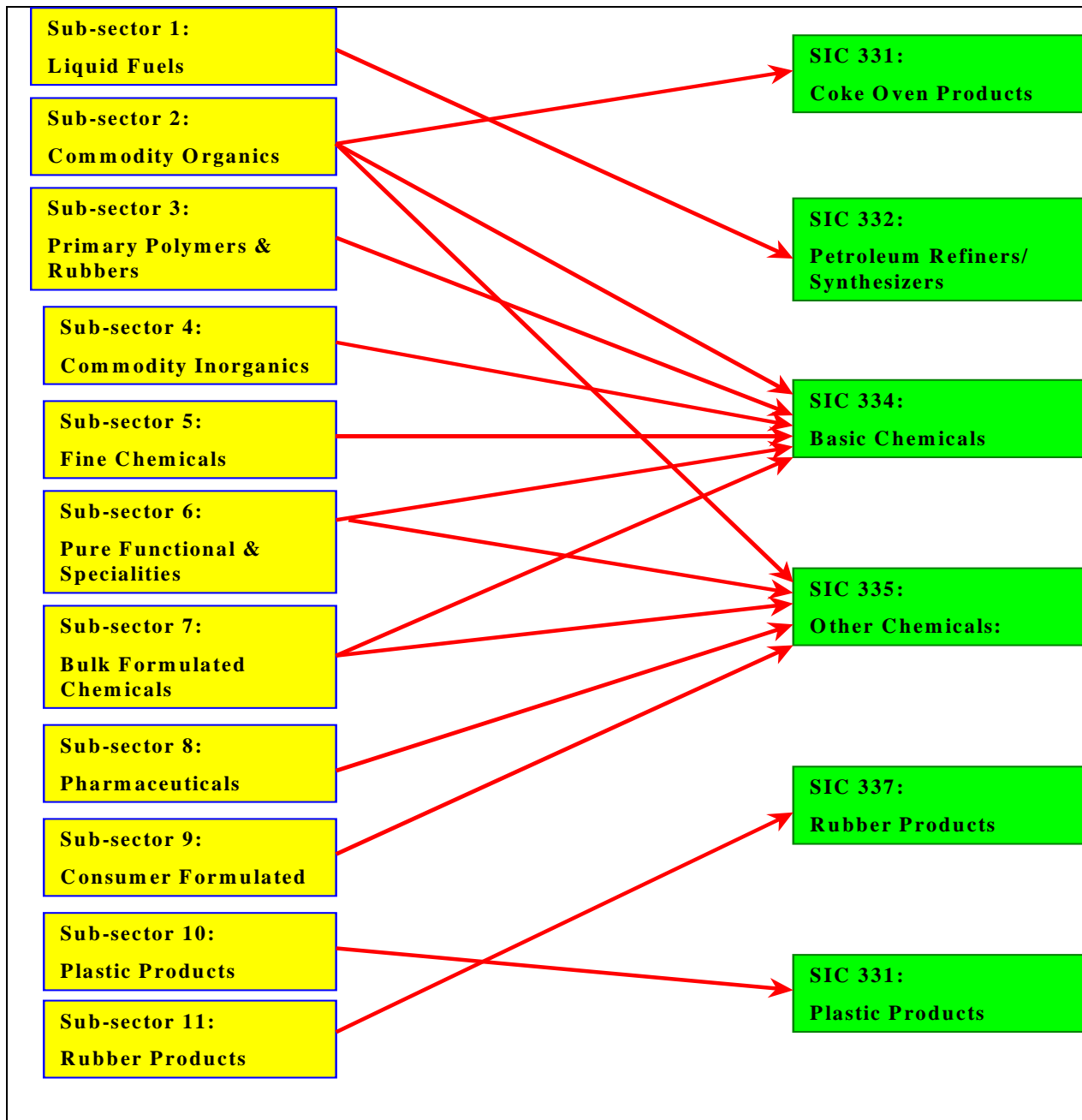
Structure, size, products, labels/brands

2.2.1.1 Data

Traditionally the SIC has been used for the purpose of analysing the chemical sector according to its sub-sectors but this was not user-friendly in terms of strategic development options for the sector. Subsequently a more relevant classification system has been developed by **the dti** which classifies the sector into 11 sub-sectors. The HS codes of the chemical sector, whether at 4,6 or 8-digit level can be reconciled with the strategic classification at sub-sector level. The new sub-sectors and their relationship with the SIC is as shown in the graphic below..

Despite these drawbacks, data according to the SIC is more readily available for non-trade phenomena like production and socio economic indicators of sectors than that offered by the strategic classification. The latter is limited to trade data as far as public information is concerned. SIC based data will be used in this report where deemed useful. The SIC based data to be used is procured from the Easy data subscription of Quantec and is for the period 2000 to 2005. The information for 2005 is an estimate from the monthly releases of industry statistics by SSA. All the SIC data series are in constant 2000-prices.

Figure 3.1 Comparison between the Strategic Classification of the Chemical Sector and SIC



Source: O₃bc; Stats SA

The South African chemical sector remains a predominantly upstream commodity based industry despite all the deliberate strategic efforts to increase downstream value addition and integration like the ChemCity initiative to cite but one example. Around 60% of upstream chemicals are consumed within the chemical pipeline as feedstock. The South African industry is estimated at R 156 billion in terms of sales in 2004, which amounts to 20% of the manufacturing sector (Source: **the dti** CSP). In contrast, the size of the

chemical sector in India is approximately R 209 billion and it accounts for 2% of global chemicals sales. According to the chemical sector strategy document the South African chemical sector is approximately 0.6% of global production. The liquid fuels and bulk formulated chemicals sub-sectors are the biggest contributors to world production at 1.1% and 1% respectively. The other 9 sub-sectors collectively contribute approximately 3.7% of global production. The fine chemicals sub-sector contributes the least to global production and consequently to the national chemical sector production at 0.02%. The 11 sub-sectors are discussed briefly in the following paragraphs.

Liquid fuels

The liquid fuels sub-sector is the biggest in the chemical sector; it contributes 31% in terms of production of the total chemical sector.

Organic Chemicals

South Africa has a fairly limited and concentrated upstream organic chemicals sub-sector. The sub-sector contributes approximately 6% of total production of the chemical sector (Source: **the dti** CSP).

Primary Polymers and Rubbers

The primary polymers and rubbers sub-sector is relatively concentrated. The producers in the sub-sector are Sasol, Dow, Biopolymer, Hoechst, SANS, and Acrylic Products. In addition there are several other operations that produce various products like polyurethanes from imported materials. The sub-sector contributes approximately 7% of total production in the chemical sector (Source: the dti CSP). The major polymers produced by the local operations are LDPE, HDPE, LLDPE, PP, PVC, PS, PU, PET, acrylics, and polyamides. There are no local producers for primary polymers such as ABS, acetals, PC and teflons. South Africa therefore produces most commodity-type polymers and imports other speciality type polymers. The major rubbers produced locally are synthetic rubbers SBR and PBR. In general, one or two producers dominate the production of individual types of products in this sub-sector, creating a situation that is less favourable for the downstream end-users. The process of producing cleaner liquid fuels at Sasol in terms of phasing out leaded petrol and reducing sulphur content in diesel – called Project Turbo – will increase the volume of locally produced polymers

(PP, LDPE, and LLDPE) of 657 000 tons by more than 500 000 tons. Production of PP and LDPE in particular is going to more than double in 2006 as a result of Project Turbo.

Inorganic chemicals

The inorganic sub-sector is characterised by a variety of product categories that ensures that no single company dominates the sub-sector as a whole, although Sasol do have a prominent position in many of the categories. However, in some individual product categories there is a general trend for single, or relatively few producers to dominate production. The major product categories in this sub-sector include metal derivatives, chlor-alkalis, industrial gases, acids and derivatives. The lead firms in this sub-sector include many large companies such as Sasol, Foskor/IOF, Chemserve, BOC/Afrox, PPC Lime, Chrome International and Aquachlor. The sub-sector contributes approximately 8% of total production of the chemical sector (Source: **the dti** CSP).

Fine Chemicals

The fine chemicals sub-sector has always been the least developed sub-sector of the chemical sector in terms of its contribution to South Africa's GDP. The sub-sector contributes 0.02% of total production of the chemical sector (Source: **the dti** CSP). This shows that the fine chemicals sub-sector has some potential for further development. The fine chemicals sub-sector is not focusing on the manufacturing of intermediates for commercialization. Where intermediates are being manufactured, they are typically manufactured for captive consumption for conversion into end products. The major categories of fine chemicals manufactured are active pharmaceutical ingredients, pesticide actives and other agricultural chemical ingredients, actives in flavours and fragrances and others like fluorine-based chemicals, for example. In this sub-sector there is mix of large and small companies. The companies operating in this sub-sector are Fine Chemicals Corporation, Illovo, Chemical Process Technologies, Dow, Chemserve, and NECSA.

Specialities

The pure functional and specialities sub-sector contributes approximately 5% of total production in the chemical sector (Source: **the dti** CSP). The major categories of products in this sub-sector are two, functional chemicals and speciality chemicals. These major product categories are subdivided further into sub-categories. For example,

product sub-categories of functional chemicals are catalysts, emulsions, food acids, inorganic compounds, lead compounds, mining chemicals, organic peroxides, plasticizers to name a few. Product sub-categories of specialities are adhesives and sealants, building and construction chemicals, flavours and fragrances, industrial cleaning chemicals, metal treatment chemicals, paints and coatings, and pesticides to name a few. The majority of operations in this sub-sector can be regarded as small to medium size companies. Some of the operations in the sub-sector are Aquachlor, Chemserve, CH Chemicals, Tenside Chemicals, Lever Brothers, Chemiphos, Brenn-o-chem, Dulux, Plascon, Revertex, National Starch, and Kombat.

Bulk formulated chemicals

The bulk formulated chemicals sub-sector contributes approximately 5% of total production in the chemical sector (Source: **the dti** CSP). This sub-sector consists mainly of two major product categories, explosives and fertilizers. Almost all the major operations in the sub-sector are backward integrated into both product categories. Ammonium nitrate is a common raw material between the two major products categories. Therefore, major ammonium nitrate producers are both explosives and fertilizers manufacturers. Omnia and Sasol fall into this category. Fertilizer operations involve manufacturing of basic feedstock like ammonia and phosphoric acid, and intermediate products such as superphosphates. Fertilizers are made up of bulk blends of various numbers and concentration of components mainly for the provision of macronutrients nitrogen, phosphorus, and potassium. The major product categories under explosives are initiating fuses and blasting materials. Other major operations that produce fertilizers are Foskor and Yara (formerly Kynoch). The other explosives operations are African Explosives Limited and Dantex. The sub-sector is dominated by Foskor, Omnia, Sasol, and Yara in terms of production of basic feedstock and finished products.

Pharmaceuticals

The pharmaceutical sub-sector contributes approximately 8% of total production in the chemical sector (Source: **the dti** CSP). The sub-sector is divided into products that are produced under patent and the non-patented generics. The multinational companies dominate the ownership of patents and thus the production of patented products while the local companies dominate the production of generics. The pharmaceutical sub-

sector is highly regulated and no scheduled medication is allowed to be released to the market without prior registration by the Medicines Control Council. Product registration is a rigorous and long process that could take up to two years, which involves the approval of the manufacturing facility. The pharmaceutical sub-sector has experienced a lot of restructuring in the late 1990s as multinationals opted for a strategy of globally centralized manufacturing. This has led to the closure of several manufacturing plants locally and subsequent job losses. This sub-sector has the most complicated classification of products which gets even more complicated with the sub-categories of products. The simple classification of products in this sub-sector is their physical description into capsules, creams, liquids, tablets, and others. Pharmaceutical operations supply both the private and public sectors. The public sector, however, is the biggest market for generic medicines. The major operations are Adcock Ingram, Aspen, GlaxoSmithKline, Merck, MSD, Novartis, and Schering Plough.

Consumer formulated chemicals

The consumer formulated sub-sector contributes approximately 5% of total production in the chemical sector (Source: **the dti** CSP). The major product categories in this sub-sector are two, household and cleaning products and cosmetics and toiletries. These major product categories are sub-divided further into other products. The cleaning product category in particular is dominated by a few large operations that are multinational. Most of the operations in this sub-sector could be regarded as small to medium size companies. Some of the operations in this sub-sector are Chet Chemicals, Colgate Palmolive, Lever Ponds, Reckitt Benckiser, SC Johnson, Black Like Me, Adcock Consumer, Avroy Shlain, and Sara Lee. This sub-sector is both capital as well as labour intensive.

Plastics Products

The plastic products sub-sector is the second biggest sub-sector after liquid fuels in terms of contribution to total production in the chemical sector at approximately 20% (Source: **the dti** CSP). The sub-sector is the most fragmented in terms of product types and polymer types converted as well as the conversion method. Therefore, concentration of production is fairly low although it is less so in some specific products. The operations in this sub-sector are divided according to type of activity and polymers converted. The operations are classified into masterbatch companies, specialist

compounders, and converters. The majority of operations in this sub-sector are converters. Total conversion of primary polymers was estimated at 657 000 tons in 2004, of which approximately 340 000 tons was converted into packaging products. Other than packaging, other large end-use sectors are automotive, construction and industrial custom. The sub-sector and in particular the packaging products category was drastically affected by the new legislation regulating the use of retail plastic bags. Some operations responded to the new legislation by plant closures and job cuts. Most of the retailers' plastic packaging needs are now imported since the introduction of the new regulation. The new regulation on the minimum thickness of retail plastic bags was introduced in order to encourage recycling of the used retail plastic bags and thus a cleaner environment. The regulation prohibits the supply and distribution of retail plastic bags of a thickness of less than 80 microns. The previous thickness used to be 30 microns.

Rubber Products

The rubber products sub-sector contributes approximately 5% of total production in the chemical sector (Source: **the dti** CSP). The sub-sector is categorised into two major products categories, tyre and belting and other rubber products. The products are made from both natural and synthetic rubbers. In the tyre and belting category production is concentrated among no more than four producers; namely, Bridgestone/Firestone, Dunlop, Continental, and Goodyear. Unlike the tyre and belting category there are a lot of producers in other rubber products category.

Growth

The industry has experienced dismal growth generally in the previous years. Among other things, the chemical sector strategy document attributes this dismal growth to factors such as the small local market, high cost of capital, distance from low cost raw material and inadequate skills (human resources). Added to these growth barriers is the complexity and cost of regulatory compliance.

The chemical sector trade balance has been consistently negative in the previous five years and the situation is likely to continue in the coming years as the value of imports has been increasing faster than that of exports. All the sub-sectors (HS chapters) with

the exception of HS 28, 31, and 36 recorded trade deficits consistently for the previous five years. Of these HS chapters, HS 28 is the only major HS chapter in terms of trade. Other major HS chapters in terms of trade, viz. HS 27, 29, 30, 38, 39, and 40, all recorded trade deficits consistently for the previous five years.

The highest rate of growth was achieved by HS 28. The value of exports of products of HS 28 increased 23% in nominal terms for the previous five years from R 4.4 billion to R 5.8 billion. This growth could be attributed to growth in global demand and the idling of some of the manufacturing capacity of traditional manufacturing regions like North America where in some cases up to 60% of capacity of some of the major products was idle. High energy costs in this area led to the idling of manufacturing capacity of some of the major products. While growth in exports of products of HS 28 is a positive signal for the South African chemical sector, imports have been increasing robustly as well in the same period. Although the value of imports of products of HS 28 increased 19% in nominal terms from R 3.8 billion to R 4.7 billion, the volume declined 20% in the same period from 3 million to 2,5 million tons. The volume of exports though increased 28% during the same period from 2 million to 3 million tons. There are no new major capacity expansions announced by the operations in this HS chapter that would increase export volumes even further. However, it is almost a foregone conclusion that there will be a new world scale capacity in this sub-sector within a year or two as a result of the TBI, one of **the dti**'s key action programmes in terms of the chemical sector strategy together with the FEI. These initiatives are expected to contribute significantly to the growth of this sub-sector in particular and the whole chemical sector generally in the long term.

In terms of HS 29 the new projects (mainly from Sasol) that have recently come on stream and those that would do so in a year or two are expected to narrow the trade deficit for the sub-sector even further as it has been narrowing for the past two years. Imports have increased 23% in nominal terms from R 4.3 billion to R 5.6 billion and 12% in volume terms from 592 000 tons to 669 000 tons while exports increased 42% in nominal terms from R 2.6 billion to R 4.5 billion and 37% in volume terms from 855 000 tons to 1.3 million tons in the past five years. Export volumes are expected to increase even further as they have been in the last three years. The P₃HI, also one of the key action programmes of **the dti**, is expected to sustain this momentum in the long term.

The plastic products sub-sector [HS 39] showed substantial growth in 2004, which could be attributable to growth in the local GDP and in particular exports in the exports focussed automotive industry. This sub-sector in particular is expected to propel chemical sector growth to a higher trajectory for the next five years as a result of three factors, extra polymer capacity from Sasol's Project Turbo, the export focussed programme of the automotive industry and the P₃HI. The bulk of primary polymers to be produced out of Project Turbo will be exported meanwhile the domestic converters would be adding extra capacity. Eventually the local converter industry should be able to absorb most of the raw polymer that would have been exported and increase exports of finished products rather than raw polymer. The automotive industry is expected to grow even further over the next five years in terms of units exported and with it an increase in the consumption of exterior and interior plastic trim components is expected. Growth in exports of the automotive industry is expected to have a positive effect on the performance of the rubber products sub-sector [HS 40] also.

While some growth could be expected from the rest of the other HS chapters, these HS chapters are not expected to contribute significantly to the growth of the South African chemical sector, that is, not as much as HS 28, 29, 39, and 40 are expected to. Should they materialize, the following sub-sector specific potential projects should add to the overall growth of the entire chemical sector:

- Downstream beneficiation of propylene
- Downstream beneficiation of acrylic acid
- Chemicals for mining extraction
- Aroma and fragrance chemicals
- Pharmaceutical feedstock
- Natural products
- Establishment of an extended phosphate value chain
- Establishment of domestic urea production

Appendix 6 shows a number of demand variables for chemical sub-sectors according to the SIC. According to the information in the table real domestic output of the **plastics** sector was almost 40% higher in 2005 than in 2000. Exports were 60% higher and imports 33%. Real output of **other chemicals and man made fibres sector** was 33% higher.while exports and imports declined as a ratio of total demand. Supply from local

output into local demand was more than 82% in 2004 and 2005 gaining on the 80% and less before.

Real output of **rubber products** in 2005 was only 18% more than in 2000 but real domestic demand was 26% more. Imports as a ratio of domestic demand increased to 30% and more in 2003 to 2005. That is 5% points more than in 2000 to 2002. Imports thus made inroads in the local market for rubber products. Exports remained virtually unchanged at R1.2 billion and did not compensate in domestic output for the loss in market share in favour of imports.

Real output of the sector **Petroleum refineries and coke ovens** in 2005 was 17% higher than in 2000. The sector produces mainly for the local market: to the order of 93% of domestic output. The **basic chemical sector** is open to international trade with imports plus exports equal to 47.3% of total demand in 2005. The amounts in real imports and exports tend to be equal from year to year. Imports are equal to 30% of domestic demand and sales from domestic output 70%. Real domestic output in 2005 was 14.3% higher than in 2000.

Trade structure

The analysis in this paragraph excludes chapter 27 Liquid Fuels as per the specification of the Terms of Reference. Trade in Liquid Fuels some times overshadows to such an extent that the performance of the rest of the chemical sector are disguised. Among other reasons this may happen with the practice to include crude oil in the trade figures of Liquid Fuels that may result in overestimating the importance of the sector. I

Exports

Exports expressed in US\$ appear in table 3.4. Exports in US\$ in 2004 were 53% higher than in 2000. The sub-sectors that performed extraordinary well were essential oils with exports 117% higher; plastics 86%; and organic chemicals 81.5 % higher. Increases in exports of rubber and products; starches; and miscellaneous chemicals were more than 70% between 2000 and 2004.

The rest of the sub-groups were laggards and especially the export of fertilizers, pharmaceutical products and explosives.

Export of inorganic chemicals (27.9%) remained the most important while that of organic chemicals increased from 17.7% in 2000 to 21% in 2004. The export of plastics and products became the third most important sub-group with 13.6% of the total in 2004. Exports of miscellaneous chemicals also gained in importance.

Table 3.3 Exports, export structure and increase in exports 2000 to 2004 for selected 2-digit HS headings for chemicals.

Category	2000	2004	2000	2004	2004>
	US\$ mil	US\$mil	%	%	2000 %
Inorganic chemicals	626	900	29.7	27.9	43.8
Organic chemicals	373	677	17.7	21.0	81.5
Pharmaceutical products	94	106	4.5	3.3	12.8
Fertilizers	134	144	6.4	4.5	7.5
Tanning extracts, dyes, paints, etc.	80	123	3.8	3.8	53.8
Essential oils and resinoids, perfumery, cosmetics	70	152	3.3	4.7	117.1
Soap, organic surface-active agents, washing preparations, waxes, candles, etc.	61	83	2.9	2.6	36.1
Modified starches, glues, etc.	72	19	3.4	0.6	-73.6
Explosives etc.	67	80	3.2	2.5	19.4
Miscellaneous chemical products	241	411	11.4	12.7	70.5
Plastics and articles thereof	237	441	11.2	13.6	86.1

Category	2000	2004	2000	2004	2004>
	US\$ mil	US\$mil	%	%	2000 %
Rubber and articles thereof	55	97	2.6	3.00	76.4
Total	2111	3232	100	100	53

Imports

Table 3.4 Imports, import structure and increase in imports 2000 to 2004 for selected 2-digit HS headings for chemicals.

Category	2000	2004	2000	2004	2004
	US\$ mil	US\$mil	%	%	2000 %
Inorganic chemicals	554	730	14.7	13.0	31.8
Organic chemicals	629	880	16.7	15.7	39.9
Pharmeceutical products	619	958	16.5	17-.0	54.8
Fertilizers	124	223	3.3	4.0	79.8
Tanning extracts, dyes, paints, etc.	197	296	5.2	5.3	50.3
Essential oils and resinoids, perfumery, cosmetics	138	238	3.7	4.2	73.7
Soap, organic surface-active agents, washing preparations, waxes, candles, etc.	71	110	1.9	2.0.	54.9
Modified starches, glues, etc.	65	98	1,7	1.7	50.8
Explosives etc.	16	21	0.4	0.4	42.2
Miscellaneous chemical products	450	640	12.0	11.4	42.2
Plastics and articles	694	1113	18.5	19.8	60.4

Category	2000	2004	2000	2004	2004
	US\$ mil	US\$mil	%	%	2000 %
thereof					
Rubber and articles thereof	201	295	5.4	5.3	46.8
Total	3758	5622	100	100	49.6

Imports in US\$ as shown in Table 3.4 were 49.3% higher in 2004 than in 2000. Rapid increases in imports occurred in pharmaceutical products; fertilizers, essential oils, soap, active surface agents, and plastics and products. Plastics and products (19.8%) is the single most important sub-group in imports followed by pharmaceutical products (17.0%); inorganic chemicals (13%) and organic chemicals (15.7%).

Trade according to the Strategic Classification.

In Addendum Trade is in Rand and the trade in liquid fuels is included. shows that the value of exports of the chemical sector [HS 27, 28 – 36, 39 and 40] increased by approximately 26% in nominal terms in the past five years (2000 – 2004). When expressed in constant 2000 Rands the value of exports declined by approximately 81% during the same period. During the same period the value of imports increased by approximately 35% in nominal terms and declined by approximately 81% in constant 2000 Rands.

The chemical sector trade balance has been consistently negative in the previous five years and the situation is likely to continue in the coming years as the value of imports has been increasing faster than that of exports. All the sub-sectors (HS chapters) with the exception of HS 28, 31, and 36 recorded trade deficits consistently for the previous five years. Of these HS chapters, HS 28 is the only major HS chapter in terms of trade. Other major HS chapters in terms of trade, viz. H, 29, 30, 38, 39, and 40, all recorded trade deficits consistently for the previous five years.

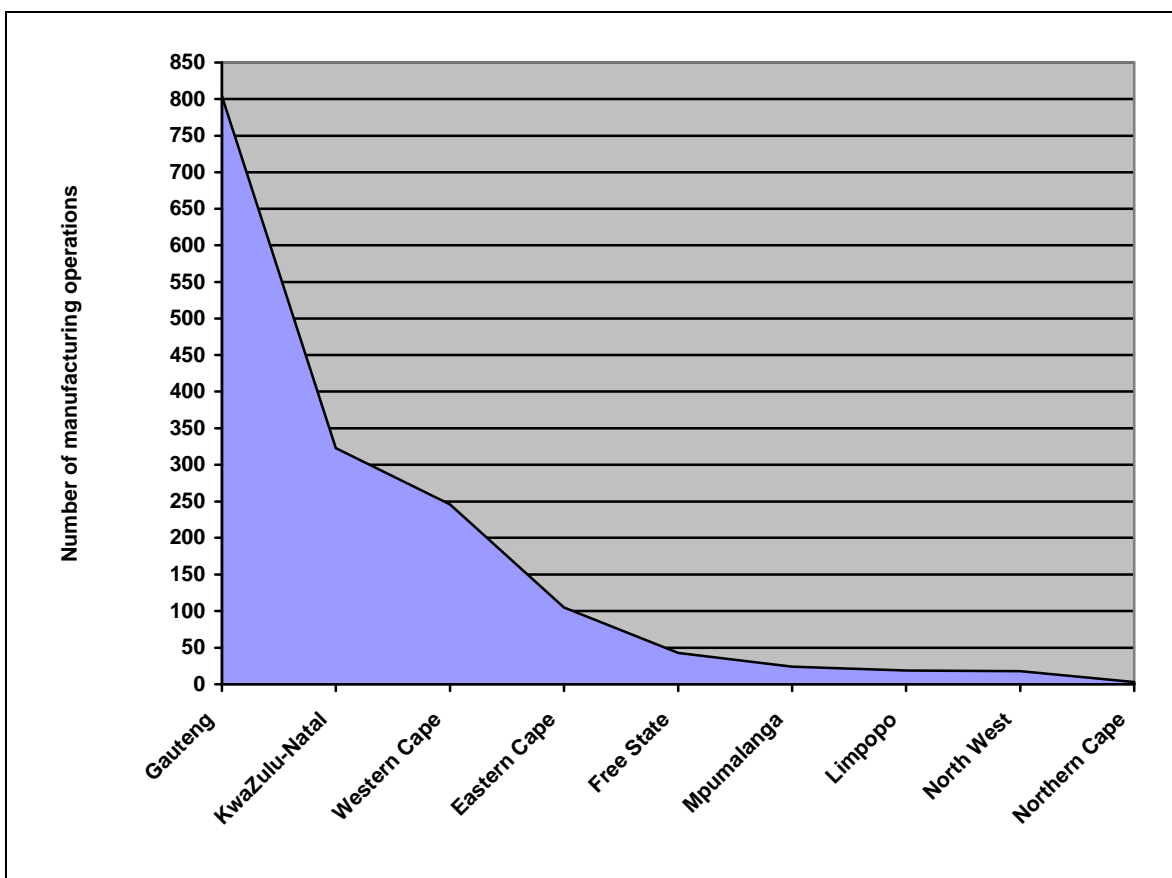
Present and expected consumption patterns

Consumption patterns are expected not to change significantly in the chemical sector under present circumstances. However, there is evidence that regulatory compliance is more and more having an effect on the consumption patterns of particular product categories, e.g. the phasing out of leaded fuel and the regulation on the plastic carry bags. Another example is the reduction of lead and volatile organic compounds in paints and coatings. Therefore any changes in consumption patterns would be more regulation driven and less innovation driven, particularly environmental and health regulation. In liquid fuels for example, consumption of diesel has increased more than consumption of petrol with the introduction of more diesel sedans and multi purpose vehicles. The increase is expected to be even more dramatic with the introduction of the new purpose built diesel powered taxis when the taxi recapitalization program eventually materialises.

Location

Based on the number of chemical manufacturing operations, the South African chemical sector is situated mainly in four of the nine provinces. The provinces of Gauteng, KwaZulu-Natal, Western Cape, and Eastern Cape play host to approximately 94% of chemical manufacturing operations in the country. The availability of feedstock and/or proximity to feedstock sources, the availability of infrastructure as well as proximity to the markets are the major factors that explain the geographic spread of the chemical sector and in particular the various sub-sectors. The geographic spread of the particular sub-sectors of the chemical sector is discussed per sub-sector in the paragraphs that follow below.

Figure 3.2 Geographic distribution of the South African chemical manufacturing operations per province (Estimated Total = 1 585)



Source: the dti CSP

The location of the **liquid fuels** refineries is almost exclusively at the coast. Sapref, Enref, Calref and PetroSA are all located at the coast. Sapref and Enref are located in Durban while Calref and PetroSA are located in Milnerton and Mossel Bay, respectively. However, there are two other refineries that are located inland. Natref is situated in Sasolburg and Sasol Synthetic Fuels is located in Secunda. Crude oil is supplied by pipeline up the gradient from Durban to Sasolburg to feed Natref. The lubricants blending plants are mostly located inland, with most of them (that is, those who are not associated with the refineries) based in Gauteng.

The commodity **organic chemicals** sub-sector is concentrated mostly around the large industrial complexes located in the East Rand, Sasolburg, Secunda, KwaZulu-Natal (Durban, Newcastle) areas, as well as the Western Cape.

The commodity **inorganic chemicals** sub-sector is concentrated mostly around the large industrial complexes located in the Midrand, East Rand, Sasolburg, Secunda,

KwaZulu-Natal (Durban, Richards Bay, Newcastle), as well as major mining areas such as Rustenburg. The industrial gasses product category is dispersed countrywide.

Production of **fine chemicals** is very concentrated amongst a few players. For example, active pharmaceutical ingredients are produced in the Western Cape and pesticide actives in the Eastern Cape, flavour chemicals are produced in Durban and fluorine derivatives are produced in Gauteng.

The formulated **specialities and functional** chemicals sub-sector is dispersed around the country, but in terms of total output, production is concentrated in Gauteng and KwaZulu -Natal, as well as the Western Cape.

The **bulk formulated chemicals** sub-sector is concentrated mostly around the large industrial complexes located in Sasolburg, Secunda, and Richards Bay, as well as major farming and/or mining areas such as Phalaborwa, Phokeng, Potchefstroom, Rustenburg and Viljoenskroon.

The pharmaceutical sub-sector is concentrated mostly in Gauteng, and in particular the East Rand and Midrand regions. The Eastern Cape has a particular focus upon generics manufacturing.

The **consumer chemicals** sub-sector is dispersed around the country, but in terms of total output, production is concentrated in Gauteng and KwaZulu-Natal, as well as the Western Cape just like the formulated specialities and functional chemicals.

The large manufacturing sites in the **primary polymers and rubbers** sub-sector are located in the Free State (Sasolburg), Mpumalanga (Secunda), KwaZulu-Natal (Newcastle) and the Western Cape (Belville). The **plastic converters** are concentrated mostly around the large industrial complexes such as in the East Rand mostly and also in industrial areas in and around Pretoria in Gauteng, in KwaZulu-Natal in and around Durban and Pinetown, the Western Cape in industrial areas in and around the Cape Town and in the Eastern Cape Port Elizabeth and East London. **The rubber converters** are located in the Eastern Cape (Port Elizabeth and Uitenhage), KwaZulu-Natal (Durban and Ladysmith) and in the North West (Brits).

2.3 RSA-India Trade

Table 3.6 RSA exports to and imports from India 2000 and 2004

	EXPORTS				IMPORTS			
	2000	2004	2004> 2000	2004	2000	2004	2004> 2000	2004
Sub-group	US\$m	USm	%	%	US\$m	US\$m	%	%
Inorganic chemicals	117.3	158.8	35.4	68.2	4.5	5.5	22.2	4.3
Organic chemicals	10.7	33.7	215.0	14.5	10.7	25.7	140.2	20.1
Pharmaceutical products	0.1	0.1	zero	Zero	11.3	35.8	116.8	28.0
Fertilizers	3.5	3.3	-5.7	1.4	0.0	0.0	Zero	Zero
Tanning extracts, dyes, paints, etc.	0.5	4.3	760.0	1.9	6.2	14.3	130.7	11.2
Essential oils and resinoids, perfumery, cosmet	0.1	0.1	zero	zero	1.4	4.1	192.9	3.2
Soap, organic surface-active agents, washing pr	0.0	0.0	zero	zero	0.4	0.5	25	0.4
Modified starches, glues, etc.	0.0	0.1	nm	zero	0.4	0.3	-25.0	0.2
Explosives etc.	8.7	23.6	171.3	10.2	0.1	0.8	700.0	0.6
Miscellaneous chemical products	1.2	3.5	191.7	1.5	6.9	8.9	29	7.0
Plastics and articles thereof	0.4	3.9	875.0	1.7	5.3	21.1	298.1	16.5
Rubber and articles thereof	0.5	0.9	80.0	0.4	2.9	11.0	279.3	8.6
Total	143.1	232.3	62.3	100	50.0	128.0	156.0	100

The South African – India trade is small. South Africa supplies 2.3% of Indian imports and is a market for 1.2% India's exports. South Africa's exports to India in 2004 were 62.3 % higher than in 2000.. This is well below the aggregate increase of Indian imports over this period. In a number of sub-groups import growth was high from a low base. The most significant increase occurred in organic chemicals. South Africa's exports are concentrated in organic: organic and inorganic chemicals and explosives.

India's export to South Africa was faster than its average to the world. Exports of organic chemicals; pharmaceuticals; tanning extracts etc.; plastics and rubber and products grew at high rates. 84% of South Africa's imports from India are concentrated in these sub-groups.

2.4 Considerations

1. The Indian chemical industry grew steadily at 9.3% p.a. in the five years since the year 2000 from a base of R 164 billion. to R 220 billion in 2004. India accounts for 2% of the global chemicals market, it is the twelve largest in terms of volume globally and the third largest in Asia. The size of the Indian chemical industry is therefore about 30% bigger than the South African chemical industry. It is expected to grow at a CAGR of 10.8% to reach US\$ 60 billion in revenue by 2010 To put it into perspective, total sales of the South African chemical industry in 2004 was R 2 billion less than Indian chemical industry's total imports in the same year.
2. The agrochemical (fertilizers and pesticides) industries, is benefiting from a developing and large agro-based sector. Polymer demand is expected to reach 7.3 million tons by the year 2007 and 12.4 million tons by 2011. India is expected to be the third largest consumer of plastics after the USA and China by the year 2010. Growth in the plastics industry is expected to outperform that of GDP consistently with a rate of 12% - 15% p.a. India has a well entrenched domestic pharmaceutical industry and over the next few years products worth over US\$ 45 billion are expected to go off patent. This is expected to open up a huge market for generic products venincreased.

3. Total exports almost doubled between 2000 and 2004. The exports of plastic and products (198.9%); inorganic chemicals (152.3% from a very low base); rubber and products (108.9%); and pharmaceutical products (103.3%) were the fastest growing of the different sub-groups. Export growth of the sub-groups exporting fertilizers; tanning extracts and essential oils were lower than average. Exports of organic chemicals; pharmaceutical products; and plastics and products are the dominant ones among the sub-groups. (Liquid fuels deleted from analysis)
4. Imports increased somewhat faster than exports and in 2004 were 109.5 % higher than in 2000. Increases higher than the average occurred in the imports of organic chemicals (147.3%); plastics and products (140.9%); rubber and products (137.6%) and miscellaneous chemicals (119.3%). Imports of organic chemicals and of plastics and products constitute more than 50% of Indian imports. Imports of inorganic chemicals are 14.9% of the total and that of fertilizers 9.1%. (Liquid fuels deleted from analysis)
5. Despite good growth in chemicals manufacturing the Indian chemical industry has been unable to meet domestic demand for sub-sectors that require chemical intermediates such as pharmaceuticals and textiles. The value of imports in dollar terms has been on an increase for the previous five years.
6. The South African chemical sector remains a predominantly upstream commodity based industry despite all the deliberate strategic efforts to increase downstream value addition. The liquid fuels sub-sector is the biggest in the chemical sector; it contributes 31% in terms of production of the total chemical sector. The liquid fuels sub-sector is the biggest in the chemical sector; it contributes 31% in terms of production of the total chemical sector. The inorganic sub-sector contributes approximately 8% of total production of the chemical sector and the organic sub-sector 6%. The primary polymers and rubbers sub-sector contributes 7% to production.
7. The fine chemicals sub-sector is small at 0.02% of total production of the chemical sector. The pure functional and specialities sub-sector contributes approximately 5% of total production in the chemical sector. The major

categories of products in this sub-sector are functional chemicals and sTpeciality chemicals..The bulk formulated chemicals sub-sector contributes approximately 5% of total production in the chemical sector that consists mainly of two major product categories, explosives and fertilizers. The pharmaceutical sub-sector contributes approximately 8% of total production in the chemical sector. The sub-sector is divided into products that are produced under patent and the non-patented generics. The consumer formulated sub-sector contributes approximately 5% of total production in the chemical sector (Source: the dti CSP). The major product categories in this sub-sector are two, household and cleaning products and cosmetics and toiletries.

8. The plastic products sub-sector is the second biggest sub-sector after liquid fuels in terms of contribution to total production in the chemical sector at approximately 20% The sub-sector is the most fragmented in terms of product types and polymer types converted as well as the conversion method. The rubber products sub-sector contributes approximately 5% of total production in the chemical sector The sub-sector is categorised into two major products categories, tyre and belting and other rubber products..
9. Among other things, the chemical sector strategy document attributes weak growth to factors such as the small local market, high cost of capital, distance from low cost raw material and inadequate skills.. Added to these growth barriers is the complexity and cost of regulatory compliance.
10. The real domestic output of the plastics sector was almost 40% higher in 2005 than in 2000. Exports were 60% higher and imports 33%. Real output of other chemicals and man made fibres sector was 33% higher while exports and imports declined as a ratio of total demand. Supply from local output into local demand was more than 82% in 2004 and 2005 gaining on the 80% and less before.
11. Real output of rubber products in 2005 was only 18% more than in 2000 but real domestic demand was 26% more. Imports as a ratio of domestic demand increased to 30% and more in 2003 to 2005 making inroads in the local market

for rubber products. Exports remained virtually unchanged at R1.2 billion and did not compensate in domestic output for the loss in market share in favour of imports.

12. Real output of the sector petroleum refineries and coke ovens in 2005 were 17% higher than in 2000. The sector produces mainly for the local market: to the order of 93% of domestic output. The basic chemical sector is open to international trade with imports plus exports equal to 47.3% of total demand in 2005. The amounts in real imports and exports tend to be equal from year to year. Imports are equal to 30% of domestic demand and sales from domestic output 70%. Real domestic output in 2005 was 14.3% higher than in 2000.
13. South African exports expressed in US\$ and excluding liquid fuels in 2004 were 53% higher than in 2000. The sub-sectors that performed extraordinary well were essential oils with exports 117% higher; plastics 86%; and organic chemicals 81.5 % higher. Increases in exports of rubber and products; starches; and miscellaneous chemicals were more than 70% between 2000 and 2004. The rest of the sub-groups were laggards and especially the export of fertilizers, pharmaceutical products and explosives. Export of inorganic chemicals (27.9%) remained the most important while that of organic chemicals increased from 17.7% in 2000 to 21% in 2004. The export of plastics and products became the third most important sub-group with 13.6% of the total in 2004. Exports of miscellaneous chemicals also gained in importance.
14. Imports in US\$ were 49.3% higher in 2004 than in 2000. Rapid increases in imports occurred in pharmaceutical products; fertilizers, essential oils, soap, active surface agents, and plastics and products. Plastics and products (19.8%) is the single most important sub-group in imports followed by pharmaceutical products (17.0%); inorganic chemicals (13%) and organic chemicals (15.7%).

3 FEATURES OF INDUSTRIES

3.1 Indian Chemical Industry

Production, number of producers, capacity

The Indian chemical industry is ranked 12th in volume terms in global production of chemicals and the industry produced 7 million tons of chemicals in 2004 (Source: RocSearch, 2006). Production of chemicals was estimated at R 143 billion in 2004. Fertilizers command the biggest market of all product categories in India with a contribution of approximately 20% of total Indian chemicals market. Fertilizers are followed closely by organic chemicals and pharmaceuticals which contribute approximately 17% each of the total chemical market. The third biggest product category is polymers, which account for 7% of the total chemical market. India is also strong in the production of speciality chemicals with about 2 – 3% of total world production (Source: PSi, 2002).

The abundant availability of soda along the long Indian coastline makes India globally competitive in the manufacturing of chlor-alkali products. In fact, the installed capacity of more than 1.8 million tons of caustic soda production is equivalent to 3% of global market. The installed capacity for soda ash is more than 2 million tons. The installed capacity of dyes and pigments is 47 000 metric tons and in terms of production, India accounts for 6% of global production.

There are about 50 000 chemical companies in India (PSi, 2002) most of which are in the polymers business (plastics and rubber) [about 28 000] and pharmaceutical industries [about 10 000]. The names of some of the chemical companies in India are shown under Appendix 2 together with the product categories they are involved in. A vast number of chemical companies in India are SMEs and most of their plants are therefore not world scale; the plants are relatively small more especially in the fine and speciality chemicals and pharmaceuticals products category and thus vulnerable to imports and takeovers. For instance, of the approximately 10 000 manufacturing operations in the pharmaceutical industry, about 9700 of them are SMEs. Furthermore, there is little or no vertical integration in the Indian chemical industry (Source: PSi, 2002) and the industry has not been able to benefit from the economies of scale (Source: RocSearch, 2006). The Indian chemical industry is characterised by low product

differentiation (except fine and speciality chemicals), high exit costs and a focus on maximum capacity utilization. Maximum capacity utilization has intensified competition among the role-players (Source: RocSearch, 2006). On average though, capacity utilization of the plants stood at approximately 70% in 2000 (Source: PSi, 2002) and increased to 81% in 2005, which is above aggregate capacity utilization for the manufacturing sector (Source: RocSearch, 2006).

Focus of the industry and types of products

In the basic chemicals category the focus of production is on intermediates and in particular chlor-alkali because of feedstock advantages. The major products in this category are the inorganic chemicals caustic soda, soda ash, liquid chlorine, calcium carbide and organic chemicals acetic acid, methanol, formaldehyde, phenol, and acetone.

Other than chlor-alkali the other important products where India has a competitive advantage in manufacturing are fertilizers and pesticides. In fact, India is rivalled only by China and the USA in the manufacturing of fertilizers because of the abundant availability of agro feedstock (Source: PSi, 2002). India manufactures nitrogenous and phosphatic fertilizers while the demand for potassic fertilizers is met largely by imports. The focus of the fertilizer manufacturing industry lately has been on organic fertilizers (made from plants residue and animal manure) as a cost-effective substitute for nitrogenous chemical fertilizers (Source: RocSearch, 2006). India is second in Asia (to Japan) in the manufacturing of pesticides. More than 60 technical grade pesticides are manufactured in India as well as significant quantities of synthetic pyrethroids such as fenvalerate and cypermethrin, endosulphane and organophosphates range of agrochemicals. India accounts for 25% of world production of the weedicide isoproturon.

The Indian pharmaceutical industry is the biggest in the developing world and currently produces a wide range of bulk drugs. India is currently a world leader in the manufacture and export of basic drugs such as ibuprofen. In fact, the Indian pharmaceutical industry is producing bulk drugs in all the major therapeutic groups. India is emerging as one of the cheapest and largest producers of pharmaceuticals in the world. India ranks among the top 15 pharmaceuticals manufacturing countries in the world and accounts for about

8.5% of total world production in volume terms (Source: RocSearch, 2006) and 1.5% by value.

A history of captive domestic market focus made the Indian chemical industry laggards in terms of technological innovation in products and processes. But liberalization and ensuing competition have ushered in winds of change (Source: RocSearch, 2006). The Indian chemical industry is now focused on the use of advanced technology, R & D, backward and forward linkages and development of domestic capacity to reduce dependence on imported feedstock (Source: PSi, 2002). To this end the government has a policy of fiscal incentives to R & D operations in order to encourage R & D and export focus. The strength of the Indian chemical industry's R & D is borne by India's competitiveness in the production of fine chemicals (API) and speciality chemicals.

The Indian chemical industry is currently in the midst of major restructuring and consolidation. This consolidation will help companies expand their scale of operations, including scale in manufacturing, logistics, marketing, R & D, and raising finance. The fine and speciality chemicals industries in particular are expected to be the biggest beneficiaries of this consolidation in terms of access to assets such as other companies' FDA approved plants, product registrations, research initiatives as well as the relatively easy availability of the R & D funds (Source: RocSearch, 2006). In short, consolidation will allow the fine and speciality chemicals industries to leverage proprietary knowledge and this can only translate into the expansion of the chemical industry and increased exports.

Linkages

The chemical industry in India is still highly fragmented. Fragmentation has led to typically low level investments by the individual firms and as a result the Indian chemical industry has not been able to benefit from economies of scale (Source: RocSearch, 2006). But in the state of Gujarat some cities are linked into a concentrated industrial region (Source: PSi, 2002). Generally, high margins in the pharmaceutical industry and untapped growth potential have prompted Indian chemical companies to undertake forward integration to higher value-added sectors such as pharmaceuticals. On the other hand, since there is a high degree of dependence on feedstock and energy suppliers,

companies in the Indian chemical industry are undergoing backward integration to ensure a cost effective supply of major input costs (Source: RocSearch, 2006).

As a result of consolidation and restructuring that is presently going on in the Indian chemical industry, supply aggregation is one of the options that are being actively considered in the industry. Intermediaries are busy exploring the possibility of aggregating products of SMEs and provide them with marketing, financial and technical support (Source: RocSearch, 2006).

Performance (expansion/decline) outlook

For the period 1991 to 1998 India attracted R 17 billion in FDI in the chemical industry, which was equivalent to approximately 7% of total FDI in India. The agrochemicals industry has developed to a level of contributing significantly to other sectors of the economy like agriculture and health. In the case of pesticides in particular, low value high volume products are being replaced by high value low volume products. This change from commodity type to high value products is testimony of the strength that India's highly skilled workforce has in terms of formulation know-how (Source: PSi, 2002).

Growth in dyestuffs has also been significant. Pesticides, dyes and dye intermediates offer India immense possibilities for exports based on their quality and competitive pricing. Health, safety and environmental protection are becoming more and more important in the Indian chemical industry with manufacturers starting to address the management of toxic chemicals in particular. For instance, caustic soda manufacturing operations are changing to the membrane cell technology from the conventional mercury column technology. In fact, about 65% of caustic soda manufacturing capacity is based on membrane cell technology. This sensitivity towards health, safety and environmental protection is bound to increase the costs of manufacturing for the Indian chemical industry as manufacturing operations change to more environment friendly manufacturing processes (Source: PSi, 2002).

The reality of globalization has forced many Indian chemical companies to enter into strategic alliances or mergers in order to achieve economies of scale. This has ushered

in a phase of restructuring and consolidation in the Indian chemical industry that is expected to continue in the long term (Source: PSi, 2002; RocSearch, 2006).

Backed by strong economic fundamentals and expectation of well over 7% GDP growth, the Indian chemical industry is expected to grow at a CAGR of 10.8% to reach US\$ 60 billion in revenue by 2010 (Source: RocSearch, 2006).

Productivity, wages and cost of capital

Productivity is mostly affected by erratic power supply and frequent power outages. The cost of capital for Indian chemical manufacturers is relatively high because of customs duties on capital equipment imports and high excise duties on indigenous equipment (Source: PSi, 2002) in the case of captive domestic manufacturers. There are also other challenges in the form of high taxes and high cost of raw materials. Utilities and capital costs have a combined effect of escalated manufacturing costs in India (Source: RocSearch, 2006). However, there is abundant availability of cheap human capital for the Indian chemical industry when it comes to both non-skilled labour (PSi, 2002) and skilled labour (Source: RocSearch, 2006). Relatively low salaries for scientists in India make the country the preferred destination as far as R & D outsourcing is concerned, which is why the country is a major force in the field of biotechnology innovations in the chemical industry (Source: RocSearch, 2006).

Manufacturing operations are attempting to improve their level of productivity by implementing the following measures:

- Cost efficient utilization of raw materials
- Waste reduction and recycling
- Energy efficiency and reduction in consumption
- Water management
- Upgrading of plant and equipment
- Continuous development of human resource

Cost structure, pricing and logistics

One of the highest input costs in the Indian chemical industry is energy (Source: PSi, 2002) and can in some cases account for 55% to 80% of total cost of production when combined with feedstock costs (Source: RocSearch, 2006). Energy consumption is too high because the plants are not energy efficient, manufacturing processes are obsolete in some product categories and the energy tariffs are too high (Source: PSi, 2002).

Chemical producers in India generally face a number of disadvantages in terms of higher taxes, higher cost of finance, and unfavourable import duty structure. Poor infrastructure in the country also makes it difficult to transport feedstock as well as finished goods (Source: RocSearch, 2006). Generally, high transaction costs, port delays, high fuel and port costs, and outdated labour laws reduce the profit margins in the chemical industry. However, the Indian chemical industry will continue to enjoy the benefits of the DEPB scheme until the government removes infrastructure impediments that reduce competitiveness.

Presence of multinationals

Many foreign companies have set up manufacturing operations in India due to the relatively low cost of manufacturing which is brought in part by the less stringent environmental regulations (Source: PSi, 2002). There is a large presence of multinationals in the agrochemical, biotechnology and pharmaceutical industries (Source: RocSearch, 2006). In the pharmaceutical industry in particular, there are forty five multinational companies that have manufacturing facilities in India.

Import and export structure (product groups)

The following table shows India's historical chemicals trade expressed in constant 2000 Rands.

India's chemical industry trade balance has been consistently negative in the previous five years. The value of chemical exports in India was R 62 billion in 2004, which represents an increase of 18% over the previous five years. Indian chemicals exports are dominated by the following chemicals at HS 4-digits level in order of value:

- HS 2710 – Liquid fuels [38%]
- HS 3004 – Medicaments [8%]
- HS 2942 – Other organic compounds [7%]
- HS 2902 – Cyclic hydrocarbons [3%]
- HS 3204 – Synthetic organic colouring matter [3%]
- HS 3902 – Polypropylene [3%]
- HS 3808 – Pesticides [2%]
- HS 2901 – Polyethylene [2%]
- HS 4011 – New pneumatic tyres [2%]
- HS 3003 – Medicaments [2%]
- HS 3907 – Polyacetals
- HS 2818 – Artificial corundum
- HS 3920 – Other plates, film, foil, of plastic
- HS 29.41 – Antibiotics
- HS 2933 – Heterocyclic compounds with nitrogen
- HS 3923 – Articles for the conveyance or packaging of goods
- HS 2905 – Acyclic alcohols
- HS 2921 – Amine function compounds
- HS 2917 – Polycarboxylic acids

These product categories collectively accounted for more than 80% of chemical exports in the year 2004. The top ten product categories account for 70% of total chemicals exports. The composition of the major export product categories is testimony to India's strength in organic chemicals, inorganic chemicals, speciality chemicals, and pharmaceuticals. HS 30, 32, and 33 are the only chapters that recorded a trade surplus every year for the past five years. Exports of organic chemicals in particular have been declining over the last few years, while imports were growing at a rate of 21% per annum in dollar terms. This was mainly due to a sharp reduction in import duties on organic chemicals (Source: PSi, 2002). Although fertilizers manufacturing is India's strongest product categories in chemical manufacturing, trade data reveals that fertilizer manufacturing also has a dubious distinction of increasing the chemicals trade deficit. India has such a huge demand for fertilizers and fertilizer raw materials that they hardly

export any themselves. India ranks among the top 15 countries in the world in terms of exports of APIs and medicinal products in dosage forms.

The main export destinations of chemicals from India are China, France, Italy, Russia, UK, Ukraine and USA. India is a net exporter of agrochemicals with an annual growth rate of 35% in exports over the past four years (Source: PSi, 2002). The chemical product categories that dominate India's chemical exports are underpinned by concessions afforded under the Zero Duty scheme of the broader EPCG scheme. In general chemical exports contribute about 14% of total country's exports (Source: RocSearch, 2006).

The Indian chemical industry is dependent on imported petroleum feedstock and primary petrochemicals. The value of chemical imports was R 159 billion in 2004 and was dominated by the following chemicals at HS 4-digit level in order of value:

- HS 2709 – Petroleum oils from bituminous minerals, crude [58%]
- HS 2710 – Petroleum oils from bituminous minerals other than crude [7%]
- HS 2701 – Coal, briquettes, ovoids [4%]
- HS 2711 – Petroleum gases and other gaseous hydrocarbons [3%]
- HS 2902 – Cyclic hydrocarbons [2%]
- HS 2704 – Coke and semi-coke of coal [2%]
- HS 2809 – Phosphoric acid and polyphosphoric acid [2%]
- HS 3104 – Mineral or chemical fertilizers [1%]
- HS 2814 – Ammonia, anhydrous or in aqueous solution [1%]
- HS 2942 – Other organic compounds [1%]
- HS 2905 – Acyclic alcohols
- HS 2707 – Oils and products of the distillation of coal tar
- HS 4002 – Synthetic rubber
- HS 2941 – Antibiotics
- HS 3907 – Polyacetals
- HS 3901 – Polyethylene
- HS 3105 – Mineral or chemical fertilizers containing two or three fertilizing elements

These product categories collectively accounted for more than 86% of total chemicals imports in the year 2004. The top ten product categories at HS 4-digit level account for more than 80% of total chemicals imports. The composition of the major import product categories shows India dependence on imported petroleum feedstock. Only one category, HS 2709, accounted for well above half of total chemical imports in 2004. Other than products of HS 27, other major import products are those of HS chapters 28, 29, 31, 38, 39 and 40. Imports of products of HS 28 (inorganic chemicals) in particular have been on the increase over the past few years registering a growth of 24% in dollar terms for the year 2004 compared to the previous year's imports (Source: RocSearch, 2006).

The main sources of chemical imports by India are Denmark, Italy, Malaysia, UK, USA, Saudi Arabia and Spain (Source: PSi, 2002). In general, chemical imports make up about 9% of total country's imports (Source: RocSearch, 2006).

Importance to the economy

The chemical industry in India ranks fourth in terms of importance to the Indian economy after iron and steel, engineering, and textiles. The industry contributes 7% of India's GDP (Source: PSi, 2002), 17% of total manufacturing output (Source: RocSearch, 2006), 15% of total value added in the manufacturing sector (Source: PSi, 2002), 14% of total exports and 9% of total imports (Source: RocSearch, 2006). The Indian chemical industry contributes significantly to government revenue by way of customs and excise duties. At a level of 20% contribution to government revenue (Source: Department of Chemicals and Petrochemicals), the Indian chemical industry shows signs of an industry with unusually high tariff duties.

Considerations

1. The Indian chemical industry is ranked 12th in global production and it is approximately 30% bigger than the South African chemical industry.
2. The Indian chemical industry has been growing at more than five times the global average in recent years. And this happens even with the prevalence of factors

that reduce competitiveness such as erratic power supply (frequent power outages), high energy costs and poor logistics infrastructure.

3. The Indian chemical industry contributes 7% of GDP and 13% of total manufacturing. The industry also contributes 20% of government revenue by way of customs and excise duties. This level of contribution to the government coffers is indicative of an industry with relatively high tariff duties.
4. The production of chlor-alkali products benefit from feedstock advantages. The major products in this category are the inorganic chemicals caustic soda, soda ash, liquid chlorine, calcium carbide and organic chemicals acetic acid, methanol, formaldehyde, phenol, and acetone.
5. Other than chlor-alkali the other important products where India has a competitive advantage in manufacturing are fertilizers and pesticides because of the abundant availability of agro feedstock. India manufactures nitrogenous and phosphatic fertilizers while the demand for potassic fertilizers is met largely by imports. The focus of the fertilizer manufacturing industry lately has been on organic fertilizers.
6. India is second in Asia (to Japan) in the manufacturing of pesticides. More than 60 technical grade pesticides are manufactured in India as well as significant quantities of synthetic pyrethroids such as fenvalerate and cypermethrin, endosulphane and organophosphates range of agrochemicals. India accounts for 25% of world production of the weedicide isoproturon.
7. The Indian pharmaceutical industry is the biggest in the developing world and currently produces a wide range of bulk drugs. India is currently a world leader in the manufacture and export of basic drugs such as ibuprofen. In fact, the Indian pharmaceutical industry is producing bulk drugs in all the major therapeutic groups. India is emerging as one of the cheapest and largest producers of pharmaceuticals.

8. The industry is vulnerable to imports because the manufacturing plants are relatively small and not vertically integrated. However, consolidation is taking place in the Indian chemical industry with companies trying to benefit from economies of scale with backward integration for some and forward integration for others.
9. India has highly skilled and relatively cheap scientific manpower resources. This makes the country a magnet for R & D outsourcing. For instance, in pharmaceuticals, India has demonstrated repeatedly the ability to produce the latest drugs cost effectively. It is this skilled scientific human resource that makes India a force to reckon with when it comes to biotechnological innovation in the chemical industry. India's knowledge base in biotechnology is expected to drive growth in their pharmaceutical and speciality and fine chemicals industries in particular.
10. Industrial licensing has largely been done away with and whatever is left of it has little or nothing to do with health and environmental protection, it exists for the protection of their inorganic chemicals [HS 28], organic chemicals [HS 29], pharmaceutical [HS 30], fine and speciality chemicals [HS 32 and 38] and polymers [HS 39] industries in particular. To elaborate on the protection of India's fine chemicals industry, in a previous benchmarking study for the pharmaceutical sub-sector done by Ozone's sister company in 2001, it was found that importing APIs from India was more expensive than importing the final products; an anomaly indeed.
11. India is still a predominantly agriculture-based economy. This augurs well for their agrochemical (fertilizers and pesticides) manufacturing industries in particular because of the central government's agriculture friendly policies. Being an agriculture-based economy, India has a huge market for fertilizer feedstock and fertilizers. To this end the Indian government is well aware of the impact of imports of these products [HS 31] on the chemicals trade balance. Hence, they have implemented an incentive for Greenfield investment in fertilizer manufacturing based on natural gas.

12. Development of an industrial consumer base in India is lengthy and time-consuming, not unless the company/supplier has a captive consumer base or international market reputation.
13. The Indian chemical industry is expected to sustain its past performance and grow in line with the GDP growth. Fiscal incentives extended by the government and special rebates offered to contain energy costs are expected to propel growth even further at CAGR of 10.8%. Sub-sectors such as fertilizers and pesticides, and plastics are expected to consistently outperform GDP growth though.
14. The DEPB scheme shields Indian chemical manufacturers from the effects of poor competitiveness brought about by poor infrastructure and high logistics costs. Advance Licence Scheme protects Indian chemical manufacturers from fluctuations in international feedstock prices. Indian chemical manufacturers therefore enjoy the benefits of certainty and stability when it comes to raw material costs. In India inputs required for export production are free of levies and taxes.
15. FDI in the Indian chemical industry is on a much more sound footing than in the South African chemical industry. This could be attributed partly to new regulations pertaining to equity ownership by foreign companies in the Indian chemical industry which was previously restricted to less than 50%. 100% equity ownership by foreign companies is now allowed.
16. Trade negotiations with India are going to start on the basis of high tariff duties by South African exports to India compared to duties that Indian exports to South Africa face.

3.2 South African Chemical Industry

Production, number of producers, capacity

There is no newer information available that specifies production volumes in the chemicals sector based on the various sub-sectors. The latest information available is for the year 2000 for most products and 2003 for some products and was sourced from the Chemissa database (www.chemissa.co.za). Production value is dependant upon commodity price cycles and other impact factors such as the crude oil price and exchange rates. Production value can therefore indicate large variations from year to year, even under constant volume output.

Production of liquid fuels and associated products was estimated at 22.3 million tons in 2000. The refining capacity amounts to 676 000 barrels per day, of which 71% or 481 000 barrels per day is conventional refining capacity while 29% or 195 000 barrels per day is synthetic refining capacity. There are four conventional refineries and two synthetic fuels refineries. Production volume of liquid fuels amounted to 30 billion litres in 2003 (Source: Sapia) while in 2002 production of lubricants was 303 520 tons (Source: Chemissa).

Production of commodity organic chemicals was estimated at 2.3 million tons in 2000. This production volume included captive production of products such as ethylene. South Africa has a fairly concentrated commodity organic chemicals manufacturing sub-sector with close to 40 manufacturing operations (Source: Chemissa).

Production of primary polymers was estimated at 915 655 tons and production of primary rubbers (as dry rubber) was estimated at 62 800 tons in 2000. There are only about ten primary polymers and rubbers manufacturers in South Africa, of which some of them produce more than one type of product (Source: Chemissa).

Production of commodity inorganic chemicals was estimated at 9.9 million tons in 2000. This production volume included captive production of products such as ammonia for fertilisers and explosives manufacturing. There are about 40 manufacturers in this sub-sector who manufacture a variety of product categories (Source: Chemissa).

The fine chemicals sub-sector is the smallest sub-sector of the chemical sector in terms of output. Total production of fine chemicals was estimated at 16 000 tons in 2000. There are approximately ten manufacturing operations in this sub-sector (Source: Chemissa).

Production of pure functional and speciality formulated chemicals was estimated at 995 000 tons in 2000. There are almost 400 manufacturing operations in this sub-sector most of whom are smaller to medium size operations (Source: Chemissa).

Production of explosives was estimated at R1.8 billion [wholesale value] for the year 2002 while fertilisers production was estimated at 2.29 million tons for the year 2002. There are four major explosives manufacturers and four major fertilizer manufacturers. There also approximately twenty smaller fertilizer producers in this sub-sector (Source: Chemissa).

Production of scheduled pharmaceuticals at manufacturers' level was estimated at R 7.6 billion in 2000. This excluded production of over-the-counter products for sales in non-pharmacy outlets such as supermarkets. There are around ninety four registered pharmaceutical operations in South Africa. This number is significantly lower than a decade ago mainly due to rationalizing by local companies as well as a significant move from multinational companies towards full importation (Source: Chemissa).

Production of consumer formulated chemicals was estimated at 679 374 tons worth R 5.3 billion [ex-factory] in 2000. Of this, more than 82% by volume and more than 77% by value was household and cleaning products. There are around one hundred and ninety household and cleaning products manufacturers and about one hundred cosmetics and toiletries manufacturers (Source: Chemissa).

Production of plastic products was estimated at 1.09 million tons worth an estimated R 20.4 billion in the year 2000. There are more than seven hundred plastic products manufacturers in South Africa (Source: Chemissa).

Production of rubber products was estimated at 200 000 tons worth an estimated R 4.7 billion for year 2000. There are four tyre and conveyor belting manufacturers and approximately ninety other rubber products manufacturers in South Africa (Source: Chemissa).

Focus of the industry and types of products

The South African chemical sector remains largely an upstream focussed sector for historical reasons. The chemical sector is characterised by the manufacturing of commodities primarily. The lack of development of the downstream industry could be attributed to the lack of skills and techniques necessary to develop unconventional manufacturing processes among other factors. Furthermore, technology improvements in the sector are generally geared towards improving competitiveness rather than novel applications or products. The focus of the chemical sector is therefore on reducing cost of production and/or increasing output rather than product innovation. However, the chemical sector is gradually evolving out of the historical characteristics to a more downstream focussed sector with the emphasis on beneficiation of abundantly available raw materials in the country. The establishment of incubators like Chemin is testimony to the intentions of moving the focus away from production of commodities.

The types of products manufactured by the sector are explained in detail under section 3.2.

Linkages

There are linkages within the chemical sector although this differs from sub-sector to sub-sector. Linkages within the chemical sector are driven by factors such as the availability of industrial infrastructure, specialised services in areas such as transport, engineering, maintenance, instrumentation and breakdown management, as well as the availability of skills pools. Availability of equipment and spares to minimise time-outs is also important, as is intermediary feedstock for production. Equally important as a factor that drives linkages is proximity to the market as in the case of tyre manufacturers and car manufacturers for example. However, there are also instances where linkages differ within a sub-sector based on the various product categories like for example in the fine chemicals sub-sector. For instance, Sasolburg would be suitable for aromas and

antioxidants production because of the availability of utilities and other services and infrastructure while Pelindaba can only support the manufacturing of fluorine derivatives because of the availability fluorine. However, in the specialities and functional chemicals sub-sector the linkages are virtually non-existent because of the diverse and fragmented nature of the sub-sector. Even more some of the specialities and functional chemicals manufacturers import most of their raw materials, which makes linkages non-beneficial except in situations where manufacturers are situated closest to their major markets and in major integrated industrial complexes.

In the liquid fuels sub-sector the present linkages in the sub-sector cannot be improved further for environmental reasons except in the case of logistics where the present pipeline infrastructure could be improved.

In the case of explosives and fertilizer manufacturers the biggest role players in this sub-sector are backward integrated into explosives and fertiliser manufacturers. Other than these few major manufacturers there are no linkages in the sub-sector.

Generally in the whole chemical sector linkages are prevalent mainly in the large industrial regions of the country, or in association with large integrated chemical complexes such as Chloorkop, East London, East Rand, Modderfontein, Mossel Bay, Nelspruit, Phalaborwa, Pinetown, Port Elizabeth, Richards Bay, Rosslyn, Sasolburg, Secunda, and Umbogwintini.

Performance (expansion/decline) outlook

There is an acknowledgement from the government side that the South African chemical sector is not performing as well as it should. In fact, there is evidence of declining performance. According to the chemicals sector strategy document, the South African chemical sector, with a few notable exceptions, has remained static over the last ten years. In many cases the chemical sector has lost critical manufacturing capacity and skills, it has failed to expand and diversify significantly into higher value added products and also missed the opportunity to take a share of the higher growth markets of the nineties.

The sub-sectors of the chemical industry and for that matter the various products manufactured do not move in sync; some product categories show growth while at the same time other product categories are on the decline. For example, in the inorganic chemicals sub-sector [HS 28], there is a constant imbalance between chlorine [HS 28.01.10.00] demand and caustic soda [HS 28.15.11.00] demand. The performance of the chemical sector when explained in terms of expansion and/or decline is therefore almost always a mix of both. Decisions by local operations whether to expand or scale down are always based on the outlook for the domestic and global economies and in particular demand for their products both domestically and globally. Most of the public announcements made already about capacity expansions by local operations are dominated by Sasol's projects.

In liquid fuels [HS 27], other than the spin offs of regulatory requirements pertaining to cleaner fuels, the focus is on production of biodiesel and bioethanol. There is going to be a new biodiesel manufacturing facility by Evergreen Biofuels with an estimated capacity of 10 million litres a year that is scheduled to start in 2006. The plant will use soya beans from local farmers in Mpumalanga. However, several other biodiesel projects albeit at a relatively lower scale have been launched by various farmers around the country already. The government has already formed The Biodiesel Joint Implementation Committee that is focussing on a biodiesel plant with a capacity of 80 000 litres per year that will be using soybeans also. Maize SA in partnership with the Central Energy Fund is evaluating a 370 000 tons per annum maize-based ethanol plant for use as blend in the petrol pool.

In the organic chemicals sub-sector [HS 29] Sasol has announced in December 2005 the expansion of their methyl isobutyl ketone [HS 29.14.13.00] capacity by 30 000 tons, which will give South Africa a total world market share of 20%. This investment will involve the construction of a new plant in Sasolburg which will come on stream in 2008. There are plans at Sappi Saiccor to expand cellulose production in 2006 pending environmental approval.

On the pharmaceutical sub-sector [HS 30] front, there are prospects for the production of various products the most famous of which are the anti-obesity drug and mosquito repellent products from indigenous plants. The Council for Scientific and Industrial

Research (CSIR) has been involved in bioprospecting for several years and some of the results of their bioprospecting are expected to enter the market. South Africa's biodiversity offers a unique advantage and economic potential in this case. However, applications of such products could range well beyond the pharmaceutical sub-sector into other sub-sectors like essential oils, perfumery and cosmetics [HS 33]. Aspen Pharmacare and Roche Products have already being granted the SIP allowance for their production facilities in Port Elizabeth and Isando, respectively in 2004 already. A major growth focus in new production is on antiretroviral drugs for HIV/AIDS treatment, where South Africa is being positioned as a major supplier of drugs into third world countries. Companies such as Aspen have obtained generics licenses from multinational companies to manufacture these drugs for distribution into designated regions.

In the plastics products sub-sector [HS 39] Nampak has announced the closure of one of their packaging plant while Consol is considering selling their plastic businesses if sales do not increase significantly in the next three years (Source: Businessday, 13/12/2005). Sasol's Project Turbo is probably the biggest project ever in the history of the chemical sector in terms of local spent (R 9 billion) and total project cost (R 13 billion). The project is going to add more than 500 000 tons of new primary polymer capacity in South Africa.

The biggest projects that came on stream already were mostly from Sasol with the most recent being the AAA plant in Sasolburg which was commissioned in 2004. This followed on the commission of the butanol plant earlier which is adjacent to the AAA plant. The butanol is used in the manufacturing of acrylic acid and acrylates. The AAA project has already been granted the SIP allowance. Other projects announced by Sasol that have already been granted the SIP allowance are the 1-octene project in Secunda and the propylene oxide and glycol ethers projects in Sasolburg.

The chemical sector is therefore generally expected to expand than decline despite notices of capacity closures by some of the operations.

The following table shows some of the projects that have been announced by various operations:

Table 4.1 Chemical projects expected to come on stream in the short to long term

Company Name	Physical Location	Project Name	Present Capacity (unit/year)	New Capacity (unit/year)	Total Capacity as % of World	Project Value	Completion Date
Evergreen Biodiesel	Bethal	Biodiesel	Nil	10 million litres	Unknown	R 35 m	2006
Sappi Saiccor	Umkomaas	Cellulose	610 000 tons	810 000 tons	20%	R 2 bil	2008
Sasol	Secunda	2 nd 1-octene train	48 000 tons	96 000 tons	16%	R 870 m	2005
Sasol	Secunda	3 rd 1-octene train	96 000 tons	100 000 tons	33%	Unkown	2006
Sasol	Secunda	Project Turbo	PP – 230 000 tons LDPE – 100 000 tons LLDPE – 110 000 tons PVC – 165 000 tons	300 000 tons 160 000 tons 40 000 tons 35 000 tons	1% 1% 1% 1%	R 13 bil	2006
Sasol	Sasolburg	MIBK	30 000 tons	60 000 tons	20%	Unkown	2008

Employment

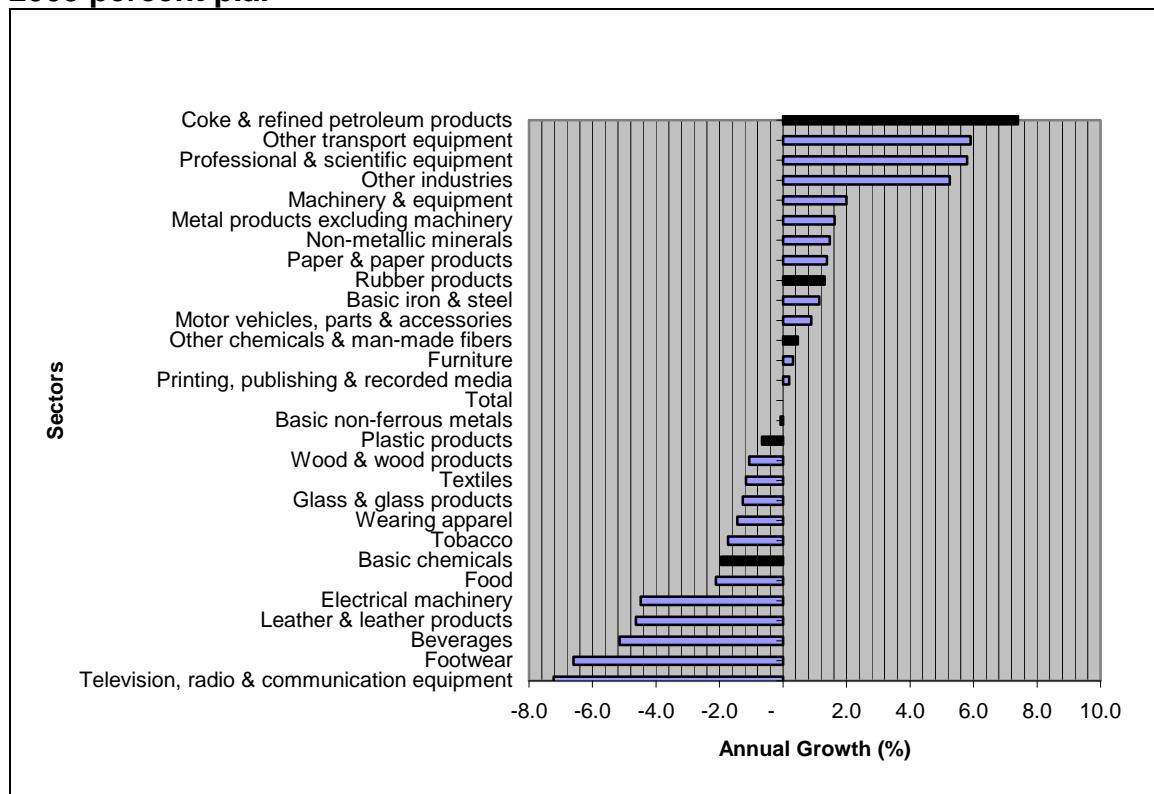
The chemical sector is not a major employment provider. Although the chemical sector accounts for some 30% of manufacturing fixed capital, it only accounts for around 9% of total manufacturing jobs. The chemicals sector employed more than 202 000 people in 2003 (Source: StatsSA). Employment in the chemical sector has recorded a lacklustre increase of only 6% for the period 1998 to 2003. The high profile foreign direct

“investment” by Dow with the acquisition of Sentrachem in 2000 was followed by job losses with the disposal of the “non-core” assets by Dow. The strategy of multinationals to centralize manufacturing more especially in the pharmaceuticals sub-sector was another aggravating factor in terms of employment in the chemical sector.

Please note that the following paragraph and graph discusses employment in the chemical sector based on StatsSA’s definition that does not recognise the 11 sub-sectors.

In 2005 employment in the chemical sector was 14.5% of that of manufacturing. Employment in Other Chemicals and Man-made fibres came to 36% of employment in chemicals and that by the plastic sub sector to 26%. Employment in the petroleum refineries and coke ovens sub-sector increased by 7.4% p.a. between 2000 and 2005. That of Other Chemicals and man-made fibres increased by .0.5% and by 1.3 % in the rubber sub-sector. Employment in basic chemicals and in the manufacturing of plastic products declined.

Graph 4.1 Growth in the employment of manufacturing sectors 2000 to 2005 percent p.a.



Productivity, wages and cost of capital

Productivity and wages in the chemical sector vary with the various sub-sectors and also within a particular sub-sector with various product categories. With most processes in the chemical sector, and in the capital intensive sub-sectors in particular, being operated by means of automated process control, labour productivity is not regarded as a critical factor. Most sub-sectors are capital intensive. According to **the dti** CSP historical wage growth in the chemical sector as a whole has been 1% - 2% above inflation. But according to StatsSA, gross salaries in the chemical sector have increased 20% in year 2000 constant prices from the year 1998 to 2003. Compared to South Africa's major trading partners the cost of capital is relatively high domestically because of high real interest rates. Real interest rates are relatively too high although this has gone down in the previous two years. High real interest rates lead to high hurdle rates for capital expenditure. In addition they also add significantly to operational costs compared to competitors with relatively lower rates.

In the liquid fuels sub-sector wage growth has kept up with inflation historically, which means historical real wage growth is zero. This sub-sector is capital intensive with most processes operated by means of automated process control. Labour productivity is therefore not a critical issue relative to other sub-sectors of the chemical sector. However, management productivity has an impact upon overall efficiencies of operations as well as quality control. Poor management therefore has a serious impact on the productivity of operations (Source: **the dti** CSP).

The organic sub-sector is also capital intensive with most processes also operated by means of automated process control. Labour productivity is also not a critical issue relative to other sub-sectors of the chemical sector. Labour productivity has historically improved due to increased capacity utilisation as well as improved motivation levels and skills levels of workers. Some companies managed to achieve increased productivity by not employing new workers to replace those lost due to natural attrition. Wage growth has historically ranged between 0% - 4% above inflation (Source: **the dti** CSP).

The primary polymers and rubbers sub-sector is also predominantly capital intensive with most processes operated by means of automated process control. Historically there has been a substantial increase in labour productivity in this sub-sector which in some cases is believed to be up to 200%. This is due in part to a trend to not increase the labour component when increasing plant capacity. Generally a lower number of employees are employed with an increase in the volume of production. The real wage growth in this sub-sector has varied between 0% - 2% above inflation (Source: **the dti** CSP).

The inorganic sub-sector is also predominantly capital intensive with most processes operated by means of automated process control. The average labour productivity at plants where there was no headcount reduction over the last five years has been negative in real terms, at a rate of around minus 3% to 5%. However, at some plants major restructuring and computerisation as well as concerted efforts to increase educational levels of the workforce have lead to improvements in labour productivity. Wage growth has historically been slightly above inflation [1 - 3%] (Source: **the dti** CSP).

Because of the fragmented nature of the specialities and functional chemicals sub-sector and the associated variety of product categories, this sub-sector is both capital intensive (functional chemicals) as well as labour intensive (speciality formulation). Labour productivity is therefore a critical factor relative to other sub-sectors. Operations in this sub-sector are relatively small in terms of the number of employees, and control over labour productivity is relatively good. In some operations labour productivity has historically increased up to as high as 30% as a result of a combination of factors such as worker incentives, retrenchments and automation. Wage growth differs within the various product categories but overall it has been historically on par with inflation (Source: **the dti** CSP).

The bulk formulated chemicals sub-sector is both capital intensive (mostly for integrated fertiliser operations) as well as labour intensive (formulation/blending only plants). Labour productivity is therefore a critical factor relative to other sub-sectors. The explosives manufacturing category of this sub-sector has experienced labour productivity of about 10% in the past. This productivity increase was largely attributed to

rationalisation and plant closures. Labour productivity growth was also realized in the fertilizer-manufacturing category. Real wage growth in the explosives category of the bulk formulated chemicals sub-sector has been in the order of 1% – 2% historically while in fertilizer manufacturing real wage growth has been slightly higher historically [2% – 3%] (Source: **the dti** CSP).

In the pharmaceuticals sub-sector plants are relatively labour intensive. Stringent quality compliance requirements generally ensure good labour and management productivity. However, the high level of uncertainty in the industry regarding legislation and public tenders is creating a difficult environment for management to conduct long-term planning, which seriously affects productivity. Generally productivity growth is regarded as stagnant. Historical wage growth has been 1% - 3% above inflation (Source: **the dti** CSP).

Consumer formulated products sub-sector is both capital intensive (for larger integrated operations) and labour intensive (smaller formulation only operations). Labour productivity is therefore a critical factor relative to other sub-sectors. Most operations in this sub-sector are relatively small in the number of employees, and control over labour productivity is relatively good. Due to minimum wage requirements, labour productivity growth in the recent past was negative. At some plants major restructuring and optimisation, as well as computerisation/automation has led to reduction in labour requirements. Wage growth has historically been 1% - 2% above inflation (Source: **the dti** CSP).

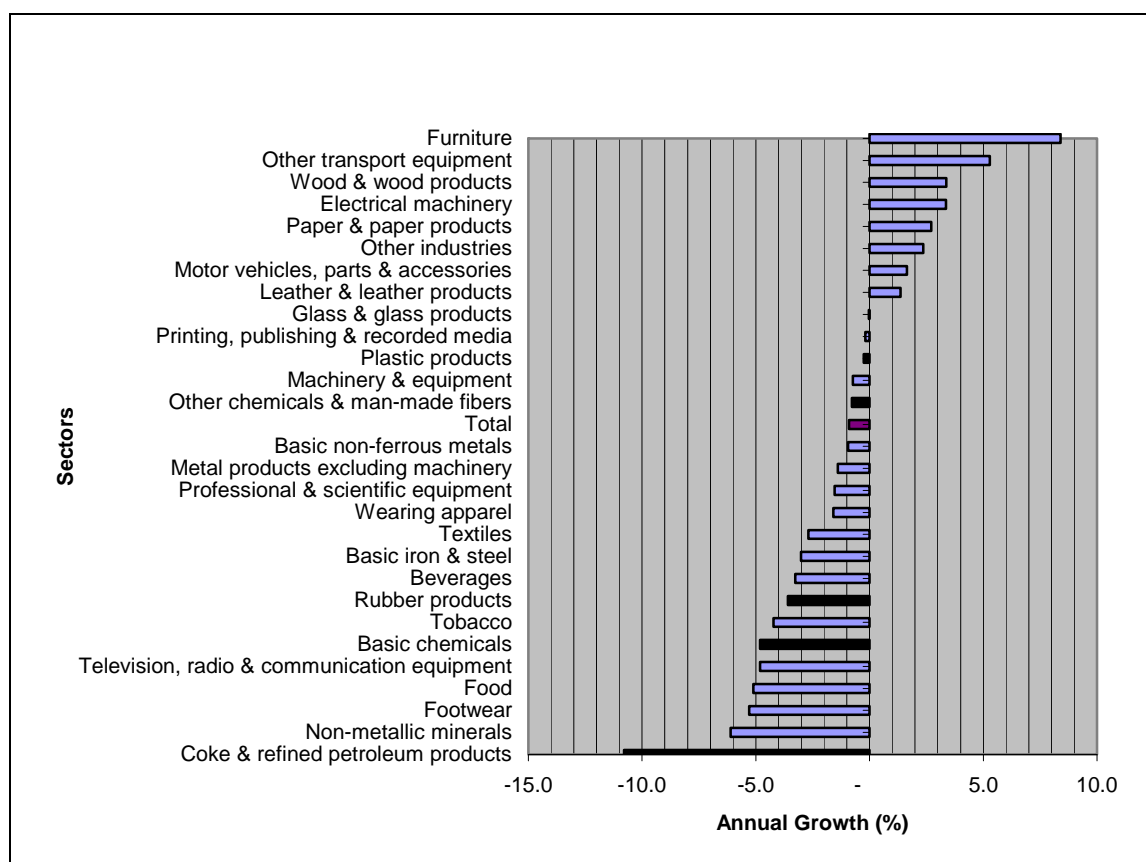
The plastic products sub-sector is both capital intensive (large, integrated operations), as well as labour intensive (smaller converters). Labour productivity is therefore a critical factor relative to other sub-sectors. In general labour productivity has increased historically in the plastic products sub-sector. The strategic placement of new equipment, as well as higher wages increased productivity. However, labour productivity in PP and PVC products is believed to have been static historically as there is a trend towards mechanising in producing these products. Wage growth varies for the different polymers converted (Source: **the dti** CSP).

The rubber products sub-sector is both capital intensive (large tyre and belting plants) and labour intensive (smaller rubber converters). Labour productivity is therefore a critical factor relative to other sub-sectors. Labour productivity in this sub-sector has not increased over the past few years. Historical real wage growth in this sub-sector is estimated at around 4% above inflation (Source: **the dti** CSP).

Real labour remuneration

Real labour remuneration declined in all the chemical sub-sectors between 2000 and 2005 and especially so in respect of petroleum refineries and coke ovens as well as basic chemicals.

Graph 4.2 Growth in the labour remuneration of manufacturing sectors 2000 to 2005 percent p.a.



Cost structure, pricing and logistics

The cost structure of the chemical sector differs within the sub-sectors but generally has got mainly to do with the availability of feedstocks, technology, telecommunications, labour, capital and logistics as the main cost elements. With the exception of the cost of capital, these cost elements are not equally important across the whole chemical sector. There are some cost elements which affects some sub-sectors more than others. For instance, logistics cost is not a major cost element for fine chemicals because of the high value nature of the products compared to other sub-sectors.

Feedstock prices in general are determined by global issues such as commodity cycles and the international prices of primary inputs such as crude oil and natural gas. Prices for most local feedstock are referenced back to these international prices on a competitive import basis. In terms of the availability of feedstock, approximately 40% of liquid fuels are produced synthetically from the abundantly available coal. The availability of coal is just as important for the organic chemicals sub-sector more especially because of Fischer-Tropsch technology employed by one of the major operations, which results in a range of organic chemicals.

With the exception of fine chemicals, pharmaceuticals and consumer formulated sub-sectors logistics costs such as rail and harbours are major cost elements especially for exports from inland plants across all the other sub-sectors of the chemical sector. The handling and storage costs at harbours add to the cost factor because they are relatively high. Telecommunication costs are generally not one of the major cost elements in the chemical sector but the cost is not globally competitive across the whole sector.

Presence of multinationals

Some sub-sector of the chemical sector are dominated by multinational companies more than others. Multinational companies dominate sub-sectors such as liquid fuels (e.g. BP, Caltex, Shell, Total and Engen), pharmaceuticals (e.g. Roche, GlaxoSmithKline, Novartis, Pfizer, MSD), consumer formulated chemicals (e.g. Colgate Palmolive and Lever Ponds) and rubber products (e.g. Bridgestone, Continental and Goodyear). In sub-sectors or product categories where multinational companies are not dominant in terms of manufacturing, their dominance exists in the form of licensing.

Import and export structure (product groups)

The chemical sector accounts for nearly 9% of total exports. Exports of chemical products as a ratio of production have increased 12% from the year 1993 to 2003 (Source: StatsSA). Based on the value of South Africa's total exports, the biggest chemical export products by value are shown in ranking order at individual product level (HS 6-digit level) in Appendix 3. The top four products accounted for 10% of South Africa's total exports by value and 51% of chemical exports in 2004. Of these four products, 46% of the value of chemical exports was products of HS 27 – Liquid fuels and the rest was made up products of HS 28 – Inorganic chemicals (3%) and HS 29 – Organic chemicals (2%). The biggest import products by value of South Africa's total imports are also shown in ranking order at HS 6-digit level in Appendix 4. The top four accounted for 16% of South Africa's total imports by value and 59% of chemical imports in 2004. Of these four products, products of HS 27 – Liquid fuels accounted for 51% of the value of chemical imports while the rest was made up of products of HS 30 – Pharmaceuticals (5%) and HS 28 – Inorganic chemicals (3%).

Importance to the economy

The chemicals sector is second only to the food sector in terms of turnover. Sales volume amounted to 20% of the manufacturing sector and the sector accounted for 4.5% of GDP in 2004 (Source: StatsSA). The chemical sector is the largest single contributor to the South African manufacturing sector. According to the chemical sector strategy document, the chemicals sector invests around R 2 billion annually in upgrades. Almost 60% of upstream chemicals are consumed within the chemical pipeline as feedstock. Products of the chemicals sector are the basis for almost every manufacturing activity in the economy. Chemicals sector products are also critical in end-use sectors such as agriculture, animal feeds, automotive, education, food, leather, metal, mining, printing, pulp and paper, textiles and water.

The chemicals sector is also a significant earner of foreign exchange. Exports of chemical products amounted to about 12% of exports of the top 10 exports products in the total economy during the first quarter of 2005. The major contributing sub-sectors in this case were liquid fuels (5%), inorganic chemicals (4%) and organic chemicals (3%)

(Source: StatsSA). However, the chemicals trade balance has been consistently negative for the previous five years with imports always outstripping exports as the South African chemicals sector is only about 0.6% of total world production.

In this paragraph some indicators are reviewed to gain a sense of the socio-economic attributes and performance of the chemical sectors based on StatsSA's classification of the chemical sector. All monetary aggregates are in real terms at constant 2000-prices.

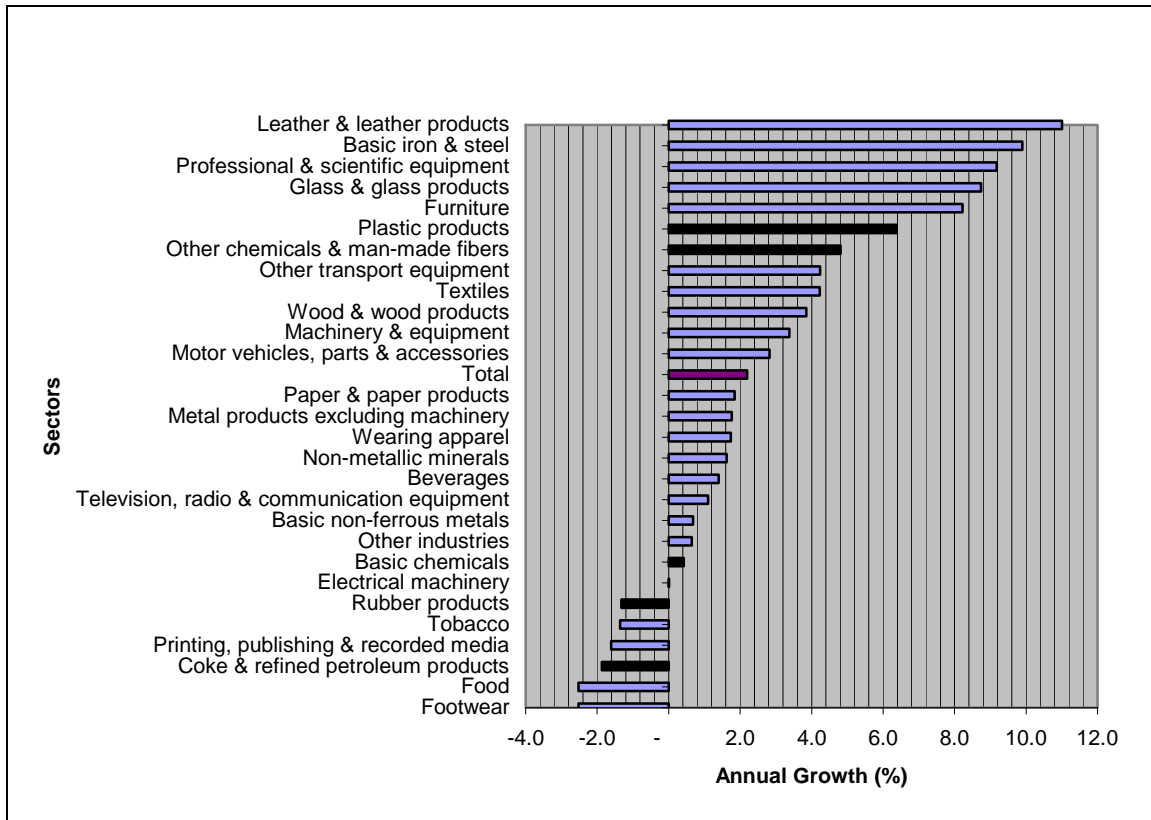
3.2.1.1 Value added

In 2005 the chemical sector produced 23.7% of the value added by the manufacturing sector.¹ The sector other chemicals and man-made fibres contributed 31.0% of the value added of the chemical sector. Petroleum refineries and coke ovens are responsible for 27.8% and basic chemicals for 21.8%. The rubber- and plastic products sectors are responsible for 4.3% and 16.1% of value added by the chemical sector respectively.

According to the contents of graph 4.2.10.1 growth in two of the sub sectors of the chemical sector performed above average. Value added in plastics increased by 6.4% p.a. between 2000 and 2005. That of Other Chemicals and Man-made fibres increased by 4.8% p.a. Growth in value added of basic chemicals came to 0.4% p.a. The rubber products and the petroleum refineries and coke ovens experienced negative growth rates.

Graph 4.3 Growth in the value added by manufacturing sectors 2000 to 2005 percent p.a. constant 2000-prices.

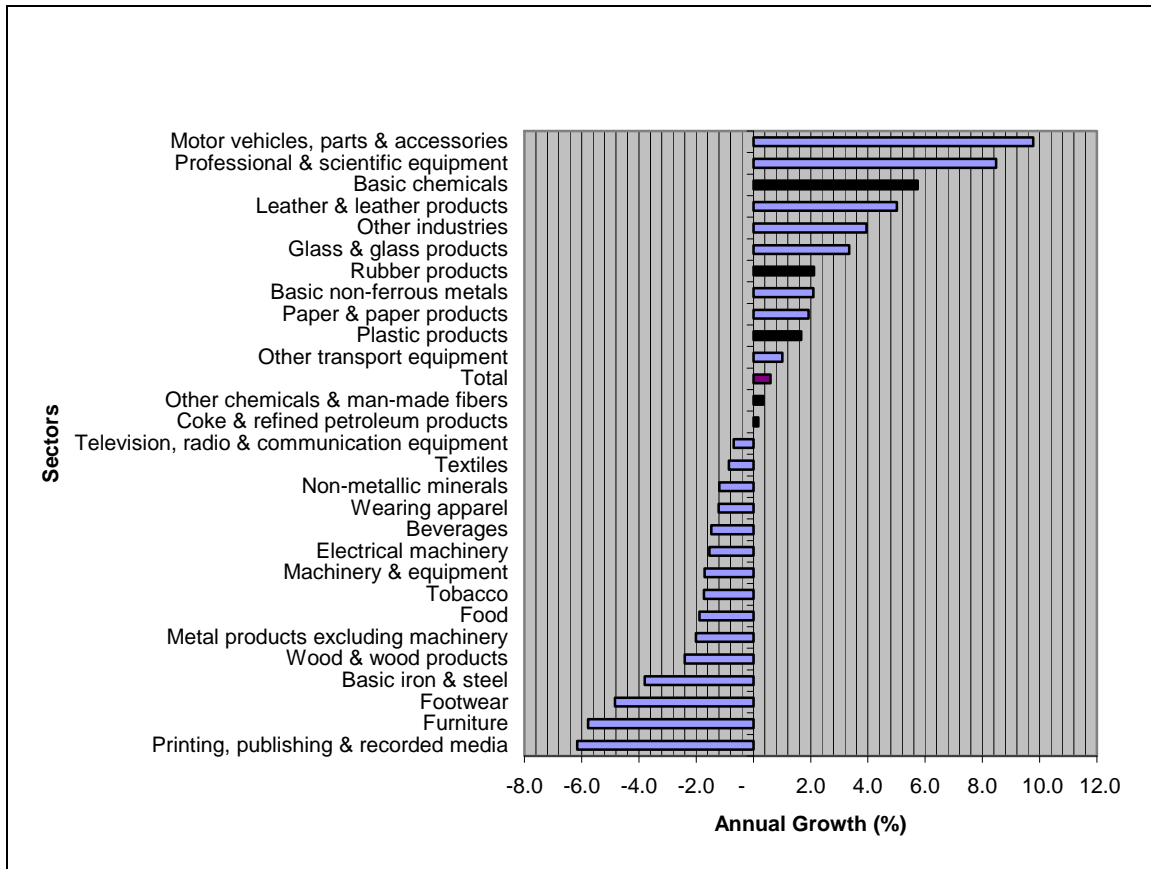
¹ Manufacturing added 18.2% of the value of GDP in 2005 and the chemical sector thus 4.5%.



3.2.1.2 Capital stock

About 46% of the capital stock of manufacturing is in chemicals. 64% of that is invested in petroleum refineries and coke ovens. The fixed capital stock of all sub-sectors increased between 2000 and 2005. The most prominent was in basic chemicals and in rubber.

Graph 4.4 Growth in the capital stock of manufacturing sectors 2000 to 2005 percent p.a. constant 2000-prices.



Considerations

1. In 2005 the chemical sector produced 23.7% of the value added by the manufacturing sector. Growth in two of the sub sectors of the chemical sector performed above average. Value added in plastics increased by 6.4% p.a. between 2000 and 2005. That of Other Chemicals and Man-made fibres increased by 4.8% p.a.
2. About 46% of the capital stock of manufacturing is in chemicals. 64% of that is invested in petroleum refineries and coke ovens. The fixed capital stock of all sub-sectors increased between 2000 and 2005. The most prominent was in basic chemicals and in rubber.

3. In 2005 employment in the chemical sector was 14.5% of that of manufacturing. Employment in Other Chemicals and Man-made fibres came to 36% of employment in chemicals and that by the plastic sub sector to 26%.
4. Employment by petroleum refineries and coke ovens increased by 7.4% p.a. between 2000 and 2005. That of Other Chemicals and man-made fibres increased by 0.5% and by 1.3% in the rubber sub-sector. Employment in basic chemicals and in the manufacturing of plastic products declined.
5. Real labour remuneration declined in all the chemical sub-sectors between 2000 and 2005.
6. Petroleum refineries and coke ovens produce predominantly for the local market.
7. The basic chemical sector is open to international trade with imports plus exports equal to 47.3% of total demand in 2005. There are no significant trends in export and imports.
8. Domestically produced goods consistently meet more than 80% of total demand in respect of Other chemicals and man-made fibres. Exports are about half that of imports.
9. About 90% of total demand for plastic products is satisfied out of locally produced sales. There are no apparent trends as to import or export penetration.
10. Domestically produced rubber products meet almost 70% of total demand. Imports are twice the amount in exports.

4 PROTECTION AND ASSOCIATED ASPECTS

This section deals with tariffs, non-tariff barriers and associated aspects in the South Africa and India to enable policy makers/ trade negotiators to gauge the degree to which the markets in these countries are accessible.

4.1 Tariffs

The extent of tariff bindings, bound rates and applied or actual rates are analysed.

Bindings and bound rates

Bound rates are the maximum rates a country is allowed to apply under its WTO commitments. Countries generally increased the coverage of their tariff bindings substantially during the Uruguay Round. In the case of most developing countries there are substantial differences between bound and applied rates. This has the implication that countries are allowed to increase current rates of duty up to the level of bound rates without transgressing their WTO commitments. In the words of the WTO (Trade Policy Review of Brazil, 2004): "--the average bound rate considerably exceeds the average applied rate, thus imparting a degree of uncertainty to the tariff and providing scope for the authorities to raise applied MFN rates".

South Africa

All South African tariff lines are bound with the exception of Chapters 3 (fish), 27 (mineral oil and fuels) and 93 (arms and ammunition) and a few lines in chemicals. The binding coverage is 96.4%.

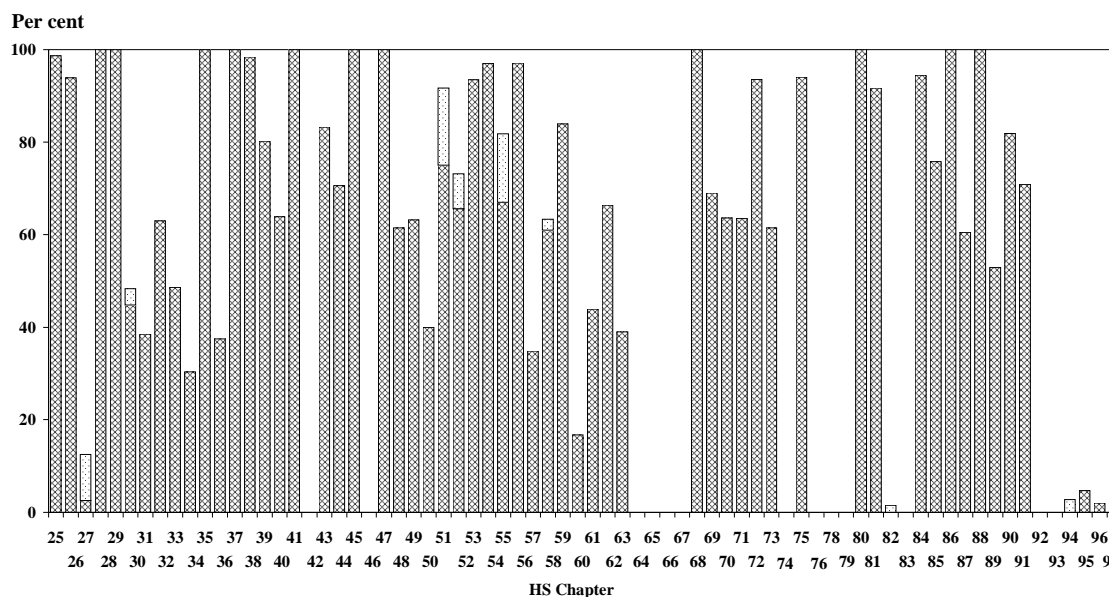
The average bound rate for industrial products is 16.6%. The highest bound rate is 30% with the exception of two product groups, namely clothing (45%) and motor vehicles (50%).

India

Only 68.2% of India's tariff lines for industrial products are bound. Bindings are at the 6-digit level, as India implemented an 8-digit tariff system only in 2003. The average bound rate for industrial (non-agricultural) products is 37.7%.

The following is a chart showing India's bound rates per chapter taken from the WTO Secretariat's Report for the Trade Policy Review of India in 2002 (WTO Report):

Chart 5.1.1.2 Share of bound tariff lines in manufactured products by HS chapter, 2001/02



Legend: Fully bound (hatched bar), Partially bound (white bar)

HS Chapter	Description
25	Salt; sulphur; earths and stone, etc.
26	Ores, slag and ash
27	Mineral fuels, mineral oils, etc.
28	Inorganic chemicals; org. or inorg. compounds of precious metals, etc.
29	Organic chemicals
30	Pharmaceutical products
31	Fertilizers
32	Tanning or dyeing extracts etc.
33	Essential oils & resinoids; perfumery, cosmetic/toilet prep.
34	Soap, organic surface-active agents washing prep., etc.
35	Albuminoidal substances; modified starches; glues, etc.
36	Explosives; pyrotechnic products; matches, etc.
37	Photographic or cinematographic goods
38	Miscellaneous chemical products
39	Plastics and articles thereof
40	Rubber and articles thereof
41	Raw hides and skins and leather
42	Articles of leather, etc.
43	Furskins and artificial fur; manufactures thereof
44	Wood and articles of wood, etc.
45	Cork and articles of cork
46	Manuf. of straw, of esparto, etc.
47	Pulp of wood or of other fibrous cellulosic material

HS Chapter	Description
48	Paper and paper board, etc.
49	Printed books, newspapers, etc.
50	Silk
51	Wool; fine/coarse animal hair, etc.
52	Cotton
53	Other vegetable textile fibres
54	Man-made filaments
55	Man-made staple fibres
56	Wadding, felt and non-wovens; special yarns; twine, cordage, etc.
57	Carpets; other textile floor coverings
58	Special woven fabrics; lace, etc.
59	Impregnated, coated, covered or laminated textile fabrics, etc.
60	Knitted or crocheted fabrics
61	Articles of apparel and clothing accessories, knitted or crocheted
62	Articles of apparel and clothing accessories, not knitted, etc.
63	Other made-up textile articles; sets, worn clothing, etc.
64	Footwear, gaiters, etc.
65	Headgear and parts thereof
66	Umbrellas, walking-sticks, etc.
67	Prepared feathers and down, etc.
68	Articles of stone, plaster, etc.
69	Ceramic products
70	Glass and glassware
71	Natural or cultured pearls, precious/semi-prec. stones, prec. metals, etc.

HS Chapter	Description
72	Iron and steel
73	Articles of iron and steel
74	Copper and articles thereof
75	Nickel and articles thereof
76	Aluminium etc.
78	Lead and articles thereof
79	Zinc and articles thereof
80	Tin and articles thereof
81	Other base metals, etc.
82	Tools, implements, cutler spoons and forks, etc.
83	Misc. articles of base metals
84	Nuclear reactors, boilers, machinery, etc.
85	Electrical machinery and equipment, etc.
86	Railway or tramway locomotives, etc.
87	Vehicles other than railway or tramway rolling-stock; etc.
88	Aircraft, spacecraft, etc.
89	Ships, boats, etc.
90	Optical, photographic, etc. apparatus
91	Clocks and watches, etc.
92	Musical instruments, etc.
93	Arms and ammunition, etc.
94	Furniture, bedding, etc.
95	Toy, games, etc.
96	Miscellaneous manuf. articles
97	Works of art, antiques, etc.

Table 5.1 shows the percentage of bound line for each of the chapters covered by this study (according to the WTO Report), the range of rates per chapter (according to India's goods schedule under the Uruguay Round) and the comparative South African range of bound rates. In the case of some chapters, the WTO report shows a certain percentage of lines as bound but India's schedule and does not contain any lines of such chapters. This is confusing. An enquiry was sent to the WTO and details are awaited.

Table 5.1 India's % bindings and the bound tariff rates of India and South Africa

Chapter	India's % of bound lines (6-digit level)	India's bound rates: % (nb = not bound)	South Africa's most common rates: %
28	100	40	0/5/10
29	100	40 (few at 25%)	10/15
30	48	40 (few at 25%)	10/15/20
31	38	5	10
32	63	40 (few at 25%)	0/10/15
33	48	40	20
34	32	40	10/15/20
35	100	40	10/20
36	37	40	10/15
38	98	40	10/15
39	80	40	15/20/30
40	64	40	15/20/30
41	100	25	15
42	0	nb	30
50	40	? *	17.5/30
51	93, some partially	40	17.5/30
52	74, some partially	Yarn 25/40; fabrics nb	17.5/30
53	95	Yarn 40	0/17.5
54	97	Yarn 40	17.5/30
55	82, some partially	Fibres/yarn 40	17.5/30

56	98	40	17.5/20
57	36	? *	30
58	63	40	25
59	85	40	25/30
60	17	? *	25
61	44	? *	45
62	67	? *	45
63	40	? *	30
64	0	nb	20/30
72	94	40	5/10
73	61	40	15/30
74	0	40	5/15/20/30
75	95	40	5/15
76	0	nb	5/15/30

* Chapters where the WTO Report shows some lines to be bound but the chapters are not included in India's goods schedule.

South Africa's bound rates show a distinct structure with an escalation from primary products to final products in most chapters.

India's binding schedule consists mostly of ceiling bindings with more than 90% of the lines bound at a rate of 40%.

Applied tariffs

South Africa

South Africa's tariffs are applied on the FOB value of imports.

The simple average tariff rate for industrial products is 11.4% according to the recent exercise of compiling the bound rates of the tariff lines as at 1 January 2005, and the applied rates, for the purpose of the Doha Round NAMA analysis.

A comparison of the South African and Indian applied rates in respect of the tariff lines under the chapters covered by this study follows in par 9.1.3.

India

India's customs duties are applied on a CIF basis. This means that the value for calculation of the basic duty is up to 20% higher than South Africa's FOB value basis. Furthermore, the assessable value is CIF + 1%. This has the following affect:

	Basic customs duty	Effective customs duty
South Africa	15%	15%
India	15%	18.15%

In addition to the basic duty, India applies additional duties. These are dealt with under non-tariff barriers. The WTO Report shows an average MFN applied tariff rate of 31.1% for India in 2001/02.

Table 5.2 shows the average rates and range of rates per main category in 1997/98 and 2001/02. Over the period of three years there was only a slight reduction in the average rates per category in most categories although this was more pronounced in textiles and clothing, footwear & leather and electrical machinery.

Table 5.2 Summary analysis of India's MFN tariff, 1997/98 and 2001/02

		MFN 1997/1998			MFN 2001/02	
	No. of lines	Average (%)	Range (%)	Average (%)	Range (%)	
Non-agricultural products (excl. petroleum)	4,435	35.4	0-192	31.1	0-170	
Mineral products, precious stones, etc.	335	37.5	0-45	30.6	0-55	
Metals	588	32.5	10-45	32.0	5-35	
Chemicals and photographic supplies	840	34.6	0-192	33.8	0-170	

	No. of lines	MFN 1997/1998		MFN 2001/02	
		Average (%)	Range (%)	Average (%)	Range (%)
Leather, rubber, footwear, travel goods	146	39.8	0-45	32.1	0-35
Wood, pulp, paper and furniture	248	30.1	0-45	29.3	0-35
Textiles and clothing	830	43.7	25-55	31.3	15-35
Transport equipment	122	41.7	3-45	40.5	3-105
Non-electric machinery	525	27.1	10-45	25.9	0-35
Electric machinery	257	34.7	15-45	26.8	0-35

Source: WTO Secretariat Report for the TPR of India in 2002.

Since then, India has substantially reduced the basic duties. The most common rate in 2004/05 was 20%. Most of the basic duty rates were cut in the 2005/06 budget and the current rates on almost all of the products covered by this investigation are 15% as from 1 March 2005.

On the surface, India's tariff structure, at least in respect of the basic duties, looks very simple and uniform. In some chapters the duty shown in Schedule 1 is 15% without any exceptions.

However, these rates may not be the actual rates as there are numerous 'notifications' or 'general exemptions' that exempt certain products from a duty or reduce the rate (sometimes for specified uses or subject to elaborate conditions). In fact, India's customs tariff system is extremely complex and lacks transparency. This is confirmed in the WTO (TPR) Report which states that "... the tariff remains complex and a number of exemptions applied to products, industries, and end-users add to its complexity and lack of transparency". Similar statements are made a number of times in the Report and in other study reports.

Many of the 'notifications' and 'exemptions', dating back to the nineties, although still applicable, are not incorporated in a single tariff book with its schedules as in the case of South Africa. It makes it difficult to establish what actual duties (and additional duties) are applicable on the importation of certain products.

Comparison

This section attempts to show a summary comparison of the customs duties of India and South Africa, as in January 2006. The South African duties are at various rates and the comparison is confined to a summary of rates.

It should be kept in mind that the applied rates of some product groups will be subject to reduction over a period of time in terms of NAMA (non-agricultural market access) if the Doha Round is successfully concluded. The implications cannot be evaluated before the NAMA modalities have been finalised. The agreed modalities will have different effects on the applied rates of the two countries depending on the current bound rates and the difference between the bound and applied rates.

In respect of chemicals, plastics and rubber a line by line comparison has been made that also shows the 8-digit tariff lines of India that differ from that of South Africa. India generally has more 8-digit tariff lines in chemicals. The negotiators and the sector representatives will therefore be able to easily identify the Indian tariff lines that are applicable to our products of export interest. See Annexure 1.

The Annexure shows the current duties and those applicable in January 2005 where they differ. The general reduction in India's duties (on 1 March 2005) is evident. This is very relevant in choosing the base year for duty concessions or, in the case of fixed tariff preferences, evaluating the extent of the preference.

The sources of tariff information for India for the comparison that follows are the website of the Central Board of Excise and Customs, www.cbec.gov.in, and a regularly updated publication by R.K.Jain, probably India's foremost customs and excise expert, under the title:

R.K. Jain's
 Foreign Trade Policy
 ITC (HS) Classifications of Export & Import Items
 with Customs Tariff Rates & Exemptions
 2004-09 (Vol. 3)
 Oct. 2005 – 8th Edition
 CENTAX PUBLICATIONS PVT.LTD

While the Central Board's databases for various duties, cesses, exemptions etc are separate, R. K. Jain's publication attempts to capture these in one publication (of 1 712 pages). Its Schedule 1 shows basic duties, additional duties, cesses and total duty. It various parts also cover export policy with duty rates; additional duty (CVD); MRP based valuation for additional duty; educational cess; other cesses; special duties of customs; import tariff general exemptions; safeguard duties; anti-dumping duties; etc. The publication has extensive footnotes linking the rates to general exemptions and general notifications. However, it is still very difficult and sometimes not possible to ascertain the effective rates payable.

CHEMICALS

**Table 5.3 Chemicals: Summary Comparison Between SA and India (basic)
 Duty Rates Per Chapter: January 2006**

Chapter	Brief description	India: %*	RSA: %*
28	Inorganic chemicals	15 (1 line at 10)	20 = 2** 10 = 13 6 = 1 0 = 176
29	Organic chemicals	15 (29.05- 29.42 Excl. 2917.37 at 20)	18/22= 4 15 = 17 14 = 2

		5/10 = 29.01- 29.04 (hydrocarbons)	10 = 27 5 = 5 4 = 1 0 = 381
30	Pharmaceuticals	15	20 = 1 0 = 34
31	Fertilizers	15 = 21 lines 5 = 10; 0 = 1 line	0 = 26
32	Dyes; paint etc	15	10 = 15 0 = 39
33	Perfumery; cosmetics	15 Except 33.01 (agric.) = 20	20 = 14 15 = 2 10 = 4 0 = 5
34	Soap; washing prep. etc	15	20 = 11 15 = 9 10 = 1 0 = 11
35	Starch; glues; enzymes	15 Exc. 35.01-35.05 (agric) = 20	20 = 1 8.5/17= 2 5 = 2 0 = 15
36	Explosives; matches	15	15 = 1 10 = 1 0 = 6
38	Miscellaneous	15	10 = 33 0.183c/l= 1 0 = 62

* % ad valorem

** "22 = 2" means a rate of 22% applies to 2 lines etc

Note: This analysis includes the following headings/subheadings classified under agriculture:

2905.43	Mannitol
2905.44	Sorbitol
33.01	Essential oils
35.01-35.05	Albuminoildal substances, starches, glues
3809.10	Finishing agents
2823.60	Sorbitol n.e.p.

PLASTICS

**Table 5.4 Plastics: Summary Comparison Between SA and India (basic)
Duty Rates: January 2006**

Chapter	Brief description	India: %	RSA: %
39	Plastics & articles	15 (Except LLDPE; LMDPE and polymers of propylene & styrene at 10)	20 = 14 16/18= 3 15 = 119 10 = 37 5 = 4 0 = 62

RUBBER

**Table 5.5 Rubber: Summary Comparison Between SA and India (basic)
Duty Rates: January 2006**

Chapter	Brief description	India: %	RSA: %
40	Rubber & articles	15 (Except 40.01, Natural rubber etc, in primary forms, at 70 and 20)	30 = 1 25 = 3 20 = 15 15 = 29 10 = 24 0 = 56

4.2 Non-tariff barriers (NTBs)

Introduction

Non-tariff barriers (NTBs) cover a wide range of barriers, measures or situations, other than ordinary customs tariffs, that have the effect of restricting or discouraging trade.

NTBs can be arbitrarily categorised in three groups, namely:

- Trade policy measures;
- Technical regulations; and
- Administrative procedures.

Situations and conditions other than specific measures can also act as NTBs that discourage imports into a country.

Trade policy measures

These include import licensing, import quotas, state trading enterprises, additional taxes, reference prices, export assistance, subsidies, anti-dumping and countervailing duties and safeguards. The extent of policy predictability, transparency and the regularity of changes in policy and policy measures is also an important factor.

Technical regulations

These include measures such as standards and technical specifications that are aimed at protecting health, safety, the environment and the interests of consumers.

Administrative procedures

These cover a wide range of regulations, procedures and other factors that operate in a manner that restrict or discourage imports. Examples are burdensome customs procedures; a lack of transparency or consistency in customs and other import procedures; slow customs clearing that causes delays; and services that are not user-friendly.

Other situations or conditions that discourage imports are mainly related to infrastructure such as inadequate port facilities causing congestion, problems with internal transport infrastructure and facilities etc.

NTBs in import regimes

Substantial differences exist in the import regimes of countries and/or trade blocks. Some countries apply virtually no trade policy measures to imports; have standards that conform to international norms; and have efficient customs procedures. Such an import regime does not have a significant negative effect on imports. At the other extreme, cases exist of import regimes consisting of various, sometimes not transparent, trade policy measures; complex and burdensome standards; and complex slow customs procedures that cause delays. Such a regime will have a significant affect on imports and in fact discourage imports. If an exporter in a particular country considers exports to another country, the market potential and customs tariffs may not be the main considerations while NTBs in the other country may be an equal or even more significant factor that restrict or discourage imports.

NTBs in India: General

According to reports, the trading and import environment in respect of India is complex and difficult although the situation has improved over the past few years.

Most of the information in respect of India has been obtained from:

- The WTO Secretariat's Report for India Trade Policy Review (TPR) of May 2002
- Doing Business In India: A Country Commercial Guide for U.S. Companies (2005)
- USTR 2005 National trade Estimate Report on Foreign Trade Barriers
- The EU Market Access Sectoral Database for individual countries
- India Profile: Doing business – For Australian Exporters – Export assistance: The Australia Trade Commission's website under AUSTRADE.
- A report: "Identification of concrete trade obstacles to be removed through the future WTO negotiations on trade facilitations or other negotiations in the

framework of the Doha development agenda: Study for the Market Access Unit of Directorate General Trade European Commission – June 2004” funded by the European Commission (EU Trade Obstacles Report)

- Market Access Analysis to identify and update the existing information on trade barriers in third countries affecting EU exports of textiles and clothing, footwear and leather: A report funded by the EC Commission: 1 March 2005
- EURATEX: Market Access for European Textiles and Clothing – A Memorandum for Trade Commissioner Peter Mandelson, January 2005
- R.K. Jain’s Foreign Trade Policy: “ITC (HS) Classification of Export & Import Items, Vol. 3, 8th Edition, Oct. 2005.
- Various government sources, particularly the Central Board of Excise and Customs and the Director-General of Foreign Trade websites, including the Customs tariff before and since the 2005-06 Budget, the numerous schedules, annexures, and exemption and general notifications.

Exporters to India and Indian importers suffer from policy unpredictability.

The EU Trade Obstacles Report summarises the situation as follows:

“The rules of EXIM (export and import) Policy are published and available to operators.

However, it cannot be denied that import and export rules are complex and frequently modified. This obliges operators to be constantly aware of the EXIM Policy rules and their modifications. These constant changes in EXIM policy engender an obstacle for EU SME wishing to develop trade with India. These companies must work in close co-operation with Indian partners.

The importers and exporters stated that the transparency and their understanding of EXIM policy and other trade rules affecting their daily trade could be improved through consultation with private sectors prior to adoption of the rules.

According to private sector, over-regulation is one of the main problems of doing business in India. In several cases, the rules are adopted without prior notification and explanation of rules to private sectors' representatives."

Infrastructure in respect of ports and internal transport are major problems.

Red tape is also a disincentive. The World Bank estimates that Indian senior managers spend about 14 percent of their time dealing with regulatory issues (compared with about 8 percent for their Chinese counterparts). Starting a business in India takes 89 days, on average—more than twice as long as in China. Closing a business is just as difficult.

There seems to be widespread government intervention in India's chemicals sector. The sector is governed by a Ministry of Chemicals & Fertilizers. The Ministry has two separate Departments, namely

- The Department of Chemicals & Petrochemicals
- The Department of Fertilizers.

The Government owns various manufacturing companies in organic chemicals, pesticides, pharmaceuticals including antibiotics and have joint ventures in some others.

Fertilizers appear to be subject to various schemes such as production, distribution and pricing arrangements. The department has a website <http://fert.nic.in> on which details are available. It publishes an annual report. The Government owns a number of fertilizer production companies.

Currently urea is the only controlled fertilizer. It is subject to a statutory national uniform sales price. Phosphatic and potassic fertilizers have been de-controlled and are subject to indicative maximum retail prices. These prices are lower than the cost of production and concessions in the form of subsidy payments are granted. According to the Department's Annual Report, imported fertilizers would also qualify for the concessions.

Additional duties and taxes

The EU Trade Obstacles Report sums up the situation in India as follows:

“Multiplicity and complexity of import, and to a lesser extent, export rules, has been identified as a real concern for private operators.

For example, India's duty calculation is highly complex. According to Member States, trade representatives, importers and EU companies, despite the duty structure rationalisation of January 2004, duties remain high. The method of calculation of import duties and the administration of tariffs through numerous notifications makes the tariff structure extremely complicated and non-transparent.”

The duty structure has however been substantially simplified through the removal of some of the additional duties.

In addition to the ordinary rate of duty – called the ‘basic duty’ - there are an ‘Additional Duty of Customs’ – also called a ‘Countervailing Duty (CVD)’ – which is generally 16% but different for certain products. This is actually a central excise duty or value added tax. There also used to be a ‘Special Additional Duty of Customs’, also called an ‘Additional Duty for Special Excise Duty’ of 8% or 4%. Some products were exempted from these ‘additional’ duties or a lower rate applied. This duty has been removed for most products.

In addition to the basic duty and the additional duty, India also applies an educational cess of 2% to imports. This calculated on the sum of the basic and CVD. The basic and additional duties and other charges are calculated on a compounded (cumulative) basis.

A levy of 1% is added to the CIF value to come to the assessable value.

When the transport and insurance costs cannot be established, or is challenged, 20% is added to the invoice price to come to the CIF value.

While the excise duty on chemicals continues to be at the rate of 16%, the rate in respect of most pharmaceuticals has been reduced to 8%.

An illustration of additional taxes that exports to India's face is shown below showing a hypothetical product with CIF value of US\$ 2,000.00. The illustration shows that the final price of the export product could be up to 39% of CIF value even before inland transport costs are taken into consideration. The taxes apply incrementally and therefore have a cascading effect:

	Charge no	Type of charge	Value %/ton
Illustrative CIF Price			2,000
	1	Landing charge at 1% of CIF	20
	2	Customs Duty: 15% of CIF + charge 1	303
	3	Countervailing Duty: 16% of CIF + charges 1 + 2	372
	4	CESS (Educational levy): 2% of charge 3	7
	5	Additional CESS on total duty: 2% of charges 2+3+4	14
	6	Terminal handling charges: Variable, approximately 3%	60
Delivered Price (excluding inland transport)			2,776
Increased over CIF price			39%

Under the provisions of Packaged Commodities Rules, 1977, all commodities sold in prepackaged form are required to have a label declaration of retail sale price in the form

of MRP inclusive of all taxes. This concept is well accepted and is being used for all packaged consumer goods in India except drugs. The system of applying the additional or excise duty has however also now been extended to pharmaceuticals. The duty is based on the MRP with an abatement of 40%. The duty is therefore applied on 60% of the MRP.

Customs procedures and delays

Even if applied tariffs remain high for various products a survey (EU Trade Obstacles Report) confirmed that business losses suffered through delays at borders and complicated customs procedures may exceed in many cases the costs of tariffs.

In the case of India, this involves a complex array of sometimes opaque documentation requirements, valuation issues and multiple submissions of data to different agencies (Customs, Ministry of Health, Ministry of Agriculture, etc.). Various surveys have already stressed how these problems represent a serious threat in meeting trade commitments and development objectives.

These burdensome requirements combined with delays in clearance of goods, lack of appropriate infrastructures for the storage of goods or their testing negatively affect importers daily business.

The following table presented at a UNCTAD – World Bank Trade Facilitation Seminar, May 2004, shows a comparison of the number of days for imports and exports to clear customs in Brazil compared to India, China and Bangladesh:

Table 5.6 Imports and exports - average days to clear customs

Category	Brazil	India	China	Bangladesh
Imports				
Average	14.0	7.1	7.9	11.7
Longest	32.0	12.8	12.5	23.2
Exports				
Average	8.7	5.4	5.4	8.8

Longest	16.8	8.0	8.0	14.0
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Another comparison at the same Seminar shows port transit times as follows. While there are differences in the number of days, particularly in respect of India, these can be explained by the fact that the results are from different studies and that one measures customs clearance and the other port transit times.

Table 5.7 Port transit times (days)

Category	Brazil	India	China	Malaysia
Imports				
Average	13.8	10.4	7.5	3.4
Longest	32.4	21.6	12.2	7.4
Exports				
Average	8.4	6.1	6.6	2.6
Longest	16.9	9.3	8.1	6.1

Source: World Bank, Investment Climate Assessments

Delays are apparently caused mainly by:

- Compliance with requirements to be followed prior to import;
- Inadequate port facilities leading to congestion
- Burdensome documentary requirements;
- Customs valuation and classification issues; and
- Inspections to verify products' compliance to requirements of other agencies.

Import restrictions and conditions

Import of goods into and export of goods out of India is governed by the Export-Import Policy, 2002-2007 (EXIM policy), which is framed every five years. India's current five-year trade policy has further liberalised imports and exports.

India used to have extensive import restrictions but has had to remove these in terms of its Uruguay Round WTO commitments. The removal of import restrictions did not happen at the entry into force of the Uruguay Round Commitments but substantially later and over an extended period of time, partly after pressure from other WTO members

(consultations by several countries and a dispute by the US). In many cases this was accompanied by an increase in tariffs.

For the most current information on India's Prohibited Import List, see <http://exim.indiamart.com/freedlist/prohibited.html>.

There are currently 58 items on the list, most of which are animal, plant food products. The following are chemical products on the list:

3507100190 Other (Enzymes; Prepared enzymes not elsewhere specified or included)
3507100910 Animal rennet (Enzymes; Prepared enzymes not elsewhere specified or included)
3507100990 Other (Enzymes; Prepared enzymes not elsewhere specified or included)

India prohibits or restricts the importation of all used goods except capital equipment.

Licensing

In April 2001, Indian Authorities implemented a significant liberalisation of the import restrictions through the removal of Quantitative Restrictions (QRs). All goods not classified as prohibited or restricted in the ITC (HS) Classification of Export and Import of items can be freely imported. A list of goods still subject to licensing is not available as the list is being reviewed.

According to the EU Trade Barriers Report, the removal of trade barriers has in some instances been followed by an increasing number of new non-tariff barriers affecting the importation of EU products. In particular, India has strengthened the implementation of labelling and certification requirements.

According to the report:

“Sensitive products are subject to **burdensome, time consuming**, and sometimes **discretionary controls** by various Indian Authorities on their composition and compliance with Indian standards (foodstuffs, textiles, cosmetics, mineral water, etc.).

There are basically **four types of concern**:

1. The standards are complex and sometimes difficult to comply with (e.g. for food products);
2. There is a lack in personnel (health officers) and infrastructures to send samples to the laboratories, to conduct the testing in accredited laboratories, lack of testing equipment;
3. There is a multiplication of authorities involved in the same type of controls;
4. There is a lack of efficient appeal procedures to challenge the ruling made after controls.”

Certain industries are still subject to compulsory industrial licensing, namely the following:

1. Distillation and brewing of alcoholic drinks
2. Cigars and Cigarettes of Tobacco and Manufactured Tobacco substitutes
3. Electronic, Aerospace and defence equipment: all types
4. Industrial explosives including detonating fuses, safety fuses, gun powder, nitrocellulose and matches
5. Hazardous chemicals
6. Drugs and pharmaceuticals (according to modified Drug Policy, 1994 as amended in 1999).

The prices of pharmaceuticals are regulated.

Imports of drugs and pharmaceuticals are regulated through EXIM Policy in force and presently all items except those requiring clearance under The Narcotics and Psychotropic Substances Act, 1985 are allowed under OGL. Further, a centralized system of registration has been introduced under the Drugs & Cosmetics Act and Rules made there under, administered by Ministry of Health and Family Welfare. These arrangements may continue to regulate imports of Drugs and Pharmaceuticals.

The following chemical items are subject to compulsory licensing:

- Hydrocyanic acid and its derivatives.
- Phosgene and its derivatives.
- Isocyanate and di-isocyanates of hydrocarbon not elsewhere specified.

Customs valuation

According to the EU Trade Obstacles Report, Customs are alleged to challenge discretionary and quite systematically the declared value of specific products. (textile and clothing, watches, cosmetics and other consumer products). The importer is required to deliver documents proving the accuracy of the declared value. In addition to the invoice and the packing list, the importer must supply a price declaration assessment together with a document from the chamber of commerce of the country of origin. In some cases, catalogues of the product are required in order to prove the accuracy of the declared value.

In several cases, these investigations are justified by the high level of under-invoicing. However, these procedures are also considered in many cases as completely discretionary.

In practice, given the limited efficiency of appeal procedures, importers prefer to settle the problems directly with Customs than to wait for a lengthy appeal decision confirming the first customs decision (demurrage costs). While the difference in estimation remains “bearable” (20%), the importer will prefer accepting the modified customs value than paying demurrage costs.

Reference pricing and minimum import prices

The Government of India has removed minimum import prices. Certain chemicals particularly pharmaceuticals and fertilizers are subject to regulated prices. This may affect exports of these products to India.

Labelling requirements

In April 2001, Indian Authorities implemented a significant liberalisation of the import restrictions (removal of Quantitative Restrictions (QRs) and a reduction of import duties. All goods not classified as prohibited or restricted in ITC (HS) Classification of Export & Import of items can be freely imported. However, since November 2000, the DGFT has started the imposition of various non tariff barriers: the extension of packaging and labelling requirements to imported consumer goods, the extension of mandatory registration of BIS standards to imported products, etc.

India applies stringent labelling requirements in respect of pre-packaged good.

All pre-packaged goods imported into India, shall in particular carry the following declarations:

- a) Name and address of the importer;
- b) Generic or common name of the commodity packed,
- c) Net quantity in terms of standards units;
- d) Month and year of packing in which the commodity is manufactured or packed or imported; and
- e) The maximum retail sale price (MRP) at which the commodity packaged form may be sold to the ultimate consumer. "This price shall include all taxes local or otherwise, freight, transport charges, commission payable to dealers, and all charges towards advertising, delivery, packing, forwarding and the like, as the case may be."

The MRP is calculated on the basis of different criteria (freight, insurance, internal taxes). In India, each State has a different rate of sales tax and other taxes. Sales tax varies from 8% to 20% in the state of final destination. It is often not possible to know in advance the identity of products and of consumers, as well as the quantities, which will be sold. Even if the importer can give to the exporter an accurate indication of internal taxes to the importer, he will not be able to guarantee that the information on the exchange rate is correct.

If an exporter supplies products aimed to be sold in various states, he will have to produce as many different labels as there are States of final destination for each item sold. This results in significant additional costs.

This issue is further complicated by the Customs requirement to provide one invoice by different MRP, even for the same items (e.g. same watches aimed to be distributed and sold in various States). According to various freight forwarders, if the importer cannot comply with this requirement, Customs will charge the additional duty on the highest MRP.

Compliance of the above-stated requirements has to be ensured before the import consignments are cleared by Customs in India. The import of pre-packaged commodities such as raw materials, components, bulk import etc., that needs to undergo further processing before they are sold to end consumers are not included under this labeling requirement.

Standards

Indian standards are formulated by the Bureau of Indian Standards (BIS), which was established as a statutory body under the Bureau of Standards Act, 1986, and became operational on 1 April 1987. Standards are developed through 15 division councils, covering a wide number of sectors. From its formation until 1 April 2001, the BIS had developed 17,428 voluntary standards relating to a number of sectors. In order to ensure their continued relevance, Indian standards are reviewed as and when considered necessary, but at least once every five years.

Indian and foreign manufacturers who meet a BIS standard may carry the BIS Certification Mark. The BIS Certification Mark was made mandatory for 133 items (both locally produced and imported). The BIS laboratories provide conformity testing for products (both domestic and imported) requiring BIS certification. Voluntary certificates are also issued for environmentally friendly products (Ecomark), environmental management systems, quality systems, and hazard analysis and critical control points (HACCP). Licences granted for quality systems, environmental management systems, and HACCP are valid for three years and must be renewed. The BIS carries out regular

surveillance audits and inspections to ensure that the systems and products meet the relevant standards. All the BIS certification schemes are operated according to the relevant ISO/IEC guides.

BIS is operating a product certification scheme for foreign manufacturers. In this scheme, a licence can be granted for any product against an Indian Standard specifying product characteristics, which is amenable to certification. The schemes operate on self-certification basis, whereby the manufacturer is permitted to apply the Standard Mark on the product after ascertaining its conformity to the Indian Standard licensed for. Through its surveillance operations the Bureau maintains a close vigil on the quality of goods certified. Those desirous of obtaining the BIS license have to apply to BIS in the prescribed application form, which can also be downloaded from BIS web-site at <http://www.bis.org.in> along with an application fee of Rs.1000/-.

The foreign manufacturer must set up a liaison/branch office located in India with the permission of Reserve Bank of India, which shall meet all liabilities with respect to BIS Act, Rules and Regulations for purpose of the BIS licence. The requirement to set up an office in India shall not apply, if BIS enters into an MOU with the respective Foreign Government for implementation of BIS Act, Rules, and Regulations including the punitive provisions, or if the foreign manufacturer nominates an Authorized representative located in India who declares his consent to be responsible for compliance provisions of BIS Act 1986, Rules and Regulations on behalf of the manufacturer as per terms and conditions of the Agreement signed between BIS and the foreign manufacturer. Processing charges of US \$ 300 are required to be paid after scrutiny and recording of application.

The applicant has to bear expenditure of travel, stay, miscellaneous expenses like visa etc and per diem as applicable by BIS regulations for a team of officers (normally not more than 2 officers) for their inspection visit to the manufacturing premises.

Government procurement

It has been reported that Indian government procurement practices and procedures are neither transparent nor standardized. Foreign firms do not generally win Indian government contracts.

Investment

According to the US Trade Summary of India (2004), Press Note 18, introduced by the Ministry of Industry on December 14, 1998, poses major impediments to investment in India. The following are the two most restrictive provisions of Press Note 18:

- 1) The automatic approval route is not available to foreign investors who wish to set up new ventures in India or who wish to enter into new technical collaborations or trademark agreements in India, if such foreign investors have or have previously had any joint venture, technology transfer or trademark agreement in the same or allied field in India. Such foreign investors would have to obtain an approval from the Indian government; and
- 2) In its application, such foreign investor would have to give reasons for which it finds it necessary to set up a new venture or enter into a technical collaboration or trademark agreement. The onus is on the investor to provide adequate justification to the satisfaction of the Indian government that its new proposal would not jeopardize the interests of the existing venture or the stakeholders thereof.

The government may, at its discretion, approve or reject the application giving reasons for such rejection.

In addition, the foreign investors who already have an equity stake in a venture in India, and who want to increase their equity stake in the company, are required to obtain a resolution of the Board of Directors of the Indian company prior to seeking Indian government permission.

India also has extensive rules in regard to setting up an office in India, in terms of what each type of office is allowed to do and not allowed to do.

Generally, FDI rules have been substantially liberated and FDI of up to 100% equity is allowed under Automatic Route for all sectors/ activities except the following:

- i) Industries retained under compulsory licensing;
- ii) Manufacture of items reserved for small scale sector by non-SSI units; and
- iii) When the proposed location attracts locational restriction.

Anticompetitive Practices

India suffers from a slow bureaucracy and regulatory bodies that reportedly apply monopoly and fair trade regulations selectively. With little or no fear of government action and with a clogged court system where cases languish for years, Indian firms face few if any disincentives to engaging in anticompetitive business practices.

Export taxes

Various exports have been subject to export taxes but these have been or are being removed. The export of raw hides and skins is subject to an export duty of 60%.

Intellectual property rights

India is on the USA's IPR "Priority Watch List" of 14 countries for due to continuous serious concerns about copyright and trademark infringements, inadequate enforcement of intellectual property rights, and the need to greatly improve the processing of patent applications in a manner that is consistent with their international obligations. This is according the 2005 Special 301 Report. The Government is improving its capacity and systems to deal with this problem.

4.3 THE PROPENSITY TO USE TRADE REMEDIES

Trade remedies are anti-dumping and countervailing (anti-subsidy) duties aimed at countering unfair international trade practices.

Anti-dumping duties

India and South Africa are some of the most frequent users of anti-dumping measures. Table 5.8 shows the number of anti-dumping measures imposed from January 1995 to

30 June 2005 (the latest data on the WTO website) by the top ten users of this measure and their percentages of the total.

Table 5.8 Anti-dumping measures per country 1995 – 30/06/2005

Country/Bloc	Number of measures	% of total measures
India	309	17.9
United States	229	13.2
European Community (EU 15)	200	11.6
Argentina	139	8.0
South Africa	113	6.5
Turkey	81	4.7
Mexico	71	4.1
Australia	65	3.8
Brazil	63	3.6
China	62	3.6
Other	536	23.0
Total	1 729	100.0%

Anti-dumping measures per country in respect of the sectors covered by the investigations for India are shown in the following table:

AD Sectoral: Distribution of Measures By Importing Member							
From: 01/01/95 To: 30/06/05							
Member/sector	Chemicals	Plastics	Rubber	Textiles	Footwear	Metals	Total
<i>Argentina</i>	5	9	0	8	0	51	73
<i>Australia</i>	8	16	0	5	0	15	44
<i>Brazil</i>	15	7	0	1	0	20	43
<i>Canada</i>	2	0	0	0	2	60	64
<i>Chile</i>	0	0	0	0	1	4	5
<i>China, P.R.</i>	31	16	0	1	0	5	53
<i>Colombia</i>	1	1	0	0	0	9	11

<i>Egypt</i>	1	13	0	0	0	8	22
<i>EU</i>	38	15	1	21	5	70	150
<i>India</i>	142	48	0	39	1	29	259
<i>Indonesia</i>	7	0	0	0	0	12	19
<i>Israel</i>	0	1	0	2	0	2	5
<i>Jamaica</i>	1	0	0	0	0	0	1
<i>Japan</i>	0	0	0	3	0	0	3
<i>Korea, Rep. of</i>	14	1	0	0	0	5	20
<i>Lithuania</i>	1	0	0	0	0	0	1
<i>Malaysia</i>	3	2	0	0	0	0	5
<i>Mexico</i>	14	4	0	2	0	38	58
<i>New Zealand</i>	0	0	0	0	0	4	4
<i>Pakistan</i>	3	2	0	0	0	1	6
<i>Paraguay</i>	1	0	0	0	0	0	1
<i>Peru</i>	1	1	0	4	4	15	25
<i>Philippines</i>	1	1	0	2	0	3	7
<i>Poland</i>	1	2	0	2	0	0	5
<i>Singapore</i>	0	0	0	0	0	2	2
<i>South Africa</i>	18	20	0	10	0	30	78
<i>Thailand</i>	1	0	0	0	0	23	24
<i>Trinidad and T.</i>	0	1	0	1	0	0	2
<i>Turkey</i>	7	32	0	18	0	13	70
<i>United States</i>	29	10	0	5	0	139	183
<i>Venezuela</i>	0	3	0	2	4	14	23
Totals 01/01/95	345	205	1	126	17	572	1266
- 30/06/05							

Anti-dumping measures have become a major trade policy instrument of India since 1995 when the country had to start phasing out import restrictions as required by its obligations under the Uruguay Round of the WTO. India is now the single biggest user of anti-dumping measures with 17.9% of the total number of measures imposed by all countries over the period concerned.

Base metals and articles (Chapters 72 to 83) and chemicals (Chapters 28 to 38) are the sectors most subject to anti-dumping measures with 33.1% and 20.0%, respectively, of all measures. Plastics attracted 11.9% and textiles 7.3% of all measures. 46.0% of India's measures are in respect of chemicals.

India is fifth on the list of countries against which most anti-dumping investigations have been initiated up to 30 June 2005, with 115 cases (4.2% of the total). China tops the list with 434 cases (15.8%) followed by the Republic of Korea with 212 cases (7.7%).

Countervailing duties

Countervailing duties are applied against subsidies by exporting countries. Such duties can be applied against prohibited subsidies, which are subsidies contingent on export performance or upon the use of domestic over imported goods, or actionable subsidies. The latter category, briefly, refers to financial contributions by a government or a public body (such as a direct transfer of funds, government revenue foregone, the provision of goods or services by a government, other than general infrastructure, and if a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out any of these functions; or if there is any form of price or income support; and a benefit is thereby conferred. A countervailing duty may be applied against an actionable subsidy only if it is specific to an enterprise or industry or a group thereof.

During the period January 1995 to 31 December 2004, 108 countervailing duties have been imposed by all countries. India has not imposed any countervailing duties.

India is on top of the list of countries against which countervailing duties have been imposed. Of the total of 108 countervailing duties, 25 or 23.1% have been imposed against India. Of these, 14 were in respect of metals, 3 in chemicals, 4 in plastics and 2 in textiles.

Safeguard measures

A safeguard is an action taken to protect a specific industry from such increase in imports as to cause, or threaten to cause, serious injury. It is intended to prevent or

remedy serious injury and to facilitate adjustment. Safeguard action is taken if the measure a country wish to impose would breach its WTO obligations, i.e. if the tariff would exceed the bound rate of duty or if the country wishes to impose quantitative restrictions on imports. Unlike anti-dumping and countervailing duties, which are applied to specific countries and exporters, safeguard measures have to be applied to a product imported irrespective of its source.

Currently a total of 68 safeguard measures or provisional safeguard measures are applied by all countries. Of these, 8 are applied by India (11.8%), namely 7 in respect of chemicals and 1 in plastics.

4.4 Other trade discriminatory measures

India applies a vast array of export support schemes base on the duty rebate and drawback principles. Elements in some of these schemes seem to be trade discriminatory.

The Government of India introduced the Duty Entitlement Pass Book (DEPB) Scheme in April 1997 by means of Customs Notification 34/97, after the abolishment of the Passbook Scheme. The objective of the measure is to provide duty free imports for export production, in other words to neutralise the incidence of customs duty on the import content of the export product. The neutralisation is provided by way of grant of duty credit against the export product. Thus, for exporters not desirous of going through the licensing route, an optional facility is given under DEPB Scheme. In contrast to the usual temporary duty-free importation of goods for processing, the Pass Book Scheme may lead to an indirect subsidy of local Indian production.

The Duty Entitlement Pass Book (DEPB) Scheme entitles an exporter (both a manufacturer-exporter and a merchant-exporter) for credit as a specified percentage of FOB value of exports, made in freely convertible currency. The credit is available against such export products and at such rates as specified by the Directorate General of Foreign Trade (DGFT) by way of Public Notice, for import of raw materials, intermediates, components, parts, packaging material etc.

The DEPB is valid for a period of 12 months from the date of issue. The DEPB and/or the items imported against it are freely transferable and, as a consequence, frequently sold.

The DEPB has emerged as a favourite instrument of export promotion. The DEPB rates are available on wide-variety of items compared to the coverage under the drawback scheme, which is limited to a few items. The DEPB entitlement is also liberal compared to the drawback rate. Imports through the DEPB Scheme are exempt from special additional duties (SAD) and therefore, SAD can be avoided by duty payment through DEPB.

The scheme lacks a built-in obligation to import only goods that are consumed in production of the exported goods. There is no verification system in place to check whether the imports are actually consumed in the production process. It is not a substitution drawback scheme because the imported goods do not need to be of the same quantity and characteristics as the domestically sourced inputs that were used for export production. Exporting producers are eligible for the DEPB benefits regardless of whether they import any inputs at all. An exporter obtains the benefit by simply exporting goods without the need to show that any input material was indeed imported; thus, exporting producers which procure all of their inputs locally and do not import goods which can be used as inputs are still entitled to the DEPB benefits.

4.5 Considerations

1. India's bound tariff rates for industrial products are quite high, mostly at 40%. Many sensitive products are not bound against tariff increases. Footwear (Chapter 64), copper (Chapter 74) and aluminium (Chapter 76) are not bound at all; in the chemicals, plastics and rubber sectors many lines are not bound; while in respect of textiles and clothing there is a lack of clarity about bindings. India's goods schedule show that carpets, knitted fabrics, clothing and other made-up textiles are not bound while the TPR report shows that some of the lines are bound. All South Africa's tariff lines in the relevant sectors are bound with the exception of a few chemical lines.

2. India has substantially reduced its customs tariffs over the last number of years. The basic duties are very uniform, mostly at 15% (as from 1 March 2005). However the tariff structure is not transparent with the contents of a large number of notifications and general exemption notices not incorporated in Schedule 1 (basic duty schedule). There are a large number of partial exemptions, mostly reductions/exemptions for specified uses, projects etc. The actual basic duties on certain products may be lower than those indicated in Schedule 1, such as in the case of steel (actually applied duty of 5% compared to 20% shown in Schedule 1). Fabrics and clothing are subject to alternative specific duties.
3. Tariff concessions granted by India may, therefore, in certain cases be of no real value. During negotiations on tariff concessions, SACU should make sure that the preferences offered by India will result in actual reductions in the currently applied rates.
4. India applies additional taxes on imports and the structure is not transparent. The most important of these is an additional duty of generally 16% (lower for certain products including some textiles), also called a CVD, which is actually a central excise or value added duty. A further additional duty of 4/8% applicable earlier has been removed in respect of almost all products. The situation in respect of additional taxes/duties has been simplified and these are lower than those previously applicable. However, in the case of textiles and clothing the system of applying the additional duty on the maximum retail price (MRP) is a major complication.
5. NTBs remain a major problem for exporters to India although the situation has improved over the past few years. The NTBs with the most affect on exports to India are policy unpredictability and uncertainty; customs procedures and delays; customs valuation; port and other transport infrastructural problems; general burdensome red tape; and labelling requirements.
6. India has become the country that uses anti-dumping duties most of all countries. The sectors most subject to anti-dumping measures imposed by India are base metals and products thereof (33.1%), chemicals (20%), plastics (11.9%) and

textiles (7.3%). India also has more safeguard measures in place than any other country, of which all but one is in respect of chemicals.

7. Of countries against which anti-dumping investigations have been initiated, India is fifth on the list in regard to the number of initiations. India is subject to more countervailing measures than any other country.

5 SYNTHESIS AND RECOMMENDATIONS

5.1 The Defensive Position

From a cross cutting perspective

- 1 A number of reforms were introduced to liberalise the Indian economy including the reform of protection, privatisation and participation of foreigners in the economy. The growth that followed elevated India to one of the attractive emerging markets in the world. However, sustained growth is threatened by serious infrastructure constraints, stringent labour regulations and opposition to privatisation.
2. A range of incentives is in force that includes tax holidays, accelerated depreciation, tax concessions, EPZ and other development zones. Liberal draw back of duty compensation to exporters apply and exporters have preferential access to finance.
3. The applied tariff rates of some product groups will be subject to reduction over a period of time in terms of NAMA (non-agricultural market access) if the Doha Round is successfully concluded. NAMA introduces a degree of uncertainty with respect to future MNF tariff levels that may render bilateral concessions premature.
4. The Indian economy is 4 times South Africa's and the population 23 times. India's economy is the 10th largest in the world with high growth potential. South Africa is more open to international trade (66% of GDP) than India (31%). Indian exports to South Africa are expanding and because of the difference in size and trade intensity, the impact on the South African market can be much more

extensive than the other way round. At present, this threat is rather more sector specific than general e.g. textiles, clothing, leather and footwear as well as the automotive sector and electronic products.

From a sector specific perspective

5. The Indian chemical industry grew steadily at 9.3% p.a. in the five years since the year 2000 from a base of R 164 billion to R 220 billion in 2004. India accounts for 2% of the global chemicals market, it is the twelve largest in terms of volume globally and the third largest in Asia. The size of the Indian chemical industry is therefore about 30% bigger than the South African chemical industry and its growth is twice as fast.
6. The Indian chemical industry is expected to grow at a CAGR of 10.8% p.a. to reach US\$ 60 billion in revenue by 2010. This is to be achieved with the twin objectives of increased exports and investment in high technology sectors. Policies to achieve this include de-regulation like doing away with licences; increasing the level of foreign ownership in companies; the lowering of import duties; tax based incentives; support to R&D, schemes based on the drawback of duty principle for imported feed stocks; intermediates and capital goods; and location benefits in export processing zones. The South African chemical industry enjoys no incentives since the lapsing of the SIP.
7. Development of the Indian chemical industry furthermore benefits from a robustly growing economy with specific sector initiatives. The agrochemical (fertilizers and pesticides) industry is benefiting from a developing and large agro-based sector. Polymer demand is expected to reach 7.3 million tons by the year 2007 and 12.4 million tons by 2011. India is expected to be the third largest consumer of plastics after the USA and China by the year 2010. Growth in the plastics industry is expected to outperform that of GDP consistently with a rate of 12% - 15% p.a. India has a well entrenched domestic pharmaceutical industry and over the next few years' products worth over US\$ 45 billion are expected to go off patent. This is expected to open up a huge market for generic products. On the feedstocks side India is well placed in the production of chlor-alkali products.

8. Highly skilled scientific human resource and a competitive one for that matter, has been the bedrock of the advancement of the Indian chemical industry. Because of this knowledge base, the Indian chemical industry is able to attract contract research and custom manufacturing opportunities more than any of its peers in the developing world. It is this skilled workforce that is expected to sustain the growth of the Indian chemical industry more especially in sub-sectors that need formulation know-how like the fine and speciality chemicals and pharmaceuticals.
9. Given the impediments to competitiveness faced by Indian chemical manufacturers like poor infrastructure and frequent power outages, the high rate of growth of the chemical sector seems to be achieved because of suitable policies and incentives; attractive and expanding markets in India and in high growth neighbouring economies; as well as competitive and skilled human resources.
10. The South African chemical industry has been experiencing a lacklustre growth for the previous years at a rate half that of India's in production and exports and this is expected to continue in the short term, at least until the new sector development strategy has been fully implemented with the targeted interventions. Among other things, the slow growth in South African chemicals can be attributed to factors such as the small local market, high cost of capital, distance from low cost raw material and inadequate skills. Added to these growth barriers is the complexity and cost of regulatory compliance.
11. South African chemical manufacturers do not enjoy protection by subsidies, high tariff duties and the onerous NTBs that the Indian manufacturers are enjoying. The NTBs that have the most effect on slowing exports to India are policy unpredictability and uncertainty, customs procedures and delays, customs valuations, port and other infrastructural problems.
12. India thus presents a competitive threat to South Africa in its local and in third markets. A fast growing economy like India's is capable to accumulate competitive advantages in a dynamic fashion that can make rapid inroads into more passive markets like South Africa's. South African chemical exporters are not only at a

disadvantage when exporting to India but they are equally disadvantaged in exports to third markets where they compete with Indian chemical exporters. Indian chemical manufacturers are in a better position to take advantage of opportunities in the South African chemicals market (and elsewhere) than South African chemical manufacturers could in the Indian chemicals market (and elsewhere).

13. Therefore, it is advisable for the trade negotiators to ensure that Indian export products that enjoy the benefits of the drawback rates schemes as well as the Advance Licence Scheme are not granted any concession into the South African market. An amount equal to the subsidy received should be levied on such products. This should also include all the exports by India to South Africa of products listed under Appendix 4, which is effectively South Africa's defensive product list. Products that enjoy the benefits of the drawback rates in India are not published, it is therefore impossible to base South Africa's defensive product list on those products.
14. Chemical exports (liquid fuels excluded) doubled between 2000 and 2004. The exports of plastic and products (198.9%); inorganic chemicals (152.3% from a very low base); rubber and products (108.9%); and pharmaceutical products (103.3%) were the fastest growing of the different sub-groups. Export growth of the sub-groups exporting fertilizers; tanning extracts and essential oils were lower than average. Exports of organic chemicals; pharmaceutical products; and plastics and products are the dominant ones among the sub-groups.
15. South African imports in US\$ were 49.3% higher in 2004 than in 2000. Rapid increases in imports occurred in pharmaceutical products; fertilizers, essential oils, soap, active surface agents, and plastics and products. Plastics and products (19.8%) is the single most important sub-group in imports followed by pharmaceutical products (17.0%); inorganic chemicals (13%) and organic chemicals (15.7%).
16. Growth in India's exports to South Africa was faster than its average to the world. Exports of organic chemicals; pharmaceuticals; tanning extracts etc.; plastics and rubber and products grew at high rates. 84% of South Africa's imports from India are

concentrated in these sub-groups. South African imports from India are 1.2% of the latter's exports.

17. Although the chemical industry is capital intensive it is an important employer due to its size while sub-groups like plastic products tend to be more labour intensive. The socio-economic contribution of the sector and specifically sub-groups like plastic products should not be impaired by bi-lateral trade concessions.

Recommendations

From a cross cutting perspective

1. The Indian economy is 4 times South Africa's and the population 23 times. India's economy is the 10th largest in the world with high growth potential. South Africa is more open to international trade (66% of GDP) than India (31%). Indian exports to South Africa are expanding and because of the difference in size and trade intensity, the impact on the South African market can be much more extensive than the other way round.
2. The applied tariff rates of some product groups will be subject to reduction over a period of time in terms of NAMA (non-agricultural market access) if the Doha Round is successfully concluded. NAMA introduces a degree of uncertainty with respect to future MNF tariff levels that may render bilateral concessions premature.

From a sector specific perspective

3. By considering that India's chemicals sector is:
 - on a high growth path;
 - actively pursuing opportunities in international markets;
 - competitive and enjoys attractive conditions in markets for resources and for industry output.; and
 - supported to become even more competitive with the help of a range of incentives,the Indian chemical industry poses a threat to the South African industry in the local and in third markets and trade negotiators should thus be concerned in granting concessions to India in chemical products.

4. Should any offers be contemplated they need to be worked out in conjunction with the constituents of the chemical sector.
5. The list in Appendix 4 can be a guide in circumstances requiring that tariff lines be found that can be included in a bi-lateral trade offer. The list comprises South Africa's more important imports of chemical products.
6. Concessions should not be granted on products that enjoy WTO-unfriendly support and incentives as these products, in principle, are candidates for countervailing duties.

5.2 The Offensive Position

From a cross cutting perspective

1. A PTA with India will start off with South African tariffs lower than India's with the benefit of Indian tariffs being lowered more than South Africa's.
2. The Indian market is a high growth one that is driven by exports, the IT services sector and growing middle class consumers.
3. The Indian market should preferably be entered and business developed with a local business counterpart.

From a sector specific perspective

4. The Indian chemical industry is about 30% bigger than the South African chemical industry in terms of sales and it is ranked 12th in terms of global production. The Indian chemical industry is expected to grow at a CAGR of 10.8% p.a. to reach US\$ 60 billion in revenue by 2010 offering market opportunities that cannot be denied.
5. Development of the Indian chemical industry furthermore benefits from a robustly growing economy with specific sector attributes. The agrochemical (fertilizers and pesticides) industry is benefiting from a developing and large agro-based sector. Polymer demand is expected to reach 7.3 million tons by the year 2007 and 12.4 million tons by 2011. India is expected to be the third largest consumer of plastics after the USA and China by the year 2010. Growth in the plastics industry is expected to outperform that of GDP consistently with a rate of 12% - 15% p.a. India

has a well entrenched domestic pharmaceutical industry and over the next few years' products worth over US\$ 45 billion are expected to go off patent. This is expected to open up a huge market for generic products. On the feedstocks side India is well placed in the production of chlor-alkali products.

6. To the contrary the South African chemical industry has been experiencing a lacklustre growth for the previous years and this is expected to continue in the short term, at least until the. A new RSA sector development strategy is to be implemented with targeted interventions. The objectives are the beneficiation of abundantly available natural resources to produce high value added products, increased competitiveness of the sector, and establishment of a meaningful level of cooperation between the social partners in the chemical sector.
7. The South African chemical sector remains a predominantly upstream commodity based industry. This may be an advantage in view of Indian import demand for upstream intermediates.
8. South African exports expressed in US\$ and excluding liquid fuels in 2004 were 53% higher than in 2000. The sub-sectors that performed extraordinary well were essential oils with exports 117% higher; plastics 86%; and organic chemicals 81.5 % higher. Increases in exports of rubber and products; starches; and miscellaneous chemicals were more than 70% between 2000 and 2004.
9. Export of inorganic chemicals (27.9%) remained the most important while that of organic chemicals increased from 17.7% in 2000 to 21% in 2004. The export of plastics and products became the third most important sub-group with 13.6% of the total in 2004. Exports of miscellaneous chemicals also gained in importance.
10. South Africa supplied 2.3% of Indian imports in 2004. The increase in exports to India between 2000 and 2004 was 62.3 % that is in excess of the aggregate to the world of 53%. The most significant increase occurred in organic chemicals. South Africa's exports are concentrated in: organic; and inorganic chemicals and explosives.

11. The trade balance in chemicals (excluding liquid fuels) is in South Africa's favour. It was positive to order of just more than US\$ 100 million in 2004.
12. India's bound tariff rates for industrial products are quite high, mostly at 40%. Many sensitive products are not bound against tariff increases. In the chemicals, plastics and rubber sectors many lines are not bound. All South Africa's tariff lines are bound with the exception of a few chemical lines.
13. India's basic duties are very uniform, mostly at 15% (as from 1 March 2005). However the tariff structure is not transparent with the contents of a large number of notifications and general exemption notices not incorporated in the basic duty schedule. India applies additional taxes on imports and the structure is not transparent. Cost of exporting can thus be higher than expected and tariff concessions granted by India may in certain cases be of no real value. During negotiations on tariff concessions, SACU should make sure that the preferences offered by India will result in actual reductions in the currently applied rates.
14. NTBs are a further complication when exporting to India. NTB's remain a major problem for exporters to India although the situation has improved over the past few years. The NTBs with the most affect on exports to India are policy unpredictability and uncertainty; customs procedures and delays; customs valuation; port and other transport infrastructural problems; general burdensome red tape; and labelling requirements.
15. India is also prone to using trade remedies. It has become the country that uses anti-dumping duties most of all countries. The chemical sector especially is a victim of anti-dumping duties with 20% of all anti-dumping duties that have been imposed by India and an additional 11.9% on plastics.
16. Concessions should be sought for products listed under Appendix 3. The logic for making this South Africa's offensive product list is that without a detailed trade flow analysis between India and South Africa, South Africa's top global export products should make it to the offensive list, whether or not they are major export products to India. Accordingly, the offensive list also includes products that would flow from the

key action programmes targeted for implementation by the draft chemical sector development strategy as well as India's top import products at HS 4-digit level. Most products on this list face on average a 15% duty when exported to India.

17. In terms of direct opportunities that South Africa could capitalize on in the Indian chemicals market, there are two that are in line with South Africa's chemical sector strategy. And those are pharmaceutical feedstock and propylene beneficiation. India has the largest pharmaceutical industry in the developing world. Therefore, pharmaceutical feedstock in the form of fine chemicals in particular is one of their biggest raw material inputs in this sub-sector. However, South Africa's uncompetitiveness in fine chemicals in general may result in missed opportunities in India, more so because of the imminent increase in the generics category because of the drugs that are about to come off patent. But even with the said competitive disadvantage in fine chemicals, South Africa could still share in the Indian pharmaceutical industry by prioritising plant derived pharmaceutical feedstock as this has already shown potential
18. South Africa could also share in the Indian polymers market that is growing at a phenomenal rate of 11% per annum. Also, per capita polymer consumption in India is still way below world norms and that means the market is relatively untapped. Imports of polypropylene and products grew by more than 50% for the period between 2000 and 2004.
19. Although it is not one of the key projects of the chemical sector strategy, phosphoric acid is probably the most attractive export product to India largely because of India's huge fertilizer industry and India's need for such an intermediate.

Recommendations

From a cross cutting perspective

1. By considering that
 - the Indian market is expanding and thus offers business opportunities;
 - increases in growing prosperity are expected to be sustained by exports, India's IT services sector and its growing segment of middle class consumers;

suggest that opportunities for concessions on South African exports of chemical products be pursued.

From a sector specific perspective

2. India's chemical industries are on a strong growth path and should offer an increasing number of export opportunities to South African business. NTB's, serve to discourage exporting to India. A positive trade balance in South Africa's favour is indicative of an ability to benefit from the Indian chemicals market that could be enhanced further by bi-lateral tariff concessions.
3. A request for tariff concessions needs to be compiled in consultation with the constituents of the chemical industry. The list of offensive products in Appendix 3 can serve as a guide to compile a set of concessions that can be sought from India.
4. South Africa could benefit from its apparent comparative strength in the trade in upstream chemical products. In terms of direct opportunities that South Africa could capitalize on in the Indian market and where concessions could be recommended are:
 - pharmaceutical feedstock; by prioritising plant derived pharmaceutical feedstock as this has already shown potential;
 - Polypropylene for polymers with market growth at 11% per annum accompanied by high growth in imports of polypropylene; and
 - phosphoric acid because of India's huge fertilizer industry
5. Indian NTB's are a major deterrent to imports and:
 - negotiators need to ensure that tariff concessions are real and not eroded by non-tariff barriers;
 - prospective exporters should enter the Indian market preferably in partnership with an Indian counterpart.

ADDENDUM TRADE

Historical trade of the Indian chemical sector [HS 27, 28 – 36, 39 and 40] in million Rands – 2000 Rands

HS Chapters	2000		2001		2002		2003		2004	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
27	123,817	13,608	116,115	16,077	245,951	24,000	148,012	24,342	121,428	24,507
28	7,665	1,660	8,846	1,944	14,407	5,025	8,395	2,764	5,749	2,142
29	11,288	12,190	13,577	11,902	27,617	26,409	20,380	18,461	14,305	12,272
30	1,062	6,660	1,226	7,775	2,975	17,409	1,630	10,506	994	6,881
31	3,139	65	3,354	121	3,278	63	3,283	60	3,262	50
32	1,357	3,646	1,756	3,753	3,471	6,153	2,294	5,070	1,428	2,589
33	558	1,502	728	1,270	1,328	2,481	646	1,612	448	752
34	727	253	707	416	1,248	728	863	324	499	302
35	229	373	247	384	516	452	380	350	243	185
36	20	92	21	88	45	192	18	108	18	96
38	2,742	3,135	3,733	3,168	6,553	7,685	4,770	4,825	3,073	3,865
39	4,639	4,939	5,752	5,700	11,329	11,093	8,067	7,971	5,652	5,863
40	2,006	2,558	2,303	2,830	4,294	6,233	3,189	3,977	2,322	2,405
TOTAL	159,249	50,681	158,365	55,428	323,012	107,923	201,927	80,370	159,421	61,909

Historical trade of the South African chemical sector [HS 27, 28 – 36, 39 and 40] in million Rands – actual

HS Chapters	2000		2001		2002		2003		2004	
	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports	Imports	Exports
27	26,616	18,585	32,180	26,128	34,312	30,034	30,712	23,486	44,112	23,647
28	3,809	4,473	3,826	5,112	4,842	6,387	3,948	4,326	4,702	5,815
29	4,375	2,636	5,219	3,093	5,258	4,015	5,558	3,830	5,670	4,549
30	4,291	686	5,389	581	6,167	876	5,798	672	6,183	695
31	849	915	806	1,068	1,565	1,477	942	1,093	1,441	919
32	1,363	671	1,649	840	2,158	1,122	1,870	993	1,905	806
33	958	532	1,141	743	1,556	1,487	1,422	1,133	1,532	1,000
34	491	433	650	600	772	750	687	636	711	537
35	447	75	538	120	693	119	560	126	632	123
36	109	475	135	261	145	364	114	392	132	514
38	3,121	1,747	3,415	2,312	5,039	3,023	4,300	2,803	4,126	2,729
39	5,125	2,036	5,757	2,776	2,284	3,484	6,512	2,997	7,822	3,170
40	2,293	1,345	2,502	1,536	3,615	2,279	3,554	2,093	3,628	2,110
TOTAL	53,853	34,614	63,213	45,178	68,411	55,423	65,983	44,586	82,602	46,620

Source: SARS Customs and Excise

APPENDIX 1 – PRODUCTS UNDER INDUSTRIAL LICENSING

Inorganic Chemicals

Chlorine

Hydrocyanic acid (Aqueous) and derivatives

Sodium hydroxide (Caustic soda)

Organic Chemicals

Aluminium phosphide isocyanates

Aluminium phosphide di-isocyanates

Aromatics (BTX)

Carbaryl

Ethylene

Meta amino phenol

Propylene

Phorate

Fine and Speciality Chemicals

Dimethoate

Fenitrothion sodium hydroxide

Phosgene and derivatives

Quinolphos

Primary Polymers

Low Density Polyethylene

APPENDIX 2 – Some Indian chemical companies and the product categories they are involved in

Inorganic Chemicals

Carbot Sanmar Limited
Century Rayon
Chemplast Samnar Limited
DCW Limited
Gujarat Heavy Chemicals Limited
Gujarat Alkalies and Chemicals Limited
Grasim Industries Limited
Indian Petrochemicals Corporation Limited
Mardia Chemicals Limited
Modi Alkalies and Chemicals Limited
Punjab Alkalies and Chemicals Limited
Punjab National Fertilizer and Chemical Limited
Reliance Limited
Saurashtra Chemicals Limited
Shree Rayalaseema Alkalies and Allied Chemicals Limited
SIEL Chemical Complex
Standard Alkali
Tata Chemicals Limited
Tuticorin Alkali Chemicals and Fertilizers Limited

Organic Chemicals

Gujarat Narmada Valley Fertilizer Company
Herdillia Chemicals Limited
Hindustan Organic Chemicals Limited
Indian Dyestuffs Industries Limited
National Organic Chemical Industries

Fine and speciality chemicals

Atul Limited

Bayer India Limited
BASF India Limited
Clariant India Limited
Colour-Chem Limited
Excel Industries Limited
Gharda Chemicals Limited
Hindustan Insecticides Limited
ICI India Limited
Indian Dyestuffs Industries Limited
Jayasynth Dyechem Limited
Kanoria Chemicals Industries Limited
Montari Industries Limited
National Organic Chemicals Industries
Pidilite Industries Limited
Sudarshan Chemical Industrial Limited
United Phosphorus Limited

APPENDIX 3 – South Africa’s top export products at HS 6-digit level

The biggest export products in ranking order from the highest in value to the lowest are at HS 6-digit level are:

1. HS 27.01.12 – Bituminous coal
2. HS 27.10.11 – Light oils and preparations
3. HS 28.23.00 – Titanium oxides
4. HS 29.01.29 – Acyclic hydrocarbons
5. HS 28.49.90 – Carbides
6. HS 28.09.20 – Phosphoric acid and polyphosphoric acids
7. HS 39.02.10 – Polypropylene
8. HS 40.11.20 – Tyres of a kind used on buses and lorries
9. HS 29.14.11 – Acetone
10. HS 29.05.13 – Butan-1-ol (n-butyl alcohol)
11. HS 40.11.10 - Tyres of a kind used on motor cars
12. HS 28.04.69 – Hydrogen; other rare gases
13. HS 29.16.12 – Esters of acrylic acid
14. HS 29.05.12 - Propan-1-ol (propyl alcohol) and propan-2-ol (isopropyl alcohol)
15. HS 38.08.30 – Herbicides, anti-sprouting products and plant growth agents
16. HS 27.12.20 – Paraffin wax containing by mass less than 0.15%
17. HS 38.23.70 – Industrial fatty alcohols
18. HS 38.14.00 – Organic composite solvents and thinners
19. HS 29.14.12 – Butanone (methyl ethyl ketone)
20. HS 39.07.60 – Polyethylene terephthalate
21. HS 27.01.19 – Coal, briquettes, ovoids
22. HS 31.05.20 – Mineral or chemical fertilizer containing the three fertilizing elements
23. HS 30.04.90 – Medicaments
24. HS 39.02.30 – Propylene copolymers
25. HS 33.04.99 – Beauty or make-up preparations
26. HS 40.02.20 – Butadiene rubber
27. HS 38.08.10 – Insecticides

28. HS 29.14.13 – 4-methyl-2-one (methyl isobutyl ketone)
29. HS 27.14.90 – Bitumen and asphalt; other
30. HS 28.20.10 – Manganese oxides
31. HS 39.01.20 – Polyethylene having a specific gravity of 0.94 or more
32. HS 38.24.90 – Prepared binders
33. HS 39.26.90 – Other articles of plastic
34. HS 32.01.20 – Wattle extract
35. HS 38.22.00 – Composite diagnostic or laboratory reagents
36. HS 33.05.90 – Preparations for use
37. HS 28.41.30 – Sodium dichromate
38. HS 29.07.11 – Phenol (hydrobenzene) and its salts
39. HS 29.15.31 – Ethyl acetate
40. HS 27.07.40 – Naphthalene
41. HS 36.03.00 – Safety fuses, detonating fuses
42. HS 31.02.30 – Ammonium nitrate whether or not in aqueous solution
43. HS 31.05.40 – Ammonium dihydrogenorthophosphate (monoammonium phosphate)
44. HS 29.34.99 – Other heterocyclic compounds
45. HS 27.01.11 – Anthracite
46. HS 28.25.30 – Vanadium oxides and hydroxides
47. HS 32.02.90 – Synthetic organic tanning substances
48. HS 39.04.10 – Polyvinyl chloride, not mixed with other substances
49. HS 39.22.10 – Baths, shower-baths, and wash-basins
50. HS 28.44.40 – Radioactive elements and isotopes and compounds
51. HS 38.04.00 – Residual lyes from the manufacture of wood pulp
52. HS 33.02.10 – Of a kind used in the drink or food industries
53. HS 28.35.56 – Phosphinates (Hypophosphites); Phosphonates
54. HS 27.07.60 – Phenols
55. HS 28.25.80 – Antimony oxides
56. HS 27.10.19 – Petroleum oils and other
57. HS 33.07.20 – Personal deodorants and anti-perspirants
58. HS 38.08.20 – Fungicides
59. HS 30.05.10 – Adhesive dressings and other articles
60. HS 39.07.20 – Polyacetals and other polyether-polyols

- 61. HS 36.02.20 – Prepared explosives (excluding propellant powders)
- 62. HS 27.08.20 – Pitch coke
- 63. HS 33.06.90 – Preparations for oral hygiene
- 64. HS 29.16.11 – Acrylic acid and its salts
- 65. HS 32.15.19 – Printing ink
- 66. HS 39.06.90 – Acrylic polymers
- 67. HS 28.33.24 – Of nickel
- 68. HS 38.12.30 – Anti-oxidising preparations
- 69. HS 39.23.21 – Of polymers of ethylene
- 70. HS 29.29.10 – Isocyanates
- 71. HS 34.02.20 – Preparations put up for retail sale
- 72. HS 28.49.10 – Of calcium
- 73. HS 40.16.99 – Other articles of vulcanised rubber
- 74. HS 28.25.60 – Germanium oxides and zirconium dioxide
- 75. HS 31.05.30 – Diammonium hydrogenorthophosphate (diammonium phosphate)
- 76. HS 38.15.90 – Reaction initiators
- 77. HS 29.15.39 – Saturated acyclic monocarboxylic acids
- 78. HS 28.07.00 – Sulphuric acid; Oleum
- 79. HS 34.01.11 – For toilet use
- 80. HS 27.12.10 – Petroleum jelly
- 81. HS 32.08.90 – Paints and varnishes; Other
- 82. HS 28.19.10 – Chromium trioxide
- 83. HS 35.07.90 – Enzymes; prepared enzymes; other
- 84. HS 38.01.90 – Artificial graphite
- 85. HS 31.03.10 – Superphosphates
- 86. HS 30.05.90 – Wadding gauze; bandages; other
- 87. HS 39.21.90 – Other plates, film, sheets
- 88. HS 28.43.90 – Colloidal precious metals compounds
- 89. HS 33.05.20 – Prepared for permanent waving or straightening
- 90. HS 28.34.29 – Nitrites; nitrates; other
- 91. HS 29.07.12 – Cresols and their salts
- 92. HS 39.20.10 – Of polymers of ethylene
- 93. HS 39.23.10 – Boxes, cases, crates, and similar articles
- 94. HS 39.01.10 – Polyethylene having a specific gravity of less than 0.94

- 95. HS 38.24.40 – Prepared additives for cement
- 96. HS 40.09.21 – Without fittings
- 97. HS 31.02.10 – Urea, whether or not in aqueous solution
- 98. HS 34.06.00 – Candles, tapers and the like
- 99. HS 38.15.19 – Reaction initiators; other
- 100. HS 29.42.00 – Other organic compounds
- 101. HS 32.09.90 – Paints and varnishes; Other
- 102. HS 39.09.40 – Phenolic resins
- 103. HS 39.23.30 – Carboys, bottles, flasks, and similar articles
- 104. HS 29.36.29 – Vitamins and their derivatives, unmixed; Nicotinamide
- 105. HS 27.13.20 – Petroleum bitumen
- 106. HS 28.02.00 – Sulphur, sublimed or precipitated; colloidal sulphur
- 107. HS 31.05.90 – Mineral or chemical fertilizer; Other
- 108. HS 27.11.13 – Butanes
- 109. HS 33.06.10 – Dentifrices
- 110. HS 39.23.29 – Of other plastics
- 111. HS 39.23.50 – Stoppers, lids, caps and other closures
- 112. HS 31.03.90 – Mineral or chemical fertilizer; Other
- 113. HS 30.02.30 – Vaccines for veterinary medicine
- 114. HS 34.01.20 – Soap in other forms
- 115. HS 39.23.90 – Articles for the conveyance of goods
- 116. HS 34.02.90 – Organic surface active agents; Other
- 117. HS 28.20.90 – Manganese oxides; Other

APPENDIX 4 – South Africa's top import products at HS 6-digit level

The biggest import products in ranking order from the highest in value to the lowest at HS 6-digit level are:

1. HS 27.09.00 – Petroleum oils and oils obtained from bituminous minerals
2. HS 30.04.90 – Medicaments
3. HS 27.10.11 – Light oils and preparations
4. HS 28.18.20 – Artificial corundum, other aluminium oxide
5. HS 27.01.19 – Coal, briquettes, ovoids
6. HS 39.01.10 – Polyethylenes with a specific gravity of less than 0.94
7. HS 40.16.99 – Other articles of vulcanised rubber
8. HS 29.17.36 – Terephthalic acid and its salts
9. HS 38.24.90 – Prepared binders
10. HS 31.02.10 – Urea, whether or not in aqueous solution
11. HS 40.11.20 – Tyres, of a kind used on buses and lorries
12. HS 38.22.00 – Composite diagnostic or laboratory reagents
13. HS 39.26.90 – Other articles of plastic
14. HS 27.13.12 – Calcined
15. HS 40.01.22 – Technically specified natural rubber (TSNR)
16. HS 39.07.20 – Polyacetals; other polyether-polyols
17. HS 40.11.10 – Tyres, of a kind used on motor cars
18. HS 38.08.10 – Insecticides
19. HS 27.04.00 – Coke and semi-coke of coal, of lignite or of peat
20. HS 38.11.11 – Based on lead compounds
21. HS 29.05.31 – Ethylene glycol (ethanediol)
22. HS 38.11.21 – Containing petroleum oils or oils obtained from bitumen
23. HS 29.01.24 – Buta-1,3-diene and isoprene
24. HS 39.06.90 – Acrylic polymers
25. HS 33.02.90 – Mixtures of odoriferous substances
26. HS 39.08.10 – Polyamides
27. HS 33.04.99 – Beauty or make-up preparations
28. HS 30.04.20 – Medicaments containing other antibiotics

29. HS 30.03.90 – Medicaments, excluding other
30. HS 38.08.30 – Herbicides, anti-sprouting products and growth regulators
31. HS 39.01.20 – Polyethylene having a specific gravity of 0.94 or more
32. HS 39.03.19 – Polymers of styrene; Other
33. HS 39.09.50 – Polyurethanes
34. HS 28.43.90 – Colloidal precious metals compounds
35. HS 32.15.19 – Printing ink
36. HS 30.02.20 – Vaccines for human medicines
37. HS 39.19.90 – Self-adhesive plates
38. HS 39.20.20 – Of polymers of propylene
39. HS 31.04.20 – Potassium chloride
40. HS 33.02.10 – Of a kind used in the food or drinks industries
41. HS 29.29.10 – Isocyanates
42. HS 39.21.90 – Other plates, sheets, film
43. HS 30.04.39 – Medicaments, excluding other
44. HS 38.15.19 – Reaction initiators
45. HS 33.03.00 – Perfumes and toilet waters
46. HS 40.11.99 – Other
47. HS 27.12.90 – Petroleum jelly
48. HS 28.15.12 – In aqueous solution (soda lye or liquid soda)
49. HS 38.08.20 – Fungicides
50. HS 32.04.17 – Pigments and preparations based thereon
51. HS 29.16.14 – Esters of methacrylic acid
52. HS 29.02.50 – Styrene
53. HS 39.20.49 – Other plates, sheets, film
54. HS 38.15.90 – Reaction initiators
55. HS 29.33.69 – Heterocyclic compounds
56. HS 30.04.31 – Medicaments containing insulin
57. HS 29.34.99 – Other heterocyclic compounds
58. HS 35.07.90 – Enzymes; prepared enzymes
59. HS 32.14.10 – Mastics; painters' fillings
60. HS 39.03.90 – Polymers of styrene; other
61. HS 38.23.19 – Prepared binders
62. HS 39.10.00 – Silicones in primary forms

- 63. HS 30.04.32 – Medicaments containing adrenal cortical hormones
- 64. HS 39.19.10 – In rolls of width not exceeding 20 cm
- 65. HS 29.33.39 – Heterocyclic compounds, other
- 66. HS 29.31.00 – Other organo-inorganic compounds
- 67. HS 39.23.50 – Stoppers, lids, caps and other closures
- 68. HS 39.20.10 – Of polymers of ethylene
- 69. HS 32.08.90 – Paints and varnishes, other
- 70. HS 28.14.10 – Anhydrous ammonia
- 71. HS 30.02.30 – Vaccines for veterinary medicine
- 72. HS 35.04.90 – Peptones and their derivatives
- 73. HS 39.07.30 – Epoxide resins
- 74. HS 33.05.90 – Preparations for use on the hair
- 75. HS 29.30.90 – Organo-sulphur compounds
- 76. HS 32.06.11 – Pigments and preparations based on titanium dioxide
- 77. HS 30.02.10 – Antisera and other blood fractions
- 78. HS 39.07.40 – Polycarbonates
- 79. HS 29.24.29 – Other
- 80. HS 34.02.90 – Organic surface active agents
- 81. HS 39.02.10 – Polypropylene
- 82. HS 39.07.99 – Polyacetals and other polyether-polyols
- 83. HS 39.07.60 – Polyethylene terephthalate
- 84. HS 28.34.21 – Of potassium
- 85. HS 39.18.10 – Of polymers of vinyl chloride
- 86. HS 28.26.12 – Of aluminium
- 87. HS 28.49.90 – Carbides
- 88. HS 39.23.30 – Carboys, bottles, flasks and similar article
- 89. HS 38.15.12 – With precious metal or precious metal compounds
- 90. HS 38.16.00 – Refractory cements
- 91. HS 39.20.91 – Of polyvinyl butyral
- 92. HS 39.03.30 – Acrylonitrile-butadiene-styrene (ABS) copolymers
- 93. HS 32.06.49 – Other colouring matter
- 94. HS 39.20.62 – Of polyethylene terephthalate
- 95. HS 39.24.10 – Tableware and kitchenware
- 96. HS 29.33.99 – Heterocyclic compounds, other

- 97. HS 29.02.20 – Benzene
- 98. HS 39.03.11 – Expansible polystyrene
- 99. HS 39.01.90 – Polymers of ethylene, other
- 100. HS 29.16.12 – Esters of acrylic acid
- 101. HS 40.11.94 – Of a kind used on construction or industrial handling machines

APPENDIX 5 – Comparison of customs duties of India and South Africa

HS Chapter 28 - Inorganic chemicals; organic or inorganic compounds of precious metals, of rare-earth metals, of radioactive elements or of isotopes.

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % <i>Ad valorem</i>			
		SA January 05 06		India January 05 06	
Chapter 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				
SUB- CHAPTER I.	CHEMICAL ELEMENTS				
2801.10	Chlorine	10		20	15
2801.20	Iodine	10		15	15
2801.30	<i>Fluorine; bromine</i> [Fluorine] [Bromine]	0		20	15
				20	15
2802	Sulphur, sublimed or precipitated; colloidal sulphur				
2802.00	Sulphur, sublimed or precipitated; colloidal sulphur	0			
[2802.00.10]	[Sublimed sulphur]			20	15
[2802.00.20]	[Precipitated sulphur]			20	15
[2802.00.30]	[Colloidal sulphur]			20	15
2803	Carbon (carbon blacks and other forms of carbon not elsewhere specified or included)				
2803.00	Carbon (carbon blacks and other forms of carbon not elsewhere specified or included)	10			
[2803.00.10]	[Carbon blacks]			20	15
	[Acetylene blacks]			20	15

[2803.00.20]			
[2803.00.90]	[Other]		20 15
2804	Hydrogen, rare gases and other non-metals		
2804.10	Hydrogen	0	20 15
2804.2	- rare gases :		
2804.21	Argon	0	20 15
2804.29	Other	0	
[2804.29.10]	[Helium]		20 15
[2804.29.90]	[Other]		20 15
2804.30	Nitrogen	0	20 15
2804.40	Oxygen	0	
[2804.40.10]	[Medicinal grade]		20 15
[2804.40.90]	[Other]		20 15
2804.50	Boron; tellurium	0	
[2804.50.10]	[Boron]		20 15
[2804.50.20]	[Tellurium]		20 15
2804.6	- silicon :		
2804.61	Containing by mass 99,99 per cent or more of silicon	0	20 15
2804.69	Other	0	20 15
2804.70	Phosphorus	0	
[2804.70.10]	[Phosphorus black]		20 15
	[Phosphorus red]		20 15
2804.80	Arsenic	0	20 15
2804.90	Selenium	0	20 15
2805	Alkali or alkaline-earth metals; rare- earth metals, scandium and yttrium, whether or not intermixed or interalloyed; mercury		
2805.1	- alkali or alkaline-earth metals :		
2805.11	Sodium	0	20 15
2805.12	Calcium	0	20 15
2805.19	Other	0	20 15
2805.30	Rare-earth metals, scandium and yttrium, whether or not intermixed or interalloyed	0	20 15
2805.40	Mercury	0	20 15
SUB-CHAPTER II	INORGANIC ACIDS AND INORGANIC OXYGEN COMPOUNDS OF NON-METALS		
2806	Hydrogen chloride (hydrochloric acid); chlorosulphuric acid		
2806.10	Hydrogen chloride (hydrochloric acid)	10	20 15

2806.20	Chlorosulphuric acid	0	20	15
2807	Sulphuric acid; oleum			
2807.00	Sulphuric acid; oleum	0		
[2807.00.10]	[Sulphuric acid]		20	30
[2807.00.20]	[Oleum]		20	15
2808	Nitric acid; sulphonitric acids			
2808.00	Nitric acid; sulphinitric acids	0		
[2908.00]	[Nitric acid; sulphonitric acid :] [Nitric acid]		20	15
2809	Diphosphorus pentaoxide; phosphoric acid and polyphosphoric acids, whether or not chemically defined			
2809.10	Diphosphorous pentaoxide	0	20	15
2809.20	Phosphoric acid and polyphosphoric acids	0		
[2809.20.10]	[Phosphoric acid]		20	15
[2809.20.20]	[Polyphosphoric acids]		20	15
2810	Oxides of boron; boric acids			
2810.00	Oxides of boron; boric acids	0		
[2810.00.10]	[Oxides of boron]		20	15
[2810.00.20]	[Boric acids]		20	15
2811	Other inorganic acids and other inorganic oxygen compounds of non-metals			
2811.1	- other inorganic acids :			
2811.11	Hydrogen fluoride (hydrofluoric acid)	0	20	15
2811.19	- other :			
2811.19.10	Hydrogen cyanide	0		
[2811.19.10]	[Hydrocyanic acid (Hydrogen cyanide, prussic acid)]		20	15
[2811.19.20]	[Hypophosphorus acid (phosphinic acid)]		20	15
[2811.19.30]	[Acids of arsenic]		20	15
[2811.19.40]	[Sulphonic acid]		20	15
2811.19.90	Other	0	20	15
2811.2	- other inorganic oxygen compounds of non- metals :			

2811.21	Carbon dioxide	0		
[2811.21.10]	[Dry ice]		20	15
	[Other]		20	15
[2811.21.90]				
2811.22	Silicon dioxide	0	20	15
2811.23	Sulphur dioxide	0	20	15
2811.29	Other	0		
	[Arsenic pentoxide]		20	15
[2811.29.10]	[Arsenic trioxide]		20	15
	[Nitrous oxide]		20	15
[2811.29.20]	[Carbon monoxide]		20	15
SUB-CHAPTER III	HALOGEN OR SULPHUR COMPOUNDS, OF NON-METALS			
2812	Halides and halide oxides of non-metals			
2812.10	- chlorides and chloride oxides :			
2812.10.10	Arsenic trichloride	0		
	[Phosgene (carbonyl chloride, Free carbon oxychloride, chloro formyl chloride)]		20	15
2812.10.20	Carbonyl dichloride (phosgene)	0		
[2812.10.20]	[Phosphorus trichloride]		20	15
2812.10.30	Phosphorus oxychloride	0	20	15
2812.10.40	Phosphorus trichloride	0		
[2812.10.40]	[Sulphur oxychloride, thionyl chloride]		20	15
2812.10.50	Phosphorus pentachloride	0		
	[Silicon tetrachloride]		20	15
2812.10.60	Sulphur monochloride	0		
2812.10.70	Sulphur dichloride	0		
2812.10.80	Thionyl chloride	0		
2812.10.90	Other	0	20	15
2812.90	Other	0	20	15
2813	Sulphides of non-metals; commercial phosphorus trisulphide			
2813.10	Carbon disulphide	0	20	15
2813.90	Other	0		
	[Arsenic disulphide (artificial)]		20	15
[2813.90.10]	[Commercial phosphorus trisulphide]		20	15
	[Other]		20	15
[2813.90.20]				

[2813.90.90]			
SUB-CHAPTER IV	INORGANIC BASES AND OXIDES, HYDROXIDES AND PEROXIDES OF METALS		
2814	Ammonia, anhydrous or in aqueous solution		
2814.10	Anhydrous ammonia	0	20 5
2814.20	Ammonia in aqueous solution	0	20 5
2815	Sodium hydroxide (caustic soda); potassium hydroxide (caustic potash); peroxides of sodium or potassium		
2815.1	- sodium hydroxide (caustic soda) :		
2815.11	Solid	20	
[2815.11.10]	[Flakes]		20 15
[2815.11.10]	[Other]		20 15
2815.12	In aqueous solution (soda lye or liquid soda)	20	20 15
2815.20	Potassium hydroxide (caustic potash)	0	20 15
2815.30	Peroxides of sodium or potassium	0	20 15
2816	Hydroxide and peroxide of magnesium; oxides, hydroxides and peroxides, of strontium or barium		
2816.10	Hydroxide and peroxide of magnesium	0	
[2816.10.10]	[Hydroxide of magnesium]		20 15
[2816.10.20]	[Peroxide of magnesium]		20 15
2816.40	Oxides, hydroxides and peroxides, of strontium or barium	0	20 15
2817	Zinc oxide; zinc peroxide		
2817.00	Zinc oxide; zinc peroxide	10	
[2817.00.10]	[Zinc oxide]		20 15
[2817.00.20]	[Zinc peroxide]		20 15
2818	Artificial corundum, whether or not chemically defined; aluminum oxide; aluminium hydroxide		
2818.10	Artificial corundum, whether or not chemically defined	0	20 15
2818.20	Aluminium oxide other than artificial corundum	0	
[2818.20.10]	[Alumina, calcined]		20 10*
[2818.20.90]	[Other]		20 15

2818.30	Aluminium hydroxide	0	20	15
2819	Chromium oxides and hydroxides			
2819.10	Chromium trioxide	0	20	15
2819.90	Other	0	20	15
2820	Manganese oxides			
2820.10	Manganese dioxide	0	20	15
2820.90	Other	0	20	15
2821	Iron oxides and hydroxides; earth colours containing 70 % or more by mass [weight] of combined iron evaluated as Fe_2O_3			
2821.10	Iron oxides and hydroxides	0		
[2821.10.10]	[Iron oxides]		20	15
[2821.10.20]	[Iron hydroxides]		20	15
2821.20	Earth colours	0	20	15
2822	Cobalt oxides and hydroxides; commercial cobalt oxides			
2822.00	Cobalt oxides and hydroxides; commercial cobalt oxides	0		
[2822.00.10]	[Cobalt oxides]		20	15
[2822.00.20]	[Cobalt hydroxides]		20	15
[2822.00.30]	[Commercial cobalt oxides]		20	15
2823	Titanium oxides			
2823.00	Titanium oxides	10		
[2823.00.10]	[Titanium dioxide]		20	15
[2823.00.90]	[Other]		20	15
2824	Lead oxides; red lead and orange lead			
2824.10	Lead monoxide (litharge, massicot)	0		
[2824.10.10]	[Litharge]		20	15
[2824.10.20]	[Massicot]		20	15
2824.20	Red lead and orange lead	0	20	15
2824.90	Other	0	20	15
2825	Hydrazine and hydroxylamine and their inorganic salts; other inorganic bases; other metal oxides, hydroxides and peroxides			

2825.10			
[2825.10.10]	Hydrazine and hydroxylamine and their inorganic salts	0	
[2825.10.20]	[Hydrazine anhydrous]		20 15
	[Hydrazine hydrate]		20 15
[2825.10.30]	[Hydrazine sulphate]		20 15
	[Hydroxylamine sulphate]		20 15
[2825.10.40]	[Other]		20 15
[2825.10.90]			
2825.20	Lithium oxide and hydroxide	0	20 15
2825.30	Vanadium oxides and hydroxides	0	
[2825.30.10]	[Vanadium pentoxide flakes]		20 15
	[Other]		20 15
[2825.30.90]			
2825.40	Nickel oxides and hydroxides	0	20 15
2825.50	Copper oxides and hydroxides	0	20 15
2825.60	Germanium oxides and zirconium dioxide	0	
[2825.60.10]	[Germanium oxides]		20 15
	[Zirconium dioxide]		20 15
[2825.60.20]			
2825.70	Molybdenum oxides and hydroxides	0	
[2825.70.10]	[Molybdenum trioxide]		20 15
	[Molybdic acid]		20 15
[2825.70.20]	[Other]		20 15
[2825.70.90]			
2825.80	Antimony oxides	0	20 15
2825.90	Other	0	
[2825.90.10]	[Tin oxide]		20 15
	[Cadmium oxide]		20 15
[2825.90.20]	[Mercury oxides (mercuric oxide)]		20 15
	[Calcium hydroxide]		20 15
[2825.90.30]	[Ammonium hydroxide]		20 15
	[Other]		20 15
[2825.90.40]			

[2825.90.50]			
[2825.90.90]			
SUB-CHAPTER V	SALTS AND PEROXYSALTS, OF INORGANIC ACIDS AND METALS		
2826	Fluorides; fluorosilicates, fluoroaluminates and other complex fluorine salts		
2826.1	- fluorides :		
2826.11	Of ammonium or of sodium	0	
[2826.11.10]	[Ammonium fluorides]		20 15
[2826.11.20]	[Sodium fluorides]		20 15
2826.12	Of aluminium	0	20 15
2826.19	Other	0	
[2826.19.10]	[Magnesium fluoride]		20 15
[2826.19.90]	[Other]		20 15
2826.20	Fluorosilicates of sodium or of potassium	0	
[2826.20.10]	[Fluorosilicates of sodium]		20 15
[2826.20.20]	[Fluorosilicates of potassium]		20 15
2826.30	Sodium hexafluoroaluminate (synthetic cryolite)	0	20 15
2826.90	Other	0	20 15
2827	Chlorides, chloride oxides and chloride hydroxides; bromides and bromide oxides; iodides and iodide oxides		
2827.10	Ammonium chloride	0	20 15
2827.20	Calcium chloride	0	20 15
2827.3	- other chlorides :		
2827.31	Of magnesium	0	20 15
2827.32	Of aluminium	0	20 15
2827.33	Of iron	0	20 15
2827.34	Of cobalt	0	20 15
2827.35	Of nickel	0	20 15
2827.36	Of zinc	0	20 15
2827.39	Other	0	
[2827.39.10]	[Mercuric chloride]		20 15
[2827.39.10]	[Mercurous chloride]		20 15
[2827.39.10]	[Strontium chloride]		20 15
[2827.39.20]	[Cuprous chloride]		20 15
[2827.39.20]	[Other chlorides]		20 15

[2827.39.30]			
[2827.39.40]			
[2827.39.90]			
2827.4	- chloride oxides and chloride hydroxides :		
2827.41	Of copper	0	
[2827.41.10]	[Copper oxychloride]		20 15
[2827.41.90]	[Other]		20 15
2827.49	Other	0	20 15
2827.5	- bromides and bromide oxides :		
2827.51	Bromides of sodium or of potassium	0	
[2827.51.10]	[Bromides of sodium]		20 15
[2827.51.20]	[Bromides of potassium]		20 15
2827.59	Other	0	
[2827.59.10]	[Magnesium bromide]		20 15
[2827.59.90]	[Other]		20 15
2827.60	Iodides and iodide oxides	0	
[2827.60.10]	[Potassium iodide]		20 15
[2827.60.20]	[Sodium iodide]		20 15
[2827.60.90]	[Other]		20 15
2828	Hypochlorites; commercial calcium hypochlorite; chlorites; hypobromites		
2828.10	Commercial calcium hypochlorite and other calcium hypochlorites	10	
[2828.10.10]	[Commercial calcium hypochlorite (Bleaching paste / powder)]		20 15
[2828.10.90]	[Other]		20 15

2828.90			
[2828.90.11]			
[2828.90.19]	Other	0	
	[Bleaching paste / Powder]		20 15
[2828.90.20]	[Other]		20 15
	[Potassium hypochlorites]		20 15
[2828.90.30]	[Sodium chlorite]		20 15
	[Aluminium chlorite]		20 15
[2828.90.40]	[Hypobromites]		20 15
	[Bleaching paste / powder of other hypochlorites]		20 15
[2828.90.50]	[Other]		20 15
[2828.90.60]			
[2828.90.90]			
2829	Chlorates and perchlorates; bromates and perbromates; iodates and periodates		
2829.1	- chlorates :		
2829.11	Of sodium	0	20 15
2829.19			
[2829.19.10]	Other	0	
	[Barium chlorate]		20 15
[2829.19.20]	[Potassium chlorate]		20 15
	[Magnesium chlorate]		20 15
[2829.19.30]	[Other]		20 15
[2829.19.90]			
2829.90	Other	0	
[2829.90.10]	[Perchlorates]		20 15
	[Bromates and perbromates]		20 15
[2829.90.20]	[Iodates and periodates]		20 15
2830	Sulphides; polysulphides, whether or not chemically defined		
2830.10	Sodium sulphides	0	20 15
2830.20	Zinc sulphide	0	20 15
2830.30	Cadmium sulphide	0	20 15
2830.90	Other	0	
	[Sulphides]		20 15
2831	Dithionites and sulphonylates		

2831.10	Of sodium [Sodium dithionites (sodium hydrosulphite)]	0	20	15
2831.90	Other [Dithionites]	0	20	15
2832	Sulphites; thiosulphates			
2832.10	Sodium sulphites	0		
[2832.10.10]	[Sodium bi-sulphite]		20	15
[2832.10.20]	[Sodium hydrosulphites]		20	15
[2832.10.90]	[Other]		20	15
2832.20	Other sulphites	0		
[2832.20.10]	[Potassium metabisulphite]		20	15
[2832.20.20]	[Magnesium sulphite]		20	15
[2832.20.90]	[Other]		20	15
2832.30	Thiosulphates	0		
[2832.30.10]	[Sodium thiosulphate (hypo)]		20	15
[2832.30.20]	[Magnesium thiosulphate]		20	15
[2832.30.90]	[Other]		20	15
2833	Sulphates; alums; peroxosulphates (persulphates)			
2833.1	- sodium sulphates :			
2833.11	Disodium sulphate	0	20	15
2833.19	Other	0		
[2833.19.10]	[Sodium hydrogen sulphate (acid sulphate)]		20	15
[2833.19.20]	[Sodium pyrosulphate]		20	15
[2833.19.90]	[[Other]		20	15
2833.2	- other sulphates :			
2833.21	Of magnesium	0	20	15

2833.22	Of aluminium	0		
[2833.22.10]	[Aluminium sulphate (iron free)]		20	15
	[Other]		20	15
[2833.22.90]				
2833.23	Of chromium	0	20	15
2833.24	Of nickel	0	20	15
2833.25	Of copper	0	20	15
2833.26	Of zinc	0		
[2833.26.10]	[Agricultural grade zinc sulphate ordinary used as micronutrient]		20	15
	[Other]		20	15
[2833.26.90]				
2833.27	Of barium	0	20	15
2833.29	Other	0		
	[Ferrous sulphate]		20	15
[2833.29.10]	[Mercuric sulphate]		20	15
	[Quinidine sulphate]		20	15
[2833.29.20]	[Manganese sulphate]		20	15
	[Strontium sulphate]		20	15
2833.30				
[2833.30.10]	Alums	0		
	[Ammonium alum]		20	15
[2833.30.20]	[Ferric ammonium alum]		20	15
	[Potash alum]		20	15
[2833.30.30]	[Other]		20	15
[2833.30.90]				
2833.40	Peroxosulphates (persulphates)	0	20	15
2834	Nitrites; nitrates			
2834.10	Nitrites	0		
[2834.10.10]	[Sodium nitrite]		20	15
	[Other]		20	15
[2834.10.90]				
2834.2	- nitrates :			
2834.21	Of potassium	0	20	15
2834.29	Other	0		
	[Strontium nitrate]		20	15
[2834.29.10]	[Magnesium nitrate]		20	15
	[Barium nitrate]		20	15

[2834.29.20]	[Other]		20	15
[2834.29.30]				
[2834.29.90]				
2835	Phosphinates (hypophosphites), phosphonates (phosphites), phosphates, polyphosphates, whether or not chemically defined			
2835.10				
[2835.10.10]	Phosphinates (hypophosphites) and phosphonates (phosphites) [Calcium hypophosphite]	0	20	15
[2835.10.20]	[Magnesium hypophosphite] [Other]		20	15
[2835.10.90]			20	15
2835.2	- phosphates :			
2835.22	Of mono- or disodium	0	20	15
2835.23	Of trisodium	0	20	15
2835.24	Of potassium	0	20	15
2835.25	Calcium hydrogenorthophosphate ("dicalcium phosphate")	10	20	15
2835.26	- other phosphates of calcium :			
2835.26.10	Monocalcium phosphate [Calcium monobasic phosphate]	10	20	15
2835.26.90	Other	0	20	15
2835.29	Other	0		
[2835.29.10]	[Magnesium phosphate, monobasic] [Magnesium phosphate, dibasic] [Magnesium phosphate, tribasic]		20	15
2835.3	- polyphosphates :			
2835.31	Sodium triphosphate (sodium tripolyphosphate)	10	20	15
2835.39	Other	0	20	15
2836	Carbonates; peroxocarbonates (percarbonates); commercial ammonium carbonate containing ammonium carbamate			
2836.10	Commercial ammonium carbonate and other ammonium carbonates	0	20	15
2836.20				
[2836.20.10]	Disodium carbonate [Disodium carbonate, dense]	6	20	15
[2836.20.20]	[Disodium carbonate, light] [Other]		20	15
[2836.20.90]			20	15
2836.30	Sodium hydrogencarbonate (sodium bicarbonate)	0	20	15
2836.40	Potassium carbonates	0	20	15

2836.50	Calcium carbonate	0	20	15
2836.60	Barium carbonate	0	20	15
2836.70	Lead carbonates	0	20	15
2836.9	- other :			
2836.91	Lithium carbonates	0	20	15
2836.92	Strontium carbonate	0	20	15
2836.99	Other	0		
	[Percarbonates]		20	15
	[Aluminium bicarbonate]		20	15
[2836.99.30]	[Potassium bicarbonate]		20	15
2837	Cyanides, cyanide oxides and complex cyanides			
2837.1	- cyanides and cyanide oxides :			
2837.11	Of sodium	0	20	15
2837.19	Other	0		
	[Potassium cyanide]		20	15
[2837.19.10]	[Double cyanide of potassium and sodium]		20	15
2837.20	Complex cyanides	0		
	[Ammonium sulphocyanide]		20	15
[2837.20.10]	[Potassium ferricyanide]		20	15
	[Potassium ferrocyanide]		20	15
[2837.20.20]	[Sodium ferrocyanide]		20	15
2838	Fulminates, cyanates and thiocyanates			
2838.00		0		
[2838.00.10]	Fulminates, cyanates and thiocyanates			
	[Fulminates]		20	15
[2838.00.20]	[Cyanates]		20	15
[2838.00.30]	[Thiocyanates]		20	15
2839	Silicates; commercial alkali metal silicates			
2839.1	- of sodium :			
2839.11	Sodium metasilicates	0	20	15
2839.19	Other	0	20	15
2839.20	Of potassium	0	20	15
2839.90	Other	0		
[2839.90.10]	[Magnesium trisilicate]		20	15
[2839.90.90]	[Other]		20	15
2840	Borates; peroxoborates (perborates)			

2840.1	- disodium tetraborate (refined borax) :		
2840.11	Anhydrous	0	20 15
2840.19	Other	0	20 15
2840.20	Other borates [Magnesium borates]	0	20 15
2840.30	Peroxoborates (perborates)	0	20 15
2841	Salts of oxometallic or peroxometallic acids		
2841.10	Aluminates [Sodium aluminate]	0	20 15
2841.20	Chromates of zinc or of lead [Chromates of zinc]	0	20 15
2841.30	Sodium dichromate	0	20 15
2841.50	Other chromates and dichromates; peroxochromates [Sodium chromates]	0	20 15
2841.6	- manganites, manganates and permanganates :		
2841.61	Potassium permanganate	0	20 15
2841.69	Other	0	20 15
2841.70	Molybdates [Aluminium molybdate]	0	20 15
[2841.70.10]	[Sodium molybdate]		20 15
2841.80	Tungstates (wolframates) [Sodium tungstate]	0	20 15
	[Other]		20 15
2841.90	Other	0	20 15
2842	Other salts of inorganic acids or peroxyacids including aluminosilicates whether or not chemically defined (excluding azides)		
2842.10	Double or complex silicates, including aluminosilicates whether or not chemically defined	0	20 15
2842.90	Other [Arsenites and arsenates]	0	20 15
[2841.90.10]	[Bichromates and dichromates]		20 15
SUB-CHAPTER VI	MISCELLANEOUS		
2843	Colloidal precious metals; inorganic or organic compounds of precious metals; whether or not chemically defined; amalgams of precious metals		
2843.10	Colloidal precious metals	0	
[2843.10.10]	[Of gold]		20 15
	[Of silver]		20 15
[2843.10.20]	[Other]		20 15

2843.2	- silver compounds :		
2843.21	Silver nitrate	0	20 15
2843.29	Other	10	20 15
2843.30	Gold compounds	0	20 15
2843.90	Other compounds; amalgams <i>[Other compounds :]</i> [Sodium Aurous Thiosulphate]	0	20 15
[2843.90.11]	[Noble metal solutions of platinum, rhodium and palladium]		20 15
2844	Radioactive chemical elements and radioactive isotopes (including the fissile or fertile chemical elements and isotopes) and their compounds; mixtures and residues containing these products		
2844.10	Natural uranium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing natural uranium or natural uranium compounds	0	20 15
2844.20	Uranium enriched in U_{235} and its compounds; plutonium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing uranium enriched in U_{235} , plutonium or compounds of these products	0	20 15
2844.30			
[2844.30.10]	Uranium depleted in U_{235} and its compounds; thorium and its compounds; alloys, dispersions (including cermets), ceramic products and mixtures containing uranium depleted in U_{235} , thorium or compounds of these products	0	20 15
[2844.30.21]	[Uranium depleted in U_{235} and or thorium and their alloys, unwrought or wrought and compounds thereof] <i>[Compounds of thorium or of uranium depleted in U_{235} :]</i>		20 15
[2844.30.22]	[Thorium oxide] [Thorium hydroxide]		20 15
[2844.30.23]	[Thorium nitrate] [Other]		20 15
[2844.30.29]	[Waste and scrap of uranium depleted in U_{235} or of thorium] [Other]		20 15
[2844.30.30]			
[2844.30.90]			
2844.40	Radioactive elements and isotopes and compounds (excluding those of subheading No. 2844.10, 2844.20 or 2844.30); alloys, dispersions (including cermets), ceramic products and mixtures containing these elements, isotopes or compounds; radioactive residues	0	20 15
2844.50	Spent (irradiated) fuel elements (cartridges) of nuclear reactors	0	20 15

2845	Isotopes (excluding those of heading no. 2844); compounds, inorganic or organic, of such isotopes, whether or not chemically defined		
2845.10	Heavy water (deuterium oxide)	0	20 15
2845.90	Other [Nuclear fuels not elsewhere included or specified]	0	20 15
2846	Compounds, inorganic or organic, of rare-earth metals, of yttrium or of scandium or of mixtures of these metals		
2846.10	Cerium compounds [Cerium oxides]	0	20 15
2846.90	Other [Rare earth oxides not elsewhere included or specified]	0	20 15
[2846.90.10]	[Rare earth fluorides not elsewhere included or specified]		20 15
	[Rare earth chlorides not elsewhere included or specified]		20 15
[2846.90.20]	[Other]		20 15
2847	Hydrogen peroxide, whether or not solidified with urea		
[2847.00]	[Hydrogen peroxide, whether or not solidified with urea]		20 15
2847.00.15	Not solidified with urea	10	
2847.00.30	Solidified with urea	0	
2848	Phosphides, whether or not chemically defined (excluding ferrophosphorus)		
2848.00	Phosphides, whether or not chemically defined (excluding ferrophosphorous) [Of copper (phosphor copper), containing more than 15% by weight of phosphorus]	0	20 15
[2848.00.10]	[Of Zinc]		20 15
	[Other]		20 15
2849	Carbides, whether or not chemically defined		
2849.10	Of calcium	10	20 15
2849.20	Of silicon [Carborandum]	0	20 15
2849.90	Other [Boron carbide]	0	20 15
[2849.90.10]	[Tungsten carbide]		20 15
2850	Hydrides, nitrides, azides, silicides and borides, whether or not chemically defined (excluding compounds which are also carbides of heading no. 2849)		
2850.00	Hydrides, nitrides, azides, silicides and borides, whether or not chemically defined (excluding compounds which are also carbides of heading No. 2849) [Hydrides]	0	20 15
[2850.00.10]	[Nitrides]		20 15
	[Azides]		20 15
[2850.00.20]	[Silicides :]		

2851	Other inorganic compounds (including distilled or conductivity water and water of similar purity); liquid air (whether or not rare gases have been removed); compressed air; amalgams, (excluding amalgams of precious metals)		
[2851.00]	[Other inorganic compounds (including distilled or conductivity water and water of similar purity); liquid air (whether or not rare gasses have been removed); compressed air; amalgams, other than amalgams of precious metals]		
2851.00.10	Cyanogen chloride	0	
	[Distilled or conductivity water and water of similar purity]		20 15
[2851.00.10]	[Liquid air (whether or not any fraction of rare gasses has been removed)]		20 15
	[Compressed air]		20 15
[2851.00.20]	[Amalgams, other than of precious metals]		20 15
2851.00.90	Other	0	

Chapter 29 – Organic Chemicals

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different)	
		SA January 05 06	India January 05 06
Chapter 29	Organic chemicals		
SUB- CHAPTER I	HYDROCARBONS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES		
2901	Acyclic hydrocarbons		
2901.10	Saturated	0	20 10*
2901.2	- unsaturated :		
2901.21	Ethylene	0	20 5*
2901.22	Propene (propylene)	0	20 5*
2901.23	Butene (butylene) and isomers thereof	0	20 10*
2901.24	Buta-1,3-diene and isoprene	0	20 10*
2901.29	Other	0	
	[Acetylene, whether or not in dissolved condition]		20 10*
[2901.29.10]	[Heptene (Heptylene)]		20 10*
2902	Cyclic hydrocarbons		
2902.1	- cyclanes, cyclenes and cycloterpenes :		
2902.11	Cyclohexane	0	20 10*
2902.19	Other	0	20 10*
2902.20	Benzene	0	20 5*
2902.30	Toluene	0	20 5*
2902.4	- xylenes :		
2902.41	o-Xylene	0	20 5*
2902.42	m-Xylene	0	20 10*
2902.43	p-Xylene	0	20 5*
2902.44	Mixed xylene isomers	0	20 10*
2902.50	Styrene	0	20 5*
2902.60	Ethylbenzene	0	20 5*
2902.70	Cumene	0	20 10*

2902.90	Other	0		
	[Dipentene]		20	10*
[2902.90.10]	[Diphenyl methane]		20	10*
	[Dodecycl benzenes (excluding mixed alkylarenes)]		20	10*
[2902.90.20]	[Naphthalene, pure]		20	10*
	[Isobutyl benzene]		20	10*
[2902.90.30]	[Other]		20	10*
2903	Halogenated derivatives of hydrocarbons			
2903.1	- saturated chlorinated derivatives of acyclic hydrocarbons :			
2903.11	Chloromethane (methyl chloride) and chloroethane (ethyl chloride) [Chloromethane (methyl chloride)]	0	20	10*
2903.12	Dichloromethane (methylene chloride)	0	20	10*
2903.13	Chloroform (trichloromethane)	0	20	10*
2903.14	Carbon tetrachloride [CCl ₄ - Tetra-chloromethane]	0	20	10*
2903.15	1,2-Dichloroethane (ethylene dichloride)	0	20	5*
2903.1	- other :			
2903.19.10	1,1,1-Trichloroethane (methyl chloroform) [Tetrachloroethane]	0	20	10*
2903.19.90	Other	0	20	10*
2903.2	- unsaturated chlorinated derivatives of acyclic hydrocarbons :			
2903.21	Vinyl chloride (chloroethylene)	0	20	10*
2903.22	Trichloroethylene	10	20	10*
2903.23	Tetrachloroethylene (perchloroethylene)	10	20	10*
2903.29	Other	0	20	10*
2903.30	- fluorinated, brominated or iodinated derivatives of acyclic hydrocarbons :			
2903.30.10	Bromomethane [Fluorinated derivatives]	0	20	10*
2903.30.30	Di-iodomethane [Iodinated derivatives]	0	20	10*
2903.30.40	Bromoform; iodoform	0		
2903.30.50	1,1,3,3,3-Pentafluoro-2-(trifluoromethyl) prop-1-ene	0		
2903.30.90	Other	0		
2903.4	- halogenated derivatives of acyclic hydrocarbons containing two or more different halogens :			
2903.41	Trichlorofluoromethane	0	20	10*
2903.42	Dichlorodifluoromethane	0	20	10*
2903.43	Trichlorotrifluoroethanes	0	20	10*

2903.44	Dichlorotetrafluoroethanes and chloropentafluoroethane [1,2 Dichlorotetrafluoroethane]	0	20	10*
[2903.44.10]	[Chloropentafluoroethane]		20	10*
2903.45	- other derivatives perhalogenated only with fluorine and chlorine : [Chlorotrifluoromethane, Pentachlorofluoroethane, Tetrachloro di-fluoroethane :]			
2903.45.05	Chlorotrifluoromethane	0		
2903.45.10	Pentachlorofluoroethane	0		
	[Chlorotrifluoromethane]		20	10*
	[Pentachlorofluoroethane]		20	10*
	[Tetrachlorodifluoroethane]		20	10*
2903.45.15	Tetrachlorodifluoroethanes	0		
2903.45.20	Heptachlorofluoropropanes	0		
	[Heptachlorodifluoropropane, Hexachloro-difluoropropane, Pentachlorotrifluoropropane, Tetrachlorotetrafluoropropane, Heptachlorodifluoropropane]		20	10*
	[Hexachlorodi-fluoropropane]		20	10*
	[Pentachlorotri-fluoropropane]		20	10*
	[Tetrachlorotetra-fluoropropane]		20	10*
2903.45.25	Hexachlorodifluoropropanes [Trichloropenta-fluoropropane]	0	20	10*
	[Dichlorohexa-fluoropropane]		20	10*
	[Chlorohepta-fluoropropane]		20	10*
2903.45.30	Pentachlorotrifluoropropanes	0		
2903.45.35	Tetrachlorotetrafluoropropanes	0		
2903.45.40	Trichloropentafluoropropanes	0		
2903.45.45	Dichlorohexafluoropropanes	0		
2903.45.50	Chloroheptafluoropropanes	0		
2903.45.90	Other	0	20	10*
2903.46	Bromochlorodifluoromethane, bromotrifluoromethane and dibromotetrafluoroethanes	0	20	10*
[2903.46.10]	[Bromochlorodi-fluoromethane]			
[2903.46.20]	[Bromotri-fluoromethane]		20	10*
	[Dibromotetra-fluoroethanes]		20	10*
2903.47	Other perhalogenated derivatives	0	20	10*
2903.49	- other :			
2903.49.01	Chlorodifluoromethane	0		
[-]	[-]			
2903.49.03	Dichlorotrifluoroethanes	0		
[-]	[-]			

2903.49.05 [-]	Chlorotetrafluoroethanes [-]	0	
2903.49.07 [-]	Dichlorofluorethanes [-]	0	
2903.49.09 [-]	Dichlorodifluoroethanes [-]	0	
[2903.46.10]	[Halogenated derivatives of methane, ethane or propane halogenated only with fluorine and chlorine (HCFCS)]		20 10*
2903.49.11 [-]	Dichloropentafluoropropanes [-]	0	
2903.49.19 [-]	Other derivatives of methane, ethane or propane halogenated only with fluorine and chlorine [-]	0	
2903.49.20 [-]	Derivatives of methane, ethane or propane, halogenated only with fluorine and bromine	0	
2903.49.90	Other	0	20 10*
2903.5	- halogenated derivatives of cyclanic, cyclenic, or cycloterpenic hydrocarbons :		
2903.51	1,2,3,4,5,6-Hexachlorocyclohexane	0	20 10*
2903.59	- other :		
[2903.59]	[Other]		20 10*
2903.59.10 [-]	Chlorocamphene [-]	0	
2903.59.30 [-]	Chlordane [-]	0	
2903.59.90 [-]	Other [-]	0	
2903.6	- halogenated derivatives of aromatic hydrocarbons :		
2903.61	Chlorobenzene, o-dichlorobenzene and p-dichlorobenzene	0	
[2903.61.10]	[Chlorobenzene (mono chloro)]		20 10*
	[Ortho-dichlorobenzene]		20 10*
[2903.61.20]	[Para-dichlorobenzene]		20 10*
2903.62	Hexachlorobenzene and DDT (1,1,1-trichloro- 2,2-bis (p-chlorophenyl) ethane)	0	
[2903.62.10]	[Hexachlorobenzene, other than lindane]		20 10*
	[DDT-Technical 75 Wdp]		20 10*
[2903.62.21]	[Other]		20 10*

2903.69	Other	0	20	10*
	[Chloro-fluoro benzene]		20	10*
[2903.69.10]	[Benzal-chloride (benzyl dichloride)]		20	10*
	[Benzo-trichloride]		20	10*
[2903.69.20]	[Benzyl-chloride]		20	10*
	[Para-chloro toluene (4-chloromethyl benzene)]		20	10*
[2903.69.30]	[Naphthalene, chlorinated]		20	10*
	[Chlorofluoro aniline]		20	10*
[2903.69.40]	[Other]		20	10*
2904	Sulphonated, nitrated or nitrosated derivatives of hydrocarbons, whether or not halogenated			
2904.1	- derivatives containing only sulpho groups, their salts and ethyl esters :			
2904.10.10	Sulphonic acids	14	20	10*
	[Benzene sulphonic acid]		20	10*
[2904.10.10]	[1,5 Naphthelene disulphonic acid (Armstrong's acid)]		20	10*
2904.10.90	Other	10		
2904.20	Derivatives containing only nitro or only nitrose groups [:]	0	20	10*
	[Nitrobenzene]		20	10*
[2904.20.10]	[Meta dinitrobenzene]		20	10*
	[Para nitrotoluene]		20	10*
[2904.20.50]	[Dinitrotoluene]		20	10*
2904.90	- other :			
2904.90.10	Trichloronitromethane (chloropicrin)	0	20	10*
	[2, 5 dichloro nitrobenzene]		20	10*
[2904.90.20]	[Dinitrochlorobenzene]		20	10*
	[Meta nitrochlorobenzene]		20	10*
	[Ortho nitrochlorobenzene]		20	10*
[2904.90.30]	[Para nitrochlorobenzene]		20	10*
	[2-nitro-chlorotoluene]		20	10*
[2904.90.40]	[Sodium meta nitrobenzene sulphonate]		20	10*
2904.90.90	Other	0		
SUB-CHAPTER II	ALCOHOLS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES			
2905	Acyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives			
2905.1	- saturated monohydric alcohols :			
2905.11	Methanol (methyl alcohol)	0	20	15
2905.12	Propan-1-ol (propyl alcohol) and propan-2-ol (isopropyl alcohol)	10	20	15
	[Propyl alcohol]		20	15

2905.13	Butan-1-ol (n-butyl alcohol)	10	20	15
2905.14	Other butanols	0		
	[Ethambutol, ethambutol hcl]		20	15
[2905.14.10]	[Salbutamol sulphate]		20	15
2905.15	Pentanol (amyl alcohol) and isomers thereof	15	20	15
2905.16	Octanol (octyl alcohol) and isomers thereof	0		
	[Dimethyl octanol]		20	15
[2905.16.10]	[2-ethyl hexanol]		20	15
			20	15
2905.17	Dodecan-1-ol (lauryl alcohol) hexadecan-1-ol (cetyl alcohol) and octadecan-1-ol (stearyl alcohol)	0	20	15
2905.19	- other :			
[2905.19]	[Other]		20	15
2905.19.10	3,3-Dimethylbutan-2-ol (pinacolyl alcohol)	0		
[-]	[-]			
2905.19.90	Other	0		
[-]	[-]			
2905.2	- unsaturated monohydric alcohols :			
2905.22	Acyclic terpene alcohols	0		
	[Citranellol]		20	15
[2905.22.10]	[Geraniol]		20	15
	[Linalool]		20	15
2905.29	Other	0	20	15
2905.3	- diols :			
2905.31	Ethylene glycol (ethanediol)	0	20	15
2905.32	Propylene glycol (propane-1,2-diol)	0	20	15
2905.39	Other	0		
	[1,4/1,3/2, 3 butylene glycol]		20	15
2905.4	- other polyhydric alcohols :			
2905.41	2-Ethyl-2-(hydroxymethyl)propane-1,3-dio(trimethylolpropane)	0		
2905.42	Pentaerythritol	0		
	[Dipentaerythritol]		20	15
2905.43	Mannitol	0	20	20*
2905.44	D-glucitol (sorbitol)	10	20	20*
2905.45	Glycerol [(Glycerine)]	10	20	15
2905.49	Other	0	20	15
2905.5	Halogenated, sulphonated, nitrated or nitrosated derivatives of acyclic alcohols :			
2905.51	Ethchlorvynol (INN)	0	20	15
2905.59	Other	0	20	15

2906	Cyclic alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives		
2906.1	- cyclanic, cyclenic or cycloterpenic :		
2906.11	Menthol	0	20 15
2906.12	Cyclohexanol, methylcyclohexanols and dimethylcyclohexanols	0	20 15
2906.13	Sterols and inositols [Cholestrol]	0	20 15
2906.14	Terpineols	0	20 15
2906.19	Other [Borneol]	0	20 15
2906.2	- aromatic :		
2906.21	Benzyl alcohol	0	20 15
2906.29	Other [Cinnamic alcohol]	0	20 15
[2906.29.10]	[Phenylethyl alcohol]		20 15
	[Other]		20 15
SUB- CHAPTER III	PHENOLS, PHENOL-ALCOHOLS, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES		
2907	Phenols; phenol-alcohols		
2907.1	- monophenols :		
2907.11	Phenol (hydroxybenzene) and its salts [Phenol, as pure carbolic acid]	0	20 15
2907.12	Cresols and their salts [Para cresols (p-cresols)]	0	20 15
[2907.12.10]	[Cresylic acid]		20 15
2907.13	Octylphenol, nonylphenol and their isomers; salts thereof	0	20 15
2907.14	Xylenols and their salts	0	20 15
2907.15	Naphthols and their salts [Alpha naphthols]	0	20 15
[2907.15.10]	[Beta naphthols]		20 15
	[Other]		20 15
2907.19	Other [o-Phenyl phenols]	0	20 15
[2907.19.10]	[p-Phenyl phenols]		20 15
	[Thymol]		20 15
[2907.19.20]	[Para tartiary butyl phenol]		20 15
	[Alkyl Phenols]		20 15
[2907.19.30]	[Other]		20 15
2907.2	- polyphenols; phenol-alcohols :		
2907.21	Resorcinol and its salts	0	20 15
2907.22	Hydroquinone (quinol) and its salts	0	20 15

2907.23	4,4-Isopropylidenediphenol (bisphenol A, diphenylolpropane) and its salts	0		
2907.29	Other [1,5 dihydroxy naphthalene]	0	20	15
2908	Halogenated, sulphonated, nitrated or nitrosated derivatives of phenols or phenol-alcohols			
2908.10	Derivatives containing only halogen substituents and their salts	0	20	15
2908.20	Derivatives containing only sulpho groups, their salts and esters [Phenol sulphonic acids]	0	20	15
[2908.20.10]	[Naphthol sulphonic acids :] [G acids (2-naphthol-6, 8-disulphonic acid)]		20	15
	[Salts of G acid]		20	15
	[R acids (2-naphthol 3,6-disulphonic acid) and its disodium salt (salt of R acid)]		20	15
[2908.20.26]	[Chromotropic acid (1, 8-dihydroxynaphthalene 3, 6-disulphonic acid)]		20	15
2908.90	Other [Para notriphenol]	0	20	15
[2908.90.10]	[Musk xylol]		20	15
			20	15
SUB-CHAPTER IV	ETHERS, ALCOHOL PEROXIDES, ETHER PEROXIDES, KETONE PEROXIDES, EPOXIDES WITH A THREE-MEMBERED RING, ACETALS AND HEMIACETALS, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES			
2909	Ethers, ether-alcohols, ether-phenols, ether-alcohol-phenols, alcohol peroxides, ether peroxides, ketone peroxides (whether or not chemically defined), and their halogenated, sulphonated, nitrated or nitrosated derivatives			
2909.1	- acyclic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives :			
2909.11	Diethyl ether	0	20	15
2909.19	Other	0	20	15
2909.20	Cyclanic, cyclenic or cycloterpenic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives	0	20	15
2909.30	Aromatic ethers and their halogenated, sulphonated, nitrated or nitrosated derivatives [Anisole and their derivatives :]	0	20	15
[2909.30.11]	[4-chloro-2-nitro anisole]		20	15
	[Ortho nitro anisole]		20	15
[2909.30.12]	[Other]		20	15
2909.4	- ether-alcohols and their halogenated, sulphonated, nitrated or nitrosated derivatives			
2909.41	2,2-Oxydiethanol (diethylene glycol, digol)	0	20	15
2909.42	Monomethyl ethers of ethylene glycol or of diethylene glycol	0	20	15
2909.43	Monobutyl ethers of ethylene glycol or of diethylene glycol	0	20	15
2909.44	Other monoalkylethers of ethylene glycol or of diethylene glycol	0	20	15
2909.49	Other	0	20	15

2909.50	Ether-phenols, ether-alcohol-phenols and their halogenated, sulphonated, nitrated or nitrosated derivatives [Guaiacol]	0	20	15
[2909.50.10]	[Isoeugenol]		20	15
2909.60	Alcohol peroxides, ether peroxides, ketone peroxides and their halogenated, sulphonated, nitrated or nitrosated derivatives	10	20	15
2910	Epoxides, epoxyalcohols, epoxyphenols and epoxyethers, with a three-membered ring, and their halogenated, sulphonated, nitrated or nitrosated derivatives			
2910.10	Oxirane (ethylene oxide)	0	20	15
2910.20	Methyloxirane (propylene oxide)	0	20	15
2910.30	1-Chloro-2,3-epoxypropane (epichlorohydrin)	0	20	15
2910.90	Other	0	20	15
2911	Acetals and hemiacetals, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives			
2911.00	Acetals and hemiacetals, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives [Acetals and hemiacetals, whether or not with other oxygen function]	0	20	15
[2911.00.10]	[Other]		20	15
SUB-CHAPTER V	ALDEHYDE-FUNCTION COMPOUNDS			
2912	Aldehydes, whether or not with other oxygen function; cyclic polymers of aldehydes; paraformaldehyde			
2912.1	- acyclic aldehydes without other oxygen function :			
2912.11	Methanal (formaldehyde)	5	20	15
2912.12	Ethanal (acetaldehyde)	0	20	15
2912.13	Butanal (butyraldehyde, normal isomer)	0	20	15
2912.19	Other [Crotonaldehyde]	0	20	15
[2912.19.10]	[Heptaldehyde]		20	15
2912.2	- cyclic aldehydes without other oxygen function :			
2912.21	Benzaldehyde	0	20	15
2912.29	Other [Cinnamic aldehyde]	0	20	15
[2912.29.10]	[Phenyl acetaldehyde]		20	15
	[Other]		20	15
2912.30	Aldehyde-alcohols	0	20	15
2912.4	- aldehyde-ethers, aldehyde-phenols and aldehydes with other oxygen			
2912.41	Vanillin (4-hydroxy-3-methoxybenzaldehyde)	0	20	15
2912.42	Ethylvanillin (3-ethoxy-4-hydroxybenzaldehyde)	0	20	15

2912.49	Other	0	20	15
	[Anisic aldehyde (Anisaldehyde)]			
[2912.49.10]	[Heliotropin (piperonyl aldehyde)]		20	15
	[Thiacetazone]		20	15
2912.50	Cyclic polymers of aldehydes	0	20	15
2912.60	Paraformaldehyde	0	20	15
2913	Halogenated, sulphonated, nitrated or nitrosated derivatives of products of heading 2912			
2913.00	Halogenated, sulphonated, nitrated or nitrosated derivatives of products of heading 2912	0		
	[Ortho-chloro-benzaldehyde]		20	15
[2913.00.10]			20	15
[2913.00.90]	[Other]			
SUB-CHAPTER VI	KETONE-FUNCTION COMPOUNDS AND QUINONE-FUNCTION COMPOUNDS			
2914	Ketones and quinones, whether or not with other oxygen function, and their halogenated, sulphonated, nitrated or nitrosated derivatives			
2914.1	- acyclic ketones without other oxygen function :			
2914.11	Acetone	5	20	15
2914.12	Butanone (methyl ethyl ketone)	0	20	15
2914.13	4-Methylpentan-2-one (methyl isobutyl ketone)	15	20	15
2914.19	Other	0		
	[Isophoron]		20	15
2914.2	- cyclanic, cyclenic or cycloterpenic ketones without other oxygen function :			
2914.21	Camphor	0		
	[Natural]		20	15
2914.22	Cyclohexanone and methylcyclohexanones	0	20	15
2914.23	Ionones and methylionones	0		
	[Beta-ionone]		20	15
[2914.23.10]	[Pseudo ionone]		20	15
	[Other]		20	15
[2914.23.20]				
2914.29	Other	0		
	[L-caravone]		20	15
2914.3	- aromatic ketones without other oxygen function :			
2914.31	Phenylacetone (phenylpropan-2-one)	0	20	15
2914.39	Other	0		
	[Aceto phenone]		20	15
[2914.39.10]	[Benzanthrone]		20	15
	[Benzophenone]		20	15

2914.40	Ketone-alcohols and ketone-aldehydes	0	20	15
2914.50	Ketone-phenols and ketones with other oxygen function	0	20	15
2914.6	- quinones :			
2914.61	Anthraquinone	0	20	15
2914.69	Other	0		
	[1:4 dihydroxy anthraquinone (quinizarin)]		20	15
[2914.69.10]	[Methyl anthraquinone]		20	15
			20	15
2914.70	Halogenated, sulphonated, nitrated or nitrosated derivatives	0		
	[1-chloro anthra quinone]		20	15
[2914.70.10]	[Musk ketone]		20	15
	[Other]		20	15
SUB-CHAPTER VII	CARBOXYLIC ACIDS AND THEIR ANHYDRIDES, HALIDES, PEROXIDES AND PEROXYACIDS AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES			
2915	Saturated acyclic monocarboxylic acids and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives			
2915.1	- formic acid, its salts and esters :			
2915.11	Formic acid	0	20	15
2915.12	Salts of formic acid	0		
[2915.12.10]	[Sodium formate]		20	15
	[Other]		20	15
[2915.12.90]				
2915.13	Esters of formic acid	0	20	15
2915.2	- acetic acid and its salts; acetic anhydride :			
2915.21	Acetic acid	15	20	15
2915.22	Sodium acetate	15	20	15
2915.23	Cobalt acetates	0	20	15
2915.24	Acetic anhydride	0	20	15
2915.29	Other	0		
	[Calcium acetate]		20	15
[2915.29.10]	[Magnesium acetate]		20	15
	[Manganese acetate]		20	15
[2915.29.20]	[Other]		20	15
2915.3	- esters of acetic acid :			
2915.31	Ethyl acetate	15	20	15
2915.32	Vinyl acetate	0	20	15
2915.33	n-Butyl acetate	15	0	20
2915.34	Isobutyl acetate	15	20	15
2915.35	2-Ethoxyethyl acetate	0	20	15

2915.39	- other :		
	[Benzyl acetate]		20 15
2915.39.20	Diethylene glycol monobutyl ether acetate; ethylene glycol monobutyl ether acetate	0	
[2915.39.20]	[Bornyl acetate and Iso bornyl acetate]		20 15
2915.39.30	Ethylene glycol monomethyl ether acetate; ethylene glycol monopropyl ether acetate	15	
[2915.39.30]	[Linalyl acetate]		20 15
2915.39.40	Amyl acetate	0	
[2915.39.40]	[Methyl acetate]		20 15
	[Phenyl Propyl acetate]		20 15
2915.39.60	Other liquid aromatic esters of acetic acid	0	
	[Terpinyl acetate]		20 15
2915.39.90	Other	10	20 15
2915.40	Mono-, di- or trichloroacetic acids, their salts and esters	0	
[2915.40.10]	[Monochloroacetic acid, their salts and esters]		20 15
	[Dichloroacetic acid, their salts and esters]		20 15
[2915.40.20]	[Trichloroacetic acid, their salts and esters]		20 15
2915.5	- propionic acid, its salts and esters :		
	[Propionic acid, its salts and esters]		20 15
2915.50.30	Calcium propionate	10	
[-]	[-]		
2915.50.90	Other	0	
[-]	[-]		
2915.60	Butanoic acids, pentanoic acids, their salts and esters	0	
[2915.60.10]	[Butanoic acids, their salts and esters]		20 15
	[Pentanoic acids, their salts and esters]		20 15
[2915.60.20]			
2915.70	Palmitic acid, stearic acid, their salts and esters	0	
[2915.70.10]	[Palmitic acid]		20 15
	[Stearic acid]		20 15
	[Glycerol monostearate]		20 15
[2915.70.20]	[H.C.O. Fatty acid (including 12-hydroxy stearic acid)]		20 15
	[D.C.O. Fatty acid]		20 15
[2915.70.30]	[Other]		20 15

2915.90	Other	0	20	15
[2915.90.10]	[Acetyl chloride] [Octoic acid (caprylic acid)]		20	15
2916	Unsaturated acyclic monocarboxylic acids, cyclic monocarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives			
2916.1	- unsaturated acyclic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :			
2916.11	Acrylic acid and its salts :			
[2916.11]	[Acrylic acid and its salts]	0	20	15
2916.11.10	Acrylic acid	0		
[-]	[-]			
2916.11.20	Salts	0		
[-]	[-]			
2916.12	- esters of acrylic acid :			
2916.12.10	Butyl acrylate	0	20	15
2916.12.20	Ethyl acrylate	0		
[-]	[-]			
2916.12.30	Butyl acrylate	0		
[-]	[-]			
2916.12.40	2 Ethylhexyl acrylate	0		
[-]	[-]			
2916.12.90	Other	0	20	15
2916.13	Methacrylic acid and its salts	0		
	[Methacrylic acid]		20	15
2916.14	Esters of methacrylic acid	0	20	15
2916.15	Oleic, linoleic or linolenic acids, their salts and esters	0		
	[Oleic acid]		20	15
2916.19	Other	0		
	[Undecylenic acid]		20	15
[2916.19.10]	[Bismuth compounds of unsaturated acyclic monoacids]		20	15
	[Potassium compounds of unsaturated acyclic monoacids]		20	15
[2916.19.20]	[Sodium compounds of unsaturated acyclic monoacids]		20	15
2916.20	Cyclanic, cyclenic or cycloterpenic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives	0	20	15
2916.3	- aromatic monocarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :			

2916.31	Benzoic acid, its salts and esters	0	20	15
	[Benzoic acid]		20	15
[2916.31.10]	[Benzyl benzoate]		20	15
	[Methyl benzoate]		20	15
[2916.31.20]	[Sodium benzoate]		20	15
2916.32	Benzoyl peroxide and benzoyl chloride	0	20	15
2916.34	Phenylacetic acid and its salts	0	20	15
2916.35	Esters of phenylacetic acid	0	20	15
2916.39	Other	0	20	15
	[Cinnamic acid]		20	15
[2916.39.10]	[Bismuth compounds of aromatic monoacids]		20	15
	[Sodium compounds of aromatic monoacids]		20	15
[2916.39.40]	[Esters of aromatic monoacids not elsewhere specified]		20	15
2917	Polycarboxylic acids, their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives			
2917.1	- acyclic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :			
2917.11	Oxalic acid, its salts and esters	0		
	[Oxalic acid :]			
	[Calcium oxalate]		20	15
[2917.11.20]	[Strontium oxalate]		20	15
2917.12	- adipic acid, its salts and esters :			
	[Adipic acid, its salts and esters]		20	15
2917.12.20	Dioctyl adipate	15		
[-]	[-]			
2917.12.90	Other	0		
[-]	[-]			
2917.13	Azelaic acid, sebacic acid, their salts and esters	0	20	15
2917.14	Maleic anhydride	15	20	15
2917.19	- other :			
	[Maleic acid]		20	15
	[Malonic acid]		20	15
	[Succinic acid]		20	15
2917.19.35	Fumaric acid	10		
[-]	[-]			
[2917.19.40]	[Ferrous fumarate]		20	15
2917.19.45	Other acids	0		
[-]	[-]			
[2917.19.50]	[Fumaric acid]		20	15
[2917.19.60]	[Itaconic acid]		20	15

[2917.19.70]	[Ethoxy methylene malonate, diethyl malonate]		20	15
2917.19.90	Other	10	20	15
2917.20	Cyclanic, cyclenic or cycloterpenic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives	0	20	15
2917.3	- aromatic polycarboxylic acids, their anhydrides, halides, peroxides, peroxyacids and their derivatives :			
2917.31	Dibutyl orthophthalates	15	20	15
2917.32	Dioctyl orthophthalates	15	20	15
2917.33	Dinonyl or didecyl orthophthalates	15	20	15
2917.34	Other esters of orthophthalic acid	15	20	15
2917.35	Phthalic anhydride	15	20	15
2917.36	Terephthalic acid and its salts	0	20	15
2917.37	Dimethyl terephthalate	0	20	20 ^{III}
2917.39	Other	0		
	[Dibutyl phthalate]		20	15
[2917.39.10]	[Dioctyl phthalate]		20	15
	[Phthalic acid]		20	15
[2917.39.20]	[Dimethyl phthalate]		20	15
2918	Carboxylic acids with additional oxygen function and their anhydrides, halides, peroxides and peroxyacids; their halogenated, sulphonated, nitrated or nitrosated derivatives			
2918.1	- carboxylic acids with alcohol function, but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives :			
2918.11	Lactic acid, its salts and esters	0		
	[Lactic acid]		20	15
[2918.11.10]	[Calcium lactate]		20	15
2918.12	Tartaric acid	15	20	15
2918.13	Salts and esters of tartaric acid	0		
	[Potassium bitartrate]		20	15
[2918.13.10]	[Metoprolol tartrate]		20	15
2918.14	Citric acid	15	20	15
2918.15	Salts and esters of citric acid	0		
	[Potassium citrate]		20	15
[2918.15.10]	[Sodium citrate]		20	15
	[Bismuth citrate]		20	15
[2918.15.20]	[Disodium hydrogen citrate]		20	15
2918.16	Gluconic acid, its salts and esters	0		
	[Calcium gluconate]		20	15
[2918.16.10]	[Ferrous gluconate]		20	15
	[Other]		20	15

2918.19	- other :		
[2918.19]	[Other]		20 15
2918.19.10 [-]	Malic acid [-]	10	
2918.19.30 [-]	2,2-Diphenyl-2-hydroxyacetic acid (benzilic acid) [-]	0	
2918.19.90 [-]	Other [-]	0	
2918.2	- carboxylic acids with phenol function but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives :		
2918.21	Salicylic acid and its salts	0	
	[Salicylic acid]		20 15
[2918.21.10]	[Sodium salicylate]		20 15
	[Other]		20 15
2918.22	O-Acetylsalicylic acid, its salts and esters	0	20 15
2918.23	Other esters of salicylic acid and their salts	0	
	[Methyl salicylate]		20 15
[2918.23.10]	[Amino salicylate]		20 15
	[Salicylamide]		20 15
[2918.23.20]	[Other]		20 15
2918.29	Other	0	
	[Gallic acid]		20 15
[2918.29.10]	[Beta hydroxy napthoic acid]		20 15
2918.30	Carboxylic acids with aldehyde or ketone function but without other oxygen function, their anhydrides, halides, peroxides, peroxyacids and their derivatives	0	
	[Levulinic acid]		20 15
[2918.30.10]	[Ethyl aceto acetate (acetoacetic acid)]		20 15
	[Nalidixic acid]		20 15
[2918.30.20]	[Methyl aceto acetate]		20 15
[2918.30.30]	[Other]		20 15
2918.90	Other	0	20 15
SUB-CHAPTER VII	ESTERS OF INORGANIC ACIDS OF NON-METALS AND THEIR SALTS, AND THEIR HALOGENATED, SULPHONATED, NITRATED OR NITROSATED DERIVATIVES		
2919	Phosphoric esters and their salts, including lactophosphates; their halogenated, sulphonated, nitrated or nitrosated derivatives		

2919.00	Phosphoric esters and their salts, including lactophosphates; their halogenated, sulphonated, nitrated or nitrosated derivatives [Glycerophosphoric acid]	0	20	15
[2919.00.10]	[Calcium glycerophosphate]		20	15
	[Iron glycerophosphate]		20	15
2920	Esters of other inorganic acids of non-metals (excluding esters of hydrogen halides) and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives			
2920.10	Thiophosphoric esters (phosphorothioates) and their salts; their halogenated, sulphonated, nitrated or nitrosated derivatives	0	20	15
2920.90	- other :			
2920.90.10	Trimethyl phosphite [Diethyl sulphate]	0	20	15
2920.90.20	Triethyl phosphite [Dimethyl sulphate]	0	20	15
[2920.90.20]				
2920.90.30	Dimethyl phosphite [Tris (2,3 Dibromopropyl) phosphate]	0	20	15
[2920.90.30]				
2920.90.40	Diethyl Phosphite	0		
[-]	[-]			
2920.90.90	Other	0	20	15
SUB-CHAPTER IX	NITROGEN-FUNCTION COMPOUNDS			
2921	<i>Amine-function compounds</i>			
2921.1	- acyclic monoamines and their derivatives; salts thereof :			
2921.11	Methylamine, di- or trimethylamine and their salts [Dimethyl formide]	5	20	15
2921.12	Diethylamine and its salts	0	20	15
2921.19	- other :			
[2921.19]	[Other]		20	15
2921.19.15	Ethylamine; monoisopropylamine	5		
[-]	[-]			
2921.19.20	Bis (2-chloroethyl) ethylamine	0		
[-]	[-]			
2921.19.25	Chlormethine (INN) (bis (2-chloroethyl) methylamine)	0		
[-]	[-]			
2921.19.30	Trichlormethine (INN) (tris (2-chloroethyl) amine)	0		
[-]	[-]			

2921.19.35	N,N-Dialkyl (methyl, ethyl, n-propyl or isopropyl) 2-chloroethylamines and their protonated	0		
2921.19.80 [-]	Other, of a carbon chain length of C ₈ to C ₂₂ [-]	10		
2921.19.90 [-]	Other [-]	0		
2921.2	- acyclic polyamines and their derivatives; salts thereof :			
2921.21	Ethylenediamine and its salts	0	20	15
2921.22	Hexamethylenediamine and its salts	0	20	15
2921.29	Other	0		
[2921.29.10]	[Hexamethylene tetramine (hexamine) not put up as fuel or medicament]		20	15
	[Trimethylene trinitramine]		20	15
[2921.29.20]	[Other]		20	15
2921.30	Cyclanic, cyclenic and cycloterpenic mono- or polyamines, and their derivatives; salts thereof	0		15
[2921.30.10]	[Cyclohexylamine]		20	15
[2921.30.90]	[Other]		20	
2921.4	- aromatic monoamines and their derivatives; salts thereof :			
2921.41	Aniline and its salts	0		
	[Aniline]		20	15
[2921.41.10]	[Aniline hydrochloride]		20	15
	[Other]		20	15
2921.42	Aniline derivatives and their salts <i>[Para chloroaniline, Ortho chloro paranitroaniline, Dichloroaniline, 2:6-dichloro paranitroaniline, 2-4-5-trichloroaniline :]</i>	0		
	[Para chloroaniline]		20	15
[2921.42.11]	[Ortho chloro paranitroaniline]		20	15
	<i>[Benzyl ethyl aniline, Ethyl aniline, Diethylaniline, Dimethylaniline, Meta nitroaniline, Para nitroaniline :]</i>			
	[Benzyl ethyl aniline]		20	15
	[Ethyl aniline]		20	15
[2921.42.24]	[Meta nitroaniline]		20	15

	<i>[2-amino 3, 5 xylene sulphonic acid, Benzyl ethyl aniline sulphuric acid, Metanillic acid (meta amino benzene sulphonic acid), Sulphanillic acid (para aminobenzenesulphonic acid para aniline sulphonic acid), Ethyl hydroxyethylaniline, Methyl dopa (1-alpha methyl-3, 4-dihydroxyphenylaniline) :]</i>		
	[2-amino3, 5 xylene sulphonic acid]		20 15
[2921.42.31]	[Benzyl ethyl aniline sulphonic acid]		20 15
	[Metanillic acid (meta amino benzene sulphonic acid)]		20 15
2921.43	Toluidines and their derivatives; salts thereof	0	
	[Diethyl toluidine]		20 15
[2921.43.10]	[Dimethyl toluidine]		20 15
	[Ortho toluidine]		20 15
[2921.43.20]	[Meta toluidine]		20 15
	[Para toluidine]		20 15
[2921.43.30]	[2-Chloro 5-toluidine-4-sulphonic acid]		20 15
	[2-Chloro-4-toluidine-5-sulphonic acid (sodium salt)]		20 15
[2921.43.40]	[4-Toluidine-3-sulphonic acid]		20 15
	[Other]		20 15
2921.44	- diphenylamine and its derivatives; salts thereof :		
	[Diphenylamine]		20 15
2921.44.20	Diphenylamine; octylated diphenylamine	0	
[-]	[-]		
2921.44.90	Other	22	
2921.45	1-Naphthylamine (alpha-naphthylamine), 2-naphthylamine (beta-naphthylamine) and their derivatives; salts thereof	0	
	<i>[Alpha naphthylamine, Phenyl alpha naphthylamine, Phenyl beta naphthylamine, Amino F-acid, Aminolinelic-R-acid, Sodium naphthionate :]</i>		
	[Alpha naphthylamine]		20 15
[2921.45.11]	[Phenyl alpha naphthylamine]		20 15
	[Phenyl beta naphthylamine]		20 15
[2921.45.12]	[Amino F-acid]		20 15
	[Aminolinelic-R-acid]		20 15
[2921.45.13]	[Sodium naphthionate]		20 15
[2921.45.14]	[Bronner's acid (2-naphthylamine-6-sulphonic acid), Cleve's acid (1-naphthylamine-6-sulphonic acid), Epsilon acid (1-naphthylamine-3, 8-disulphonic acid), Koch's acid (1-naphthylamine-3,6,8-trisulphonic acid), Laurent's acid (1-naphthylamine-5-sulphonic acid), Tobias acid (2-naphthylamine-1-sulphonic acid) :]		
[2921.45.15]			20 15
[2921.45.16]	[Bronner's acid (2-naphthylamine-6-sulphonic acid)]		20 15
	[Cleve's acid (1-naphthylamine-6-sulphonic acid)]		20 15
	[Epsilon acid (1-naphthylamine 3,8 disulphonic acid)]		20 15

2921.46	Amfetamine (INN), benzfetamine (INN), dexamfetamine (INN), etilamfetamine (INN), fencamfetamine (INN), lefetamine (INN), levamfetamine (INN), and phentermine (INN); salts thereof	0	
2921.49	Other [Xylidines]	0	20 15
2921.5	- aromatic polyamines and their derivatives; salts thereof :		
2921.51	- o-, m-, p-phenylenediamine, diaminotoluenes, and their derivatives; salts thereof :		
	[O-phenylenediamine]		20 15
2921.51.20	Derivatives of o- or m-phenylenediamine [M-phenylenediamine (m-di aminobenzene)]	22	20 15
	[P-phenylenediamine]		20 15
	[O-diaminotoluene]		20 15
	[M-diaminotoluene]		20 15
	[P-diaminotoluene]		20 15
	[Para-amino acetanilide]		20 15
	[Meta toluylene diamine]		20 15
2921.51.90	Other	0	20 15
2921.59	Other [Benzidine]	0	20 15
[2921.59.10]	[Benzidine dihydrochloride]		20 15
2922	Oxygen-function amino-compounds		
2922.1	- amino-alcohols (excluding those containing more than one kind of oxygen function), their ethers and esters; salts thereof :		
2922.11	Monoethanolamine and its salts	0	20 15
2922.12	Diethanolamine and its salts	0	20 15
2922.13	- triethanolamine and its salts :		
[2922.13]	[Triethanolamine and its salts]		20 15
2922.13.10	Triethanolamine	0	
[-]	[-]		
2922.13.20	Salts	0	
[-]	[-]		
2922.14	Dextropropoxyphene (INN) and its salts	0	20 15
2922.19	- other :		
[2922.19]	[Other]		20 15
2922.19.20	Ethyldiethanolamine	0	
[-]	[-]		
2922.19.30	Methyldiethanolamine	0	
[-]	[-]		
2922.19.40	N,N-Dimethyl-2-aminoethanol and its protonated salts	0	
[-]	[-]		
2922.19.50	N,N-Diethyl-2-aminoethanol and its protonated salts	0	
[-]	[-]		

2922.19.60	N-N-Dialkyl (methyl, ethyl, n-propyl or isopropyl)-2-aminoethanols and their protonated salts not elsewhere specified or included	0	
2922.19.90 [-]	Other [-]	0	
2922.2	- amino-naphthols and other amino-phenols (excluding those containing more than one kind of oxygen function), their ethers and esters; salts thereof :		
2922.21	Aminohydroxynaphthalenesulphonic acids and their salts	0	
[2922.21.10]	[Amino-g-acid]		20 15
	[Amino-j-acid]		20 15
[2922.21.20]	[1-amino-2-naphthol-4-sulphonic acid]		20 15
	[Gamma acid]		20 15
[2922.21.30]	[J acid (2-amino-5-naphthol-7-sulphonic acid)]		20 15
	[H-acid]		20 15
[2922.21.40]	[Ortho phenyl sulphonyl H-acid]		20 15
	[Chicago acid]		20 15
[2922.21.50]	[Other]		20 15
2922.22	Anisidines, dianisidines, phenetidines and their salts	0	
	[Ortho anisidines]		20 15
[2922.22.10]	[Para anisidines]		20 15
2922.29	Other	0	
	<i>[2-amino-4-nitrophenol, Meta aminophenol, Para aminophenol, Meta diethyl amino-phenol :]</i>		20 15
[2922.29.11]	[2-amino 4-nitrophenol]		20 15
	[Meta aminophenol]		20 15
[2922.29.21]	<i>7-sulphonic acid), S acid, peri acid (1-amino-8-naphthol-4-4-sulphoxinic acid, 1-naphthylamine-8-sulphonic acid), Meta-phenylene diamine-4-sulphonic acid :]</i>		20 15
	[2-amino-1-phenol-4-sulphonic acid]		20 15
[2922.29.22]	[6-nitro-0-aminophenol-4-sulphonic acid]		20 15
	[Phenyl gamma acid (phenyl 2-amino-naphthol-6-sulphonic acid)]		20 15
[2922.29.23]	[Phenyl J acid (phenyl-2-amino-8-naphthol-7-sulphonic acid)]		20 15
	[S acid, peri acid (1-amino-8-naphthol-4-4-sulphoxinic acid, 1-naphthylamine-8-sulphonic acid)]		20 15
[2922.29.24]	[Meta-phenylene diamine-4-sulphonic acid]		20 15
[2922.29.25]	<i>[N-methyl-para aminophenol sulphate (motol), 2:5 dimethoxy aniline, Para acetyl aminophenol (paracetamol), Para cresidine, Picramic acid (T-grade) :]</i>		
	[N-methyl-para-aminophenol sulphate (motol)]		20 15
	<i>[Amino-aldehydes, amino-ketones and amino-quinones, other than those containing more than one kind of oxygen function; salts thereof :]</i>		

2922.39	Other	0	20	15
	[Amino-acids, other than those containing more than one kind of oxygen function, and their esters; salts thereof :]			
2922.41	Lysine and its esters; salts thereof	4 2	20	15
2922.42	Glutamic acid and its salts	0		
	[Glutamic acid]		20	15
[2922.42.10]	[Monosodium glutamate (aginatomo)]		20	15
	[Other]		20	15
[2922.42.20]				
2922.43	Anthranilic acid and its salts	10	20	15
2922.44	Tilidine (INN) and its salts	0	20	15
2922.49	Other	0		
	[Amino acetic acid (glycine)]		20	15
[2922.49.10]	[N-methyl taurine]		20	15
	[Other]		20	15
2922.50	Amino-alcohol-phenols, amino-acid-phenols and other amino compounds with oxygen function	0		
	[Para-amino-salicylic acid, Methyl anthranilate, Procaine hydrochloride, Amino anisic acid anilide, L-tyrosine (p-hydroxyphenylamine) :]			
	[Para-amino-salicylic acid]		20	15
[2922.50.11]	[Methyl anthranilate]		20	15
	[Procaine hydrochloride]		20	15
[2922.50.12]	[Amino anisic acid anilide]		20	15
	[L-tyrosine (p-hydroxyphenyl amine)]		20	15
2923	Quaternary ammonium salts and hydroxides; lecithins and other phosphoaminolipids,			
2923.10	Choline and its salts	0	20	15
2923.20	Lecithins and other phosphoaminolipids	0		
	[Lecithins]		20	15
2923.90	Other	0	20	15
2924	Carboxamide-function compounds; amide-function compounds of carbonic acid			
2924.1	Acyclic amides (including acyclic carbamates) and their derivatives; salts thereof :			
2924.11	Meprobamate (INN)	0	20	15
2924.19	Other	0	20	15
2924.2	- cyclic amides (including cyclic carbamates) and their derivatives; salts thereof :			
2924.21	- ureines and their derivatives; salts thereof :			
2924.21.10	Diuron	19 10		
[2924.21.10]	[Diethyl diphenal urea]		20	15

	[Dimethyl diphenyl urea (zentralin)]		20	15
	[Parachloro benzene sulphonyl urea]		20	15
2924.21.90	Other	0	20	15
2924.23	2-Acetamidobenzoic acid (N-acetylanthranilic acid) and its salts	0	20	15
2924.24	Ethinamate (INN)	0	20	15
2924.29	- other :			
2924.29.05	Acetaminophenol	10		
[-]	[-]			
	[Acetanilide]		20	15
	[Aceto acetanilide]		20	15
	[Aceto acetic ortho chloranilide]		20	15
	[Aceto acetic para chloranilide]		20	15
	[Phenyl acetamide]		20	15
	[Paryzinamide (pyrazine carboxamide)]		20	15
2924.29.90	Other	0	20	15
2925	Carboxyimide-function compounds (including saccharin and its salts) and imine-function compounds			
2925.1	- imides and their derivatives; salts thereof :			
2925.11	Saccharin and its salts	0	20	15
2925.12	Glutethimide (INN)	0	20	15
2925.19	Other	0	20	15
2925.20	Imines and their derivatives; salts thereof	0		
	[Guanidine nitrate]		20	15
2926	Nitrile-function compounds			
2926.10	Acrylonitrile	0	20	5*
2926.20	1-Cyanoguanidine (dicyandiamide)	0	20	15
2926.30	Fenproporex (INN) and its salts; methadone (INN) intermediate (4-cyano-2-dimethylamino-4,4-diphenylbutane)	0	20	15
2926.90	Other	0	20	15
2927	<i>Diazo-, azo or azoxy-compounds</i>			
2927.00	Diazo-, azo- or azoxy-compounds	0		
	[Para amino-azo-benzene]		20	15
2928	Organic derivatives of hydrazine or of hydroxylamine			
2928.00	Organic derivatives of hydrazine or of hydroxylamine	0		
	[Isoniazid]		20	15
2929	Compounds with other nitrogen function			
2929.10	Isocyanates	0		
	[Phenyl isocyanate]		20	15
[2929.10.10]	[Toluene di-isocyanate]		20	15
	[Other]		20	15
2929.90	- other :			
[2929.90]	[Other]		20	15

2929.90.10 [-]	Calcium cyclamate; sodium cyclamate [-]	10	
2929.90.20 [-]	N,N-Dialkyl (methyl, ethyl, n-propyl or isopropyl) phosphoramidic dihalides [-]	0	
2929.90.30	Dialkyl (methyl, ethyl, n-propyl or isopropyl) N,N-dialkyl (methyl, ethyl, n-propyl or isopropyl) phosphoramidates	0	
2929.90.90 [-]	Other [-]	0	
SUB-CHAPTER X	ORGANO-INORGANIC COMPOUNDS, HETEROCYCLIC COMPOUNDS, NUCLEIC ACIDS AND THEIR SALTS, AND SULPHONAMIDES		
2930	Organo-sulphur compounds		
2930.10	Dithiocarbonates (xanthates)	10	20 15
2930.20	Thiocarbamates and dithiocarbamates	0	20 15
2930.30	Thiuram mono-, di- or tetrasulphides	0	20 15
2930.40	Methionine	0	20 15
2930.90	- other :		
2930.90.01	[S-2-(dialkyl (methyl, ethyl, n-propyl or isopropyl) amino) ethyl] hydrogen alkyl (methyl, ethyl, n-propyl or isopropyl) phosphonothioates and their O-alkyl (including cycloalkyl) esters; alkylated or protonated salts thereof	0	
2930.90.03 [-]	2-Chloroethylchloromethylsulphide [-]	0	
2930.90.05 [-]	Bis (2-chloroethyl) sulphide [-]	0	
2930.90.07 [-]	Bis (2-chloroethylthio) methane [-]	0	
2930.90.09 [-]	1,2-Bis (2-chloroethylthio) ethane [-]	0	
[2930.90.10]	[Thiourea (sulphourea)]		20 15
2930.90.11 [-]	1,3-Bis (2-chloroethylthio)-n-propane [-]	0	
2930.90.13 [-]	1,4-Bis (2-chloroethylthio)-n-butane [-]	0	
2930.90.15 [-]	1,5-Bis (2-chloroethylthio)-n-pentane [-]	0	
2930.90.17 [-]	Bis (2-chloroethylthiomethyl) ether [-]	0	
2930.90.19 [-]	Bis (2-chloroethylthioethyl) ether [-]	0	
	[Calcium salts of methionine]		20 15

2930.90.21 [-]	O,O-Diethyl S-[2-(diethylamino)ethyl] phosphorothionate and its alkylated or protonated salts [-]	0	
2930.90.23	N,N-Dialkyl (methyl, ethyl, n-propyl or isopropyl) aminoethane-2-thiols and their protonated salts	0	
2930.90.25 [-]	Thiodiglycol (INN) (bis(2-hydroxyethyl) sulphide [-]	0	
2930.90.27 [-]	O-Ethyl S-phenyl ethylphosphonothiolothionate (fonofos) [-]	0	
2930.90.29	Other, containing a phosphorus atom to which is bonded one methyl, ethyl, n-propyl or isopropyl group but not further carbon atoms	0	
	[Thio sulphonic acid]		20 15
	[L-cystine(alpha-amino beta-thiopropionic)-sulphur containing amino acid]		20 15
	[Sulphinic acid]		20 15
	[Sulphoxide]		20 15
	[Mercaptan]		20 15
	[Allyl isothiocyanate]		20 15
2930.90.90	Other	0	20 15
2931	Other organo-inorganic compounds		
2931.00.10 [2931.00.10]	O-Alkyl (including cycloalkyl) alkyl (methyl, ethyl, n-propyl or isopropyl) phosphonofluoridates [Organo-mercury compounds]	0	20 15
2931.00.15	O-Alkyl (including cycloalkyl) N,N-dialkyl (methyl, ethyl, n-propyl or isopropyl) phosphoramidocyanidates	0	
2931.00.20	2-Chlorovinylchloroarsine [Organo-arsenic compounds]	0	20 15
2931.00.25 [-]	Bis (2-chlorovinyl) chloroarsine [-]	0	
2931.00.30 [2931.00.30]	Tris (2-chlorovinyl) arsine [Tetra-ethyl lead]	0	20 15
2931.00.35 [-]	Alkyl (methyl, ethyl, n-propyl or isopropyl) phosphonyl difluorides [-]	0	
2931.00.40 [-]	[O-2-(dialkyl (methyl, ethyl, n-propyl or isopropyl)amino)ethyl] hydrogen alkyl (methyl, ethyl, n-propyl or isopropyl) phosphonites and their O-alkyl (including cycloalkyl) esters; alkylated or protonated salts thereof [-]	0	
2931.00.45 [-]	O-Isopropyl methylphosphonochloridate [-]	0	
2931.00.50 [-]	O-Pinacolyl methylphosphonochloridate [-]	0	

2931.00.55	Other, containing a phosphorus atom to which is bonded one methyl, ethyl, n-propyl or isopropyl group but no further carbon atoms	0		
2931.00.90	Other	0	20	15
2932	Heterocyclic compounds with oxygen hetero-atom(s) only			
2932.1	- compounds containing an unfused furan ring (whether or not hydrogenated) in the structure :			
2932.11	Tetrahydrofuran	0	20	15
2932.12	2-Furaldehyde (furfuraldehyde)	0	20	15
2932.13	Furfuryl alcohol and tetrahydrofurfuryl alcohol	0	20	15
2932.19	Other [Hydroxy dibenzfuran carboxylic acid]	0	20	15
2932.2	- lactones :			
2932.21	Coumarin, methylcoumarins and ethylcoumarines	0	20	15
2932.29	- other lactones :			
2932.29.10	Phenolphthalein (excluding iodophenolphthalein)	10	20	15
2932.29.90	Other	0	20	15
2932.9	- other			
2932.91	Isosafrole	0	20	15
2932.92	1-(1,3-Benzodioxol-5-yl) propan-2-one	0	20	15
2932.93	Piperonal	0	20	15
2932.94	Safrole	0	20	15
2932.95	Tetrahydrocannabinols (all isomers)	0	20	15
2932.99	Other	0	20	15
2933	Heterocyclic compounds with nitrogen hetero-atom(s) only			
2933.1	- compounds containing an unfused pyrazole ring (whether or not hydrogenated) in the structure :			
2933.11	Phenazone (antipyrin) and its derivatives	0	20	15
2933.19	Other	0		
	[3-carboxy (para sulpho-phenyl)-5 pyrazolone]		20	15
[2933.19.10]	[1 (2:5 dichloro-4-sulpho-phenyl)-3-methyl-5-pyrazolone]		20	15
	[3methyl-1 (4-sulpho-O-toluy-5-pyrazolone)]		20	15
[2933.19.20]	[Phenyl-methyl pyrazolone]		20	15
	[1-phenyl-5-pyrazolone-3-carboxylic acid ethylester]		20	15
2933.2	- compounds containing an unfused imidazole ring (whether or not hydrogenated) in the structure :			
2933.21	Hydantoin and its derivatives	0	20	15
2933.29	Other	0		
	[Tinidazole]		20	15
[2933.29.10]	[Metronidazole, metronidazole benzoate]		20	15
	[Mebendazole]		20	15
[2933.29.20]	[Dimetridazole]		20	15
2933.3	- compounds containing an unfused pyridine ring (whether or not hydrogenated) in the structure :			

2933.31	Pyridine and its salts	0	20	15
2933.32	Piperidine and its salts	0	20	15
2933.33	Alfentanil (INN), anileridine (INN), bezitramide (INN), bromazepam (INN), difenoxin (INN), diphenoxylate (INN), dipipanone (INN), fentanyl (INN), ketobemidone (INN), methylphenidate (INN), pentazocine (INN), pethidine (INN), pethidine (INN) intermediate A, phencyclidine (INN) (PCP), phenoperidine (INN), pipradrol (INN), piritramide (INN), propiram (INN), and trimeperidine (INN); salts thereof	0	20	15
2933.39	Other <i>[Derivatives of pyridine :]</i> [Amino pyridine]	0	20	15
[2933.39.11]	[Alpha picoline (2-methyl pyridine)]		20	15
	[Gamma picoline (4-methyl pyridine)]		20	15
[2933.39.12]	[Chloropheniramine maleate]		20	15
	[Diphenoxylate hydrochloride]		20	15
[2933.39.13]	[Beta picoline (3-methyl pyridine)]		20	15
2933.4	- compounds containing in the structure a quinoline or isoquinoline ring-system (whether or not hydrogenated), not further fused :			
2933.41	Levorphanol (INN) and its salts	0	20	15
2933.49	- other :			
[2933.49]	[Other]		20	15
2933.49.10	Polymerised 1,2-dihydro-2,2,4-trimethylquinoline	10		
[-]	[-]			
2933.49.90	Other	0		
[-]	[-]			
2933.5	- compounds containing a pyrimide ring (whether or not hydrogenated) or piperazine ring in the structure :			
2933.52	Malonylurea (barbituric acid) and its salts	0	20	15
2933.53	Allobarbitol (INN), amobarbitol (INN), barbitol (INN), butalbitol (INN), butobarbitol (INN), cyclobarbitol (INN), methylphenobarbitol (INN), pentobarbitol (INN), phenobarbitol (INN), secbutabarbitol (INN), secobarbitol (INN) and vinylbitol (INN); and salts thereof	0	20	15
2933.54	Other derivatives of malonylurea (barbituric acid); salts thereof	0	20	15
2933.55	Loprazolam (INN), mecloqualone (INN), methaqualone (INN) and zipeprol (INN); salts thereof	0	20	15
2933.59	- other :			
	[Aminophylline (cordophyllin)]		20	15
	[Trimethoprin]		20	15
2933.59.30	Piperazine citrate; piperazine hexahydrate; piperazine adipate	14		
[2933.59.30]	[Diethyl carbamazepine citrate]		20	15
	[1-Amino-4-Methyl piperazine]		20	15

2933.59.80 [-]	Bromacil; OO-Diethyl 0-4 methyl 2 isopropylpyrimid 6 phosphorothioate [-]	0	
2933.59.85 [-]	Other compounds of urea [-]	18	
2933.59.90	Other	10	20 15
2933.6	- compounds containing an unfused triazine ring (whether or not hydrogenated) in the structure :		
2933.61	Melamine	0	20 15
2933.69	- other :		
	[Cyanuric acid and its salts]		20 15
2933.69.20 [-]	Cyanuric chloride [-]	0	
2933.69.30 [-]	Atrazine [-]	10	
2933.69.40 [-]	Simazine [-]	0	
2933.69.90	Other	10	20 15
2933.7	- lactams :		
2933.71	6-Hexanelactam (epsilon-caprolactam)	0	20 15
2933.72	Clobazam (INN) and methylprylon (INN)	0	20 15
2933.79	Other lactams	0	20 15
2933.9	- other :		
2933.91	Alprazolam (INN), camazepam (INN), chordiazepoxide (INN), clonazepam (INN), clorazepate, delorazepam (INN), diazepam (INN), estazolam (INN), ethyl loflazepate (INN), fludiazepam (INN), flunitrazepam (INN), flurazepam (INN), halazepam (INN), lorazepam (INN), lormetazepam (INN), mazindol (INN), medazepam (INN), midazolam (INN), nimetazepam (INN), nitrazepam (NN), nordazepam (INN), oxazepam (INN), pinazepam (INN), prazepam (INN), pyrovalerone (INN), temazepam (INN), tetrazepam (INN), and triazolam (INN); salts thereof	0	20 15
2933.99	Other	0	20 15
2934	Nucleic acids and their salts; whether or not chemically defined; other heterocyclic compounds		
2934.10	Compounds containing an unfused thiazole ring (whether or not hydrogenated) in the structure	0	20 15
2934.20	Compounds containing in the structure a benzothiazole ring-system (whether or not hydrogenated), not further fused	0	20 15
2934.30	Compounds containing in the structure a phenothiazine ring-system (whether or not hydrogenated), not further fused	0	20 15
2934.9	- other :		

2934.91	Aminorex (INN), brotizolam (INN), clotiazepam (INN), cloxazolam (INN), dextromoramide (INN), haloxazolam (INN), ketazolam (INN), mesocarb (INN), oxazolam (INN), pemoline (INN), phendimetrazine (INN), phenmetrazine (INN) and sufentanil (INN); salts thereof	0	20	15
2934.99	Other	0	20	15
2935	Sulphonamides			
2935.00	Sulphonamides [Sulphamethoxazole, Sulphafurazole, Sulphadiazine, Sulphadimidine, Sulphacetamide :]	0	20	15
[2935.00.11]	[Sulphamethoxazole]		20	15
	[Sulphafurazole]		20	15
[2935.00.12]	[Sulphadiazine]		20	15
	[Sulphadimidine]		20	15
[2935.00.13]	[Sulphacetamide]			
SUB-CHAPTER XI	PROVITAMINS, VITAMINS AND HORMONES			
2936	Provitamins and vitamins, natural or reproduced by synthesis (including natural concentrates), derivatives thereof used primarily as vitamins, and intermixtures of the foregoing, whether or not in any solvent			
2936.10	Provitamins, unmixed	0	20	15 ^{tr}
2936.2	- vitamins and their derivatives, unmixed :			
2936.21	Vitamins A and their derivatives	0	20	15 ^{tr}
2936.22	Vitamin B ₁ and its derivatives [Vitamin B ₁ (Thiamine (INN), Aneurine) and its salts]	0	20	15 ^{tr}
2936.23	Vitamin B ₂ and its derivatives	0	20	15 ^{tr}
[2936.23.10]	[Vitamin B ₂ (Riboflavin (INN), lactoflavin) & its salts]		20	15 ^{tr}
[2936.23.90]	[Other]		20	15 ^{tr}
2936.24	D- or DL-Pantothenic acid (Vitamin B ₃ or Vitamin B ₅) and its derivatives	0	20	15 ^{tr}
2936.25	Vitamin B ₆ and its derivatives	0	20	15 ^{tr}
2936.26	Vitamin B ₁₂ and its derivatives [Vitamin B ₁₂ (Cyanocobalamin (INN))]	0	20	15 ^{tr}
2936.27	Vitamin C and its derivatives	0	20	15 ^{tr}
[2936.27]	[Vitamin C (Ascorbic acid) and its derivatives]		20	15 ^{tr}
2936.28	Vitamin E and its derivatives	0	20	15 ^{tr}

2936.29	Other vitamins and their derivatives	0		
[2936.29.10]	[Folic acid (Vitamin B ₉)]		20	15 ^{TT}
	[Nicotinic acid & nicotinamide (niacinamide / niacine)]		20	15 ^{TT}
[2936.29.20]	[Vitamin K (menaphthone)]		20	15 ^{TT}
	[Vitamin D]		20	15 ^{TT}
[2936.29.30]	[Vitamin H (Biotin)]		20	15 ^{TT}
	[Other]		20	15 ^{TT}
2936.90	Other, including natural concentrates	0	20	15 ^{TT}
2937	Hormones, prostaglandins, thromboxanes and leukotrienes, natural or reproduced by synthesis; derivatives and structural analogues thereof, including chain modified polypeptides, used primarily as hormones			
2937.1	- polypeptide hormones, protein hormones and glycoprotein hormones, their derivatives and structural analogues :			
2937.11	Somatotropin, its derivatives and structural analogues	0	20	15 ^{TT}
2937.12	Insulin and its salts	0	20	15 ^{TT}
2937.19	Other	0	20	15 ^{TT}
2937.2	- steroidal hormones, their derivatives and structural analogues :			
2937.21	Cortisone, hydrocortisone, prednisone (dehydrocortisone) and prednisolone (dehydrohydrocortisone)	0	20	15 ^{TT}
2937.22	Halogenated derivatives of corticosteroidal hormones	0	20	15 ^{TT}
2937.23	Oestrogens and progestogens	0	20	15 ^{TT}
2937.29	Other	0	20	15 ^{TT}
2937.3	- catecholamine hormones, their derivatives and structural analogues :			
2937.31	Epinephrine	0		
[2937.31]	[Epinephrine]		20	15 ^{TT}
2937.39	Other	0	20	15 ^{TT}
2937.40	Amino-acid derivatives	0	20	15 ^{TT}
2937.50	Prostaglandins, thromboxanes and leukotrienes, their derivatives and structural analogues	0	20	15 ^{TT}
2937.90	Other	0	20	15 ^{TT}
SUB-CHAPTER XII	GLYCOSIDES AND VEGETABLE ALKALOIDS, NATURAL OR REPRODUCED BY SYNTHESIS, AND THEIR SALTS, ETHERS, ESTERS AND OTHER DERIVATIVES			
2938	Glycosides, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives			
2938.10	Rutoside (rutin) and its derivatives	0	20	15
2938.90	Other	0		
	[Digoxin]		20	15
[2938.90.10]	[Digitalis Glycosides]		20	15
2939	Vegetable alkaloids, natural or reproduced by synthesis, and their salts, ethers, esters and other derivatives			

2939.1	- alkoids of opium and their derivatives; salts thereof :		
2939.11	- concentrates of poppy straw; buprenorphine (INN), codeine, dihydrocodone (INN), ethylmorphine, etorphine (INN), heroin, hydrocodone (INN), hydromorphone (INN), morphine, nicomorphine (INN),		
[2939.11]	[Alkaloids of opium and their derivatives, salts thereof :] [Concentrates of poppy straw; buprenorphine (INN), codeine, dihydrocodone (INN), ethylmorphine, etorphine (INN), heroin, hydrocodone (INN), hydromorphone		20 15
2939.11.10 [-]	Codeine phosphate [-]	5	
2939.11.90 [-]	Other [-]	0	
2939.19	Other	0	20 15
2939.2	- alkaloids of cinchona and their derivatives; salts thereof :		
2939.21	Quinine and its salts [Quinine alkaloids]	0	20 15
[2939.21.10]	[Quinine hydrochloride]		20 15
	[Quinine sulphate]		20 15
2939.29	Other	0	20 15
2939.30	Caffeine and its salts	0	20 15
2939.4	- ephedrine and their salts :		
2939.41	Ephedrine and its salts [Ephedrine alkaloids]	0	20 15 ^{TT}
[2939.41.10]	[Ephedrine hydrochloride]		20 15 ^{TT}
2939.42	Pseudoephedrine (INN) and its salts	0	20 15 ^{TT}
2939.43	Cathine (INN) and its salts	0	20 15 ^{TT}
2939.49	Other	0	20 15 ^{TT}
2939.5	- theophylline and aminophylline (theophylline-ethylenediamine) and their derivatives; salts thereof :		
2939.51	Fenetylline (INN) and its salts	0	20 15 ^{TT}
2939.59	Other	0	20 15 ^{TT}
2939.6	- alkaloids of rye ergot and their derivatives; salts thereof :		
2939.61	Ergometrine (INN) and its salts [Ergometrine (INN)]	0	20 15
2939.62	Ergotamine (INN) and its salts [Ergotamine tartrate]	0	20 15
2939.63	Lysergic acid and its salts	0	20 15
2939.69	Other	0	20 15
2939.9	- other :		
2939.91	Cocaine, ecgonine, levometamfetamine (INN), metamfetamine (INN), metamfetamine racemate; salts, esters and other deivatives thereof	0	20 15
2939.99	- other :		
[2939.99]	[Other]		20 15
2939.99.10 [-]	Scopolamine (hyoscine) and its derivatives [-]	10	

2939.99.20 [-]	Theobromine; emoline [-]	10	
2939.99.90 [-]	Other [-]	0	
SUB- CHAPTER XIII	OTHER ORGANIC COMPOUNDS		
2940	Sugars, chemically pure (excluding sucrose, lactose, maltose, glucose and fructose); sugar ethers and sugar esters ,and their salts (excluding products of heading no. 2937, 2938 or 2939) [Sugars, chemically pure, other than sucrose, lactose, maltose, glucose and fructose; sugar ethers, sugar acetals and sugar esters, and their salts, other than products of heading 2937, 2938 or 2939]		
2940.00	Sugars, chemically pure (excluding sucrose, lactose, maltose, glucose and fructose); sugar ethers, sugar acetals, sugar esters, and their salts (excluding products of heading 2937, 2938 or 2939)	0	20 15
2941	Antibiotics		
2941.10 [2941.10.10] [2941.10.20]	Penicillins and their derivatives with a penicillanic acid structure; salts thereof [Penicillins & its salts (eg. procaine penicillin, penicillin G-potassium)] [Ampicilline & its salts] [Amoxycilline & its salts] [Cioxacilline & its salts] [6-APA]	0	20 15 ^{TT} 20 15 ^{TT} 20 15 ^{TT} 20 15 ^{TT} 20 15 ^{TT}
2941.20	Streptomycins and their derivatives; salts thereof [Streptomycin]	0	20 15 ^{TT}
2941.30 [2941.30.10]	Tetracyclines and their derivatives; salts thereof [Doxycycline & its salts] [Tetracycline / Oxytetra-cycline and their salts] [Other]	0	20 15 ^{TT} 20 15 ^{TT} 20 15 ^{TT}
2941.40	Chloramphenicol and its derivatives; salts thereof	0	20 15 ^{TT}
2941.50	Erythromycin and its derivatives; salts thereof	0	20 15 ^{TT}
2941.90 [2941.90.11] [2941.90.12] [2941.90.13]	Other [Rifampicin & its salts :] [Rifampicin] [3 Formyl Rifa SV (Rifa int)] [Rifa S / Rifa S Sodium (Rifa int)] [1-amino-4-Methyl piperazine (Rifa int)] [Other] [Cephalexin & its salts]	0	20 15 ^{TT} 20 15 ^{TT} 20 15 ^{TT} 20 15 ^{TT} 20 15 ^{TT} 20 15 ^{TT}

2942	Other organic compounds		
2942.00	Other organic compounds [Cefadroxil & its salts, Ibuprofane, Nifedipine, Danes salt of D(-) phenyl glycine, D(-) para hydroxy Dane's salts :] [Cefadroxil & its salts]	0	20 15
[2942.00.11]	[Ibuprofane]		20 15
	[Nifedipine]		20 15
[2942.00.12]	[Ranitidine]		20 15
	[Danes salt of D (-) phenyl glycine]		20 15
[2942.00.13]	[D (-) para hydroxy Dane's salts]		20 15
	<i>[Timolo maleate, Terbutoline sulphate, D(-) phenyl glycin chloride HCL (DPGCH), Imipramine HCl, Amitriptyline HCl, Dextropropoxyphene, Cysteanune HCl, Atenolol, propranolol :]</i>		20 15
[2942.00.15]	[Timolo maleate]		20 15
	[Terbutoline sulphate]		20 15
[2942.00.16]	[D(-) phenyl glycin chloride HCL (DPGCH)]		20 15
	[Imipramine HCl]		20 15
	[Amitriptyline HCl]		20 15

Chapter 30 - Pharmaceutical products

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF	
		SA January 05 06	India January 05 06
Chapter 30	<i>Pharmaceutical products</i>		
3001	Glands and other organs for organo-therapeutic uses, dried, whether or not powdered; extracts of glands or other organs or of their secretions for organo-therapeutic uses; heparin and its salts; other human or animal substances prepared for therapeutic or prophylactic uses, not elsewhere specified or included		
3001.10	Glands and other organs, dried, whether or not powdered [Pancreatin and dried powder of pancreas]	0	20 15 ^{TT}
[3001.10.10]	<i>[Other :]</i>		
3001.20	Extracts of glands or other organs or of their secretions [Liquid extracts of liver kg. 30% 20%]	0	20 15 ^{TT}
[3001.20.10]	[Liver extracts, dry kg. 30% 20%]		20 15 ^{TT}

3001.90			
[3001.90.10]	Other [Of human origin] <i>[Other :]</i>	0	20 15 ^π
[3001.90.91]	[Heparin and its salts] [Other]		20 15 ^π 20 15 ^π
[3001.90.99]			
3002	Human blood; animal blood prepared for therapeutic, prophylactic or diagnostic uses; antisera and other blood fractions and modified immunological products, whether or not obtained by means of biotechnological processes; vaccines, toxins, cultures of micro-organisms (excludin yeast) and similar products		
3002.10	Antisera and other blood fractions and modified immunological products, whether or not obtained by means of biotechnological processes <i>[Antisera :]</i>	0	
[3002.10.11]	[For diptheria] [For Tetanus]		20 15 ^π 20 15 ^π
[3002.10.12]	[For rabies] [For snake venom]		20 15 ^π 20 15 ^π
[3002.10.13]	[Other] [Hemoglobin blood globulins and serum globulins]		20 15 ^π 20 15 ^π
[3002.10.14]	<i>[Other :]</i> [Of human origin]		20 15 ^π
[3002.10.19]	[Other]		20 15 ^π
3002.20	Vaccines for human medicine <i>[Single Vaccines :]</i>	0	
[3002.20.11]	[For Cholera and Typhoid] [For Hepatitis] [For Tetanus]		20 15 ^π 20 15 ^π 20 15 ^π
[3002.20.12]	[For Polio] [For tuberculosis]		20 15 ^π 20 15 ^π
[3002.20.13]	[For rabies] [For Japanese Encephalitis]		20 15 ^π 20 15 ^π
[3002.20.14]	[For whooping cough (pertusis)] [Other]		20 15 ^π 20 15 ^π
3002.30	Vaccines for veterinary medicine	0	20 15 ^π
3002.90	- other :		

3002.90.10	Saxitoxin [Human blood]	0	20	15 ^{TT}
[3002.90.10]				
3002.90.20	Ricin [Animal blood prepared for therapeutic, prophylactic or diagnostic uses]	0	20	15 ^{TT}
[3002.90.20]				
	[Cultures of micro-organisms (excluding yeast)]		20	15 ^{TT}
	[Toxins]		20	15 ^{TT}
3002.90.90	Other	0	20	15 ^{TT}
3003	Medicaments (excluding goods of heading no. 3002, 3005 or 3006) consisting of two or more constituents which have been mixed together for therapeutic or prophylactic uses, not put up in measured doses or in forms or packings for retail sale			
3003.10	Containing penicillins or derivatives thereof, with a penicillanic acid structure, or streptomycins or their derivatives	0	20	15 ^{TT}
3003.20	Containing other antibiotics	0	20	15 ^{TT}
3003.3	- containing hormones or other products of heading no. 2937 (excluding those containing antibiotics) :			
3003.31	Containing insulin	0	20	15 ^{TT}
3003.39	Other	0	20	15 ^{TT}
3003.40	Containing alkaloids or derivatives thereof (excluding those containing hormones or other products of heading No. 2937 or antibiotics)	0	20	15 ^{TT}
3003.90	Other [Ayurvedic, Unani, Siddha, Homeopathic or Bio-chemic systems medications :] [Of Ayurvedic system]	0	20	15 ^{TT}
[3003.90.11]	[Of Unani system]		20	15 ^{TT}
	[Of Siddhe system]		20	15 ^{TT}
[3003.90.12]	[Of Homeopathic system]		20	15 ^{TT}
	[Of Bio-chemic system]		20	15 ^{TT}
[3003.90.13]	[Menthol crystals and Milk of Magnesia :] [Menthol crystals]		20	15 ^{TT}
[3003.90.14]	[Milk of Magnesia]		20	15 ^{TT}
[3003.90.15]	[Bovine Albumin and drugs of animal origin, Merbromine National Formulary XII (Mercurochrome), Calcium Sennoside, Anaesthetic agents used in human or veterinary medicine or surgery, Aluminium hydroxide gel :] [Bovine Albumin and drugs of animal origin]		20	15 ^{TT}
[3003.90.21]	[Merbromine National Formulary XII (Mercurochrome)]		20	15 ^{TT}
	[Calcium Sennoside]		20	15 ^{TT}
[3003.90.22]	[Anaesthetic agents used in human or veterinary medicine or surgery]		20	15 ^{TT}
	[Aluminium hydroxide gel]		20	15 ^{TT}

	[Other]		20	15 ^{tr}
[3003.90.31]				
[3003.90.32]				
[3003.90.33]				
[3003.90.34]				
[3003.90.35]				
[3003.90.90]				
3004	Medicaments (excluding goods of heading 3002, 3005 or 3006) consisting of mixed or unmixed products for therapeutic or prophylactic uses, put up in measured doses (including those in the form of transdermal administration systems) or in forms or packings for retail sale			
3004.10	Containing penicillins or derivatives thereof, with a penicillanic acid structure, or streptomycins or their derivatives	0		
[3004.10.10]	[Penicillins]		20	15 ^{tr}
	[Ampicillin]		20	15 ^{tr}
[3004.10.20]	[Amoxycillin]		20	15 ^{tr}
	[Becampicillin]		20	15 ^{tr}
[3004.10.30]	[Cloxacillin]		20	15 ^{tr}
	[Ampicillin and Cloxacillin combinations]		20	15 ^{tr}
[3004.10.40]	[Streptomycin]		20	15 ^{tr}
[3004.10.50]	[Other]		20	15 ^{tr}

3004.20	Containing antibiotics <i>[Cephalosporins and their derivatives :]</i>	0	
[3004.20.11]	[Cefazolin]		20 15 ^{TT}
	[Cephalexin]		20 15 ^{TT}
[3004.20.12]	[Ciprofloxacin]		20 15 ^{TT}
	[Cefoxitin]		20 15 ^{TT}
[3004.20.13]	[Other]		20 15 ^{TT}
	[Sulfonamides and Cotrimoxazole]		20 15 ^{TT}
[3004.20.14]	<i>[Fluoroquinolones :]</i>		
	[Norfloxacin]		20 15 ^{TT}
[3004.20.19]	[Nalidixic acid]		20 15 ^{TT}
	[Ciprofloxacin]		20 15 ^{TT}
[3004.20.20]	[Ofloxacin]		20 15 ^{TT}
	[Other]		20 15 ^{TT}
	<i>[Tetracyclines :]</i>		
[3004.20.31]	[Chlortetracycline]		20 15 ^{TT}
	[Oxytetracycline]		20 15 ^{TT}
[3004.20.32]	[Other]		20 15 ^{TT}
	[Chloramphenicol]		20 15 ^{TT}
[3004.20.33]			
	<i>[Macrolide :]</i>		
	[Erythromycin]		20 15 ^{TT}
[3004.20.61]	[Roxithromycin]		20 15 ^{TT}
	[Clarithromycin]		20 15 ^{TT}
[3004.20.62]	[Azithromycin]		20 15 ^{TT}
	[Other]		20 15 ^{TT}
[3004.20.63]	[Cefadroxil]		20 15 ^{TT}
	<i>[Other :]</i>		
[3004.20.64]	[Isoniazid]		20 15 ^{TT}
	[Rifampicin]		20 15 ^{TT}
[3004.20.69]	[Pyrazinamide]		20 15 ^{TT}
	[Ethambutol]		20 15 ^{TT}
3004.3	- containing hormones or other products of heading no. 2937 (excluding those containing antibiotics):		
3004.31	Containing insulin [Insulin injection]	0	20 15 ^{TT}
3004.32	Containing corticosteroid hormones, their derivatives and structural analogues	0	20 15 ^{TT}

3004.39	Other <i>[Pituitary hormones; Prednisolone; Dexamethasone; Danazol; Other progestogen and oestrogen group hormones :]</i>	0		
	[Pituitary hormones]		20	15 ^{TT}
[3004.39.11]	[Prednisolone]		20	15 ^{TT}
	[Dexamethasone]		20	15 ^{TT}
[3004.39.12]	[Danazol]		20	15 ^{TT}
	[Other progestogen and oestrogen group hormones]		20	15 ^{TT}
[3004.39.13]	<i>[Gonadotrophins and luteinising hormone :]</i>		20	15 ^{TT}
3004.40	Containing alkaloids or derivatives thereof (excluding those containing hormones, or other products of heading 2937 or antibiotics)	0		
	[Atropin and salts thereof]		20	15 ^{TT}
[3004.40.10]	[Caffein and salts thereof]		20	15 ^{TT}
	[Codeine and its derivatives, with or without ephedrine hydrochloride]		20	15 ^{TT}
[3004.40.20]	[Ergot preparations, ergotamine and salts thereof]		20	15 ^{TT}
	[Papaverine hydrochloride]		20	15 ^{TT}
[3004.40.30]	[Bromohexim and solbutamol]		20	15 ^{TT}
	[Theophylline and ephedrine]		20	15 ^{TT}
[3004.40.40]	[Other]		20	15 ^{TT}
3004.50	Other medicaments containing vitamins or other products of heading 2936	0		
	[Heamatinics and Erythropoyetin preparations]		20	15 ^{TT}
[3004.50.10]	[Preparations of minerals and their supplements]		20	15 ^{TT}
	<i>[Preparations of vitamins :]</i>			
[3004.50.20]	[Of vitamin A]		20	15 ^{TT}
	[Of vitamin B ₁ and B ₂ and salts thereof]		20	15 ^{TT}
	[Of vitamin B ₉]		20	15 ^{TT}
[3004.50.31]	[Of vitamin B ₁₂]		20	15 ^{TT}
	[Of vitamin C]		20	15 ^{TT}
[3004.50.32]	[Of vitamin D]		20	15 ^{TT}
	[Of vitamin E]		20	15 ^{TT}
[3004.50.33]	[Other]		20	15 ^{TT}

3004.90			
[3004.90.11]	Other		
[3004.90.12]	<i>[Ayurvedic, Unani, Homoeopathic, Siddha or Bio-chemic systems medicaments, put up for retail sale :]</i>		
[3004.90.13]	[Of Ayurvedic system]	20	15 ^{TT}
[3004.90.14]	[Of Unani system]	20	15 ^{TT}
	[Of Siddha system]	20	15 ^{TT}
[3004.90.15]	[Of Homoeopathic system]	20	15 ^{TT}
	[Of Bio-chemic system]	20	15 ^{TT}
	<i>[Anthelmintics drugs; Antiamoebic and other Antiprotozal drugs; Anitifungal drugs :]</i>		
[3004.90.21]	[Anthelmintics and preparations thereof]	20	15 ^{TT}
	[Metronidazole]	20	15 ^{TT}
[3004.90.22]	[Tinidazole]	20	15 ^{TT}
	[Secnidazole]	20	15 ^{TT}
[3004.90.23]	[Diluxamide Furoate]	20	15 ^{TT}
	[Sodium Stibogluconate]	20	15 ^{TT}
[3004.90.24]			
[3004.90.25]			
[3004.90.26]			

[3004.90.27]	[Pentamidine]	20	15 ^π
	[Other]	20	15 ^π
[3004.90.29]	[Antihistaminic drugs; Antacids preparations; Antiulcer drugs; Antiemetics and other Gastrointestinal drugs :]		
	[Promethazine, Chlorpheniramine, Astemizole and Ceteirizine]	20	15 ^π
	[Sodium bicarbonate, Magnesium hydroxide (Milk of Magnesia), Magnesium carbonate, Magnesium trisilicate, Aluminium hydroxide gel, Magaldarate and combinations thereof]	20	15 ^π
[3004.90.31]	[Cimetidine, Rantidine, Nizatidine and Roxatidine]	20	15 ^π
[3004.90.32]	[Omeprazole and Lansoprazole]	20	15 ^π
	[Dicyclomine, Metoclopramide and Dexamethasone and Ondansetron]	20	15 ^π
	[Chenodiol and Ursodiol]	20	15 ^π
[3004.90.33]	[Other]		
	<i>[Anticancer drugs :]</i>	20	15 ^π
[3004.90.34]	[Cyclophosphamide]	20	15 ^π
	[Methotrexate, 5-Fluorouracil (5-FU) and Ftorafur]	20	15 ^π
[3004.90.35]	[Bincristine and Vinblastine]	20	15 ^π
	[Paclitaxel and Docetaxel]	20	15 ^π
[3004.90.36]	[Etoposide]	20	15 ^π
	[Actinomycin D Dactinomycin and Doxorubicin]	20	15 ^π
[3004.90.39]	[L-Asparaginase, Cisplatin and Carboplatin]	20	15 ^π
	[Tamoxifen]	20	15 ^π
	[Other]		
[3004.90.41]	<i>[Antitubercular drugs; Antileprotic drugs; Antimalarial drugs :]</i>	20	15 ^π
	[Isoniazid]	20	15 ^π
[3004.90.42]	[Rifampicin]	20	15 ^π
	[Pyrazinamide and Ethambutol]	20	15 ^π
[3004.90.43]	[Streptomycin]	20	15 ^π
	[Dapsone (DDS), Acedapsone (DADDS), Solopsone and Clofazimine]	20	15 ^π
[3004.90.44]	[Chloroquine, Amodiaquine, Mefloquine, Quinine, Chloroquamide, Pyrimethamine]	20	15 ^π
	[Other Antitubercular drugs]	20	15 ^π
	[Other Antileprotic drugs]		
[3004.90.46]	[Other Antimalarial drugs]	20	15 ^π
	<i>[No-steroidal anti-inflammatory, analgesics and antipyretic drugs :]</i>	20	15 ^π
[3004.90.47]	[Analgin with or without other compounds such as paracetamol]	20	15 ^π
	[Acetyl salicylic acid (Aspirin) and formulations thereof]	20	15 ^π
[3004.90.48]	[Ibuprofen with or without paracetamol or other compounds]	20	15 ^π
	[Oxyphen butazone, Phenyl butazone and formulations thereof]	20	15 ^π

	<i>[Other :]</i>		
[3004.90.91]	[Salbutamol, Terbutaline, Ephedrine, Salmeterol and Methyl xanthines]		20 15 ^{TT}
	[Plasma expanders]		20 15 ^{TT}
[3004.90.92]	[Chloropheniramine Maleate, with or without other components (excluding steroids and alkaloids)]		20 15 ^{TT}
3005	Wadding, gauze, bandages and similar articles (for example, dressings, adhesive plasters, poultices), impregnated or coated with pharmaceutical substances or put up in forms or packings for retail sale for medical, surgical, dental or veterinary purposes		
3005.10	Adhesive dressings and other articles having an adhesive layer	0	
	[Adhesive gauze]		20 15
[3005.10.10]	[Adhesive tape]		20 15
3005.90	- other		
3005.90.10	Absorbent gauze or muslin; bandages (excluding those manufactured from polyurethane resins and woven fabrics of glass fibre); boric and other absorbent lint; gauze or muslin swabs (including those containing X-ray detectable thread or tape)	20	
			20 15
	[Poultice of kaolin]		20 15
	[Lint, medicated]		20 15
	[Bandages]		20 15
	[Burn therapy dressing soaked in protective gel]		20 15
	[Micro pores surgical tapes]		20 15
	[Corn removers and callous removers]		20 15
3005.90.90	Other	0	20 15
3006	Pharmaceutical goods specified in Note 4 to this Chapter		
3006.10	Sterile surgical catgut, similar sterile suture materials and sterile tissue adhesives for surgical wound closures sterile laminaria and sterile laminaria tents; sterile absorbable surgical or dental haemostatics	0	
[3006.10.10]	[Sterile, surgical catgut and similar sterile suture materials and sterile tissue adhesives for surgical wound closure]		20 15
[3006.10.20]	[Sterile laminaria and sterile laminaria tents and sterile absorbable surgical or dental haemostatics]		20 15
3006.20	Blood-grouping reagents	0	20 15
3006.30	Opacifying preparations for X-ray examinations; diagnostic reagents designed to be administered to the patient	0	20 15
3006.40	Dental cements and other dental fillings; bone reconstruction cements	0	
3006.50	First-aid boxes and kits	0	
3006.60	Chemical contraceptive preparations based on hormones, on other products of heading 2937 or on spermicides	0	
	[Based on hormones]		20 0

3006.70	Gel preparations designed to be used in human or veterinary medicine as a lubricant for parts of the body for surgical operations or physical examinations or as a coupling agent between the body and medical instruments	0	20	15
3006.80	Waste pharmaceuticals	0	20	15

Chapter 31 - Fertilizers

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % <i>Ad valorem</i>	
		SA January 05 06	India January 05 06
Chapter 31	Fertilizers		
3101	Animal or vegetable fertilisers, whether or not mixed together or chemically treated; fertilisers produced by the mixing or chemical treatment of animal or vegetable products		
3101.00	Animal or vegetable fertilisers, whether or not mixed together or chemically treated; fertilisers produced by the mixing or chemical treatment of animal or vegetable products	0	
[3101.00.10]	[Guano] [Other :]		20 15
[3101.00.91]	[Animal dung] [Animal excreta]		20 15 20 15
[3101.00.92]	[Other]		20 15
3102	Mineral or chemical fertilisers, nitrogenous		
3102.10	Urea, whether or not in aqueous solution	0	20 15
3102.2	- ammonium sulphate; double salts and mixtures of ammonium sulphate and ammonium nitrate :		
3102.21	Ammonium sulphate	0	20 5
3102.29	Other [Ammonium sulphonitrate]	0	20 15
3102.30	Ammonium nitrate, whether or not in aqueous solution	0	20 15
3102.40	Mixtures of ammonium nitrate with calcium carbonate or other inorganic non-fertilising substances	0	20 15
3102.50	Sodium nitrate	0	20 0
3102.60	Double salts and mixtures of calcium nitrate and ammonium nitrate	0	20 15
3102.70	Calcium cyanamide	0	20 15
3102.80	Mixtures of urea and ammonium nitrate in aqueous or ammoniacal solution	0	20 15
3102.90	Other, including mixtures not specified in the foregoing subheadings [Double salts or mixtures of calcium nitrate and magnesium nitrate]	0	20 15
3103	Mineral or chemical fertilisers, phosphatic		
3103.10	Superphosphates	0	20 15
3103.20	Basic slag	0	20 15

3103.90	Other	0	20	15
3104	Mineral or chemical fertilisers, potassic			
3104.10	Carnallite, sylvite and other crude natural potassium salts	0	20	15
3104.20	Potassium chloride	0	20	15
3104.30	Potassium sulphate	0	20	5
3104.90	Other	0	20	15
3105	Mineral or chemical fertilisers containing two or three of the fertilising elements nitrogen, phosphorus and potassium; other fertilisers; goods of this chapter in tablets or similar forms or in packages of a gross weight not exceeding 10 kg			
3105.10	Goods of this Chapter in tablets or similar forms or in packages of a gross mass not exceeding 10 kg	0	20	15
3105.20	Mineral or chemical fertilisers containing the three fertilising elements nitrogen, phosphorous and potassium	0	20	5
3105.30	Diammonium hydrogenorthophosphate (diammonium phosphate)	0	20	5
3105.40	Ammonium dihydrogenorthophosphate (mono-ammonium phosphate) and mixtures thereof with diammonium hydrogenorthophosphate (diammonium phosphate)	0	20	5
3105.5	- other mineral or chemical fertilisers containing the two fertilising elements nitrogen and phosphorus :			
3105.51	Containing nitrates and phosphates	0	20	5
3105.59	Other	0	20	5
3105.60	Mineral or chemical fertilisers containing the two fertilising elements phosphorous and potassium	0	20	5
3105.90	Other	0		
[3105.90.10]	[Mineral or chemical fertilisers containing the two fertilising elements nitrogen and potassium]		20	5

Chapter 32 - Tanning or dyeing extracts, tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics.

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if	
		SA January 05 06	India January 05 06
Chapter 32	Tanning or dyeing extracts, tannins and their derivatives; dyes, pigments and other colouring matter; paints and varnishes; putty and other mastics; inks		
3201	Tanning extracts of vegetable origin; tannins and their salts, ethers, esters and other derivatives		

3201.10	Quebracho extract	0	20	15
3201.20	Wattle extract	0	20	15
3201.90	Other	0		
	[Gambier extracts]		20	15
[3201.90.10]	[Myrobalan fruit extract]		20	15
3202	Synthetic organic tanning substances; inorganic tanning substances; tanning preparations, whether or not containing natural tanning substances; enzymatic preparations for pre-tanning			
3202.10	Synthetic organic tanning substances	0	20	15
3202.90	Other	0		
	[Inorganic tanning substances]		20	15
[3202.90.10]	[Tanning preparations, whether or not containing natural tanning substances]		20	15
3203	Colouring matter of vegetable or animal origin (including dyeing extracts but excluding animal black), whether or not chemically defined; preparations as specified in note 3 to this chapter based on colouring matter of vegetable or animal origin			
3203.00	Colouring matter of vegetable or animal origin (including dyeing extracts but excluding animal black), whether or not chemically defined; preparations as specified in Note 3 to this chapter based on colouring matter of vegetable or animal origin	0		
			20	15
[3203.00.10]	[Cutch (catechu) extracts]		20	15
3204	Synthetic organic colouring matter whether or not chemically defined; preparations as specified in Note 3 to this Chapter based on synthetic organic colouring matter; synthetic organic products of the kind used as fluorescent brightening agents or as luminophores, whether or not chemically defined			
3204.1	- synthetic organic colouring matter and preparations based thereon as specified in note 3 to this chapter :			
3204.11	Disperse dyes and preparations based thereon	0		
	<i>[Disperse yellow :]</i>			
	[Disperse yellow 13 (duranol brill yellow 6 G)]		20	15
[3204.11.11]	[Other]		20	15
	<i>[Disperse orange :]</i>			
[3204.11.19]	[Disperse orange 11 (duranol orange G)]		20	15
	[Other]		20	15
	<i>[Disperse Red :]</i>			
[3204.11.21]	[Disperse red 3 (serisol fast pink B)]		20	15
	[Disperse red 4 (celliton fast pink RF)]		20	15
[3204.11.29]	[Disperse red 9 (duranol red GN)]		20	15
	[Other]		20	15

[3204.11.53]	[Disperse blue 5 (celliton fast blue FFB)]		20	15
	[Disperse blue 6 (celliton fastblue FFG)]		20	15
[3204.11.54]	[Disperse blue 14 (duranol brill blue G)]		20	15
	[Disperse blue 24 (duranol blue 2G)]		20	15
[3204.11.55]	[Other]		20	15
	<i>[Other :]</i>			
[3204.11.56]	[Disperse greens]		20	15
	[Disperse browns]		20	15
[3204.11.59]	[Disperse blacks]		20	15
	[Disperse brown mixtures]		20	15
[3204.11.91]	[Disperse grey mixtures]		20	15
	[Disperse black mixtures]		20	15
	[Other]		20	15

3204.12	Acid dyes, whether or not premetallised, and preparations based thereon; mordant dyes and preparations based thereon [:]	0		
	<i>[Azo dyes :]</i>			
	[Acid yellows]		20	15
[3204.12.11]	[Acid oranges]		20	15
	[Acid red]		20	15
[3204.12.12]	[Acid violets]		20	15
	[Acid blues]		20	15
[3204.12.13]	[Acid greens]		20	15
	[Acid brown]		20	15
[3204.12.14]	[Acid blacks]		20	15
	[Other]		20	15
[3204.12.15]	<i>[Acid greens (non-azo) :]</i>			
	[Acid green 17 (solacet fast green 2G)]		20	15
[3204.12.16]	[Acid green 27 (carbolan green G)]		20	15
	[Acid green 28 (carbolan brill green 5G)]		20	15
[3204.12.17]	[Acid green 38 (alizarine cyanine green 3G)]		20	15
	[Acid green 44 (alizarine cyanine green GWA)]		20	15
[3204.12.18]	[Other]		20	15
	<i>[Acid Black (non-azo) :]</i>			
[3204.12.19]	[Acid black 2 (nigrosine)]		20	15
	[Acid black 48 (coomasie fast grey 3G)]		20	15
	[Other]		20	15
[3204.12.21]	<i>[Acid Blues 2, 14, 23, 25, 45, 51, 52 & 78 (non-azo) :]</i>			
	[Acid blue 2 (alizarine brill blue PFN)]		20	15
[3204.12.22]	[Acid blue 14 (solacet fast blue 4 G1)]		20	15
	[Acid blue 23 (alizarine light blue 4G1)]		20	15
[3204.12.23]	[Acid blue 25 (solway ultra blue B)]		20	15
	[Acid blue 45 (solway blue RN)]		20	15
[3204.12.24]	[Acid blue 51 (alizarine sky blue FFB)]		20	15
	[Acid blue 52 (alizarine light-5GL)]		20	15
[3204.12.25]	[Acid blue 78 (solway sky blue B)]		20	15
	<i>[Acid Blues 93, 112, 127, 138, 140 and others (non-azo) :]</i>			
[3204.12.29]	[Acid blue 93 (ink blue)]		20	15
	[Acid blue 112 (coomasie ultra sky SE)]		20	15
	[Acid blue 127 (brill alizarine milling blue G)]		20	15
[3204.12.31]	[Acid blue 138 (carbolan blue B)]		20	15
	[Acid blue 140 (carbolan brill blue 2R)]		20	15
[3204.12.32]	[Other]		20	15

3204.13				
[3204.13.10]	Basic dyes and preparations based thereon	0	20	15
	[Basic azo dyes]			
	<i>[Basic yellow (non-azo) :]</i>			
[3204.13.21]	[Yellow 2 (Auramine O)]		20	15
	[Other]		20	15
[3204.13.29]				
	<i>[Basic Red (non-azo) :]</i>			
	[Red 1 (Rhodamine 6 G)]		20	15
[3204.13.31]	[Other]		20	15
	<i>[Basic Violet (non-azo) :]</i>			
[3204.13.39]	[Violet 1 (methyl violet)]		20	15
	[Violet 10 (Rhodamine B)]		20	15
	[Violet 14 (magenta)]		20	15
[3204.13.41]	[Other]		20	15
	<i>[Basic Blue (non-azo) :]</i>			
[3204.13.42]	[Blue 9 (methylene blue)]		20	15
	[Blue 16 (victoria blue B)]		20	15
[3204.13.43]	[Other]		20	15

3204.14	Direct dyes and preparations based thereon	0	
	<i>[Direct yellow (azo) :]</i>		
	[Yellow 12 (chrysophenine G)]		20 15
[3204.14.11]	[Other]		20 15
	<i>[Direct Red (azo) :]</i>		
[3204.14.19]	[Congo red]		20 15
	[Other]		20 15
	<i>[Direct Blue (azo) :]</i>		
[3204.14.21]	[Blue 1 (sky blue FF)]		20 15
	[Other]		20 15
[3204.14.29]	[Direct oranges (azo)]		20 15
	[Direct greens (azo)]		20 15
	[Direct browns (azo)]		20 15
[3204.14.31]	[Direct blacks (azo)]		20 15
	<i>[Direct dyes (non-azo) :]</i>		
[3204.14.39]	[Yellows]		20 15
	[Oranges]		20 15
[3204.14.40]	[Reds]		20 15
	[Violets]		20 15
[3204.14.50]	[Blues]		20 15
	[Greens]		20 15
[3204.14.60]	[Browns]		20 15
	[Blacks]		20 15
[3204.14.70]	[Other]		20 15
3204.15	Vat dyes (including those usable in that state as pigments) and preparations based thereon	0	
	<i>[Vat yellow :]</i>		
	[Vat yellow 2 (GC)]		20 15
[3204.15.11]	[Vat yellow 4 (indathrene golden yellow GK)]		20 15
	[Other]		20 15
[3204.15.12]	<i>[Vat orange :]</i>		
	[Vat orange 3 (brill orange RK)]		20 15
[3204.15.19]	[Vat orange 15 (golden orange 3G)]		20 15
	[Other]		20 15
	<i>[Vat Red :]</i>		
[3204.15.21]	[Vat red (brill pink)]		20 15
	[Other]		20 15
[3204.15.22]	<i>[Vat violet :]</i>		
	[Vat violet 1 (brill violet 2R)]		20 15
[3204.15.29]	[Vat violet 3 (magenta B)]		20 15
	[Other]		20 15
	<i>[Vat Blue :]</i>		

[3204.15.63]	[Vat green 4 (indanthrene brill green 3B)]		20	15
	[Vat green 9 (black BB)]		20	15
	[Other]		20	15
[3204.15.64]	[Vat Brown :]			
	[Vat brown 1 (brown BR)]		20	15
[3204.15.69]	[Vat brown 3 (brown RGR)]		20	15
	[Vat brown 5 (brown RRD, G)]		20	15
	[Other]		20	15
[3204.15.71]	[Vat Black :]			
	[Vat black 9 (black RB)]		20	15
[3204.15.72]	[Vat black 25 (olive T)]		20	15
	[Vat black 27 (olive R)]		20	15
[3204.15.73]	[Vat black 29 (grey BG)]		20	15
	[Other]		20	15
3204.16	Reactive dyes and preparations based thereon	0		
[3204.16.10]	[Yellows]		20	15
	[Oranges]		20	15
[3204.16.20]	[Reds]		20	15
	[Violets]		20	15
[3204.16.30]	[Blues]		20	15
	[Greens]		20	15
[3204.16.40]	[Browns]		20	15
	[Blacks]		20	15
[3204.16.50]	[Other]		20	15
3204.17	- pigments and preparations based thereon :			
3204.17.10	Azo pigments of the following description and International Colour Index Numbers:- C.I. Pigment, Yellow 1, No. 11680- C.I. Pigment, Yellow 3, No. 11710- C.I. Pigment, Yellow 12, No. 21090- C.I. Pigment, Yellow 13, No. 21100- C.I. Pigment, Yellow 14, No. 21095- C.I. Pigment, Orange 13, No. 21110- C.I. Pigment, Red 4, No. 12085- C.I. Pigment, Red 57, No. 15850- C.I. Pigment, Red 48:2, No. 15865- C.I. Pigment, Red 48:4, No. 15865	10		
[-]				

	<i>[Pigment yellow :]</i>		
	[Yellow 1 (hansa yellow)]		20 15
[3204.17.11]	[Other]		20 15
	[Pigment oranges]		20 15
[3204.17.19]	<i>[Pigment red :]</i>		
	[Toluidine red]		20 15
[3204.17.20]	[Other]		20 15
	[Pigment violets]		20 15
	<i>[Pigment blues :]</i>		
[3204.17.31]	[Blue 15 (pathalocyanine blue)]		20 15
3204.17.90	Other	0	20 15
3204.19	- other, including mixtures of colouring matter of two or more of the subheadings 3204.11 to 3204.19 :		
3204.19.10	Mixtures based on azo pigments of the following description and International Colour Index Numbers:- C.I. Pigment, Yellow 1, No. 11680- C.I. Pigment, Yellow 3, No. 11710- C.I. Pigment, Yellow 12, No. 21090- C.I. Pigment, Yellow 13, No. 21100- C.I. Pigment, Yellow 14, No. 21095- C.I. Pigment, Orange 13, No. 21110- C.I. Pigment, Red 4, No. 12085- C.I. Pigment, Red 57, No. 15850- C.I. Pigment, Red 48:2, No. 15865- C.I. Pigment, Red 48:4, No. 15865	10	
	<i>[Azoic Coupling Components 2, 4, 5, 7, 8, 13 :]</i>		
	[Azoic coupling component 2 (naphthol AS)]		20 15
[3204.19.11]	[Azoic coupling component 4 (naphthol AS-BO)]		20 15

	[Azoic coupling component 8 (naphthol ASTR)]		20	15
[3204.19.15]	[Azoic coupling component 13 (naphthol ASSG)]		20	15
	<i>[Azoic Coupling Components 14, 15, 17, 18, 20 and Others :]</i>			
[3204.19.16]	[Azoic coupling component 14 (naphthol ASPH)]		20	15
	[Azoic coupling component 15 (naphthol ASLB)]		20	15
	[Azoic coupling component 17 (naphthol ASBS)]		20	15
[3204.19.21]	[Azoic coupling component 18 (naphthol ASD)]		20	15
	[Azoic coupling component 20 (naphthol ASOL)]		20	15
[3204.19.22]	[Other]		20	15
	<i>[Azoic Diazo Components 1, 2, 3, 4, 5, 6, 10, 11 :]</i>			
[3204.19.23]	[Azoic diazo component 1 (fast bordeaux GP base)]		20	15
	[Azoic diazo component 2 (fast orange G/GC base)]		20	15
[3204.19.24]	[Azoic diazo component 3 (fast scarlet GGIGGS base)]		20	15
	[Azoic diazo component 4 (fast garment GBC base)]		20	15
[3204.19.25]	[Azoic diazo component 5 (fast red B base)]		20	15
	[Azoic diazo component 6 (fast orange GR base)]		20	15
[3204.19.29]	[Azoic diazo component 10 (fast red R base)]		20	15
	[Azoic diazo component 11 (fast red TR base)]		20	15
	<i>[Azoic Diaze Component 12, 13, 20, 24, 32, 41, 48 and others :]</i>			
[3204.19.31]	[Azoic diazo component 12 (fast scarlet G base)]		20	15
	[Azoic diazo component 13 (fast scarlet R base)]		20	15
[3204.19.32]	[Azoic diazo component 20 (fast blue BB base)]		20	15
	[Azoic diazo component 24 (fast blue RR base)]		20	15
[3204.19.33]	[Azoic diazo component 32 (fast red KB base)]		20	15
	[Azoic diazo component 41 (fast violet B base)]		20	15
[3204.19.34]	[Azoic diazo component 48 (fast blue B base)]		20	15
	[Other]		20	15
[3204.19.35]	<i>[Azoic colours :]</i>			
	[Yellows]		20	15
[3204.19.36]	[Oranges]		20	15
	[Reds]		20	15
[3204.19.37]	[Violets]		20	15
	[Blues]		20	15
[3204.19.38]	[Greens]		20	15
	[Browns]		20	15
	[Blacks]		20	15
[3204.19.41]	[Other]		20	15
	<i>[Sulphur based colouring matters :]</i>			
[3204.19.42]	[Yellows]		20	15
	[Oranges]		20	15
3204.19.90	Other	0	20	15

3204.20	Synthetic organic products of a kind used as fluorescent brightening agents [Optical whitening agents]	0	20 15
3204.90	Other	0	20 15
3205	Colour lakes; preparations as specified in Note 3 to this Chapter based on colour lakes		
3205.00	Colour lakes; preparations as specified in Note 3 to this Chapter based on colour lakes	0	20 15
3206	Other colouring matter; preparations as specified in Note 3 to this Chapter (excluding those of heading 3203, 3204 or 3205); inorganic products of a kind used as luminophores, whether or not chemically defined		
3206.1	- pigments and preparations based on titanium dioxide :		
3206.11	Containing 80 per cent or more by mass of titanium dioxide calculated on the dry matter	10	20 15
3206.19	- other :		
[3206.19]	[Other]		20 15
3206.19.10	Titanium dioxide coated mica	0	
[-]	[-]		
3206.19.90	Other	10	
[-]	[-]		
3206.20	- pigments and preparations based on chromium compounds :		
[3206.20]	[Pigments and preparations based on chromium compounds]		20 15
3206.20.10	Pigments and preparations based on chrome oxide green, lead chromate, zinc chromate, barium chromate or strontium chromate, inorganic pigments of the following description and International Colour Index Numbers:- C.I. Pigment, Yellow 34, No. 77603- C.I. Pigment, Yellow 34, No. 77600- C.I. Pigment, Red 104, No. 77605- C.I. Pigment, Red 104 and 84:4, No. 77605 and No. 15865- C.I. Pigment, Green 15, No. 77603 and No. 77520- C.I. Pigment, Green 13, No. 77603 and No 74200- C.I. Pigment, Green 17, No. 77288- C.I. Pigment, Yellow 32, No. 77839- C.I. Pigment, Yellow 36, No. 77955	10	
[-]			
3206.20.90	Other	0	
[-]	[-]		
3206.30	Pigments and preparations based on cadmium compounds	0	20 15
3206.4	- other colouring matter and other preparations :		
3206.41	Ultramarine and preparations based thereon	0	20 15
3206.42	Lithopone and other pigments and preparations based on zinc sulphide	0	20 15
3206.43	- pigments and preparations based on hexacyanoferrates (ferrocyanides and ferricyanides) :		
[3206.43]	[Pigments and preparations based on hexacyanoferrates (ferrocyanides and ferricyanides)]		20 15
3206.43.10	Inorganic pigments of the following description and International Colour Index Number: - C.I. Pigment, Blue 27, No. 77510	10	

3206.43.90	Other	0	
[-]	[-]		
3206.49	- other :		
3206.49.10	Black masterbatch	10	
[3206.49.10]	[Red oxide]		20 15
	[Persian red]		20 15
	[Yellow ochre]		20 15
	[Bronze powder]		20 15
3206.49.90	Other	0	20 15
3206.50	Inorganic products of a kind used as luminophores	0	20 15
3207	Prepared pigments, prepared opacifiers and prepared colours, vitrifiable enamels and glazes, engobes (slips), liquid lustres and similar preparations, of a kind used in the ceramic, enamelling or glass industry; glass frit and other glass, in the form of powder, granules or flakes		
3207.10	Prepared pigments, prepared opacifiers, prepared colours and similar preparations	0	
[3207.10.10]	[Prepared organic dye-stuff, pigments, dry]		20 15
	[Prepared organic dye-stuff, pigments, paste]		20 15
	[Prepared inorganic pigments]		20 15
3207.20	Vitrifiable enamels and glazes, engobes (slips) and similar preparations	0	
	[Vitrifiable enamels and glazes]		20 15
3207.30	Liquid lustres and similar preparations	0	20 15
3207.40	Glass frit and other glass, in the form of powder, granules or flakes	10	20 15
3208	Paints and varnishes (including enamels and lacquers) based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in a non-aqueous medium; solutions as defined in Note 4 to this Chapter		
3208.10	Based on polyesters	10	
	[Enamels]		20 15
[3208.10.10]	[Lacquers]		20 15
3208.20	Based on acrylic or vinyl polymers	10	
	[Enamels]		20 15
[3208.20.10]	[Lacquers]		20 15
3208.90	- other :		
	<i>[Based on cellulose nitrate or other cellulose derivatives :]</i>		
	[Nitrocellulose lacquers]		20 15
[3209.90.11]	[Other]		20 15
	<i>[Enamels :]</i>		
[3209.90.19]	[Synthetic enamel, ultra white paints]		20 15
3208.90.30	Solutions as defined in Note 4 to this Chapter, of silicones	0	
	[Lacquers]		20 15
	<i>[Varnishes :]</i>		
	[Insulating varnish]		20 15
[3209.90.41]	[Other]		20 15
3208.90.90	Other	10	20 15

3209	Paints and varnishes (including enamels and lacquers) based on synthetic polymers or chemically modified natural polymers, dispersed or dissolved in an aqueous medium		
3209.10	Based on acrylic or vinyl polymers [Acrylic emulsion]	10	20 15
3209.90	Other [Dispersion paints]	10	20 15
[3209.90.10]	[Emulsion paints not elsewhere specified or included]		20 15
	[Other]		20 15
3210	Other paints and varnishes (including enamels, lacquers and distempers); prepared water pigments of a kind used for finishing leather		
3210.00	Other paints and varnishes (including enamels, lacquers and distempers); prepared water pigments of a kind used for finishing leather <i>[Distempers :]</i>	10	
[3210.00.11]	[Dry distemper, including cement based water paints]		20 15
	[Oil bound distemper]		20 15
[3210.00.12]	[Other]		20 15
	[Prepared water pigments of a kind used for finishing leather]		20 15
[3210.00.19]	[metallic powder or flakes prepared as paints]		20 15
	[Poly Tetra Fluoro Ethylene (PTFE) or Silicon resin based coating materials]		20 15
[3210.00.20]	[Other]		20 15
3211	Prepared driers		
3211.00	Prepared driers	0	20 15
3212	Pigments (including metallic powders and flakes) dispersed in non-aqueous media, in liquid or paste form, of a kind used in the manufacture of paints (including enamels); stamping foils; dyes and other colouring matter put up in forms or packing for retail sale		
3212.10	Stamping foils	0	20 15
3212.90	- other :		
3212.90.10	Aluminium powders or flakes dispersed in non-aqueous media [Pigments in linseed oil, white spirit, spirit of turpentine, varnish and other paints or [Dyes and colouring matter put up in forms or packings for retail sale]	10	20 15
	[Aluminium paste]		20 15
3212.90.90	Other	0	20 15
3213	Artists', students' or signboard painters' colours, modifying tints, amusement colours and the like, in tablets, tubes, jars, bottles, pans or in similar forms or packings		
3213.10	Colours in sets	0	20 15
3213.90	Other	0	20 15

3214	Glaziers' putty, grafting putty, resin cements, caulking compounds and other mastics; painters' fillings; non-refractory surfacing preparations for facades, indoor walls, floors, ceilings or the like		
3214.10	Glaziers putty, grafting putty, resin cements, caulking compounds and other mastics; painters fillings	0	20 15
3214.90	Other	0	20 15
[3214.90.10]	[Non-refractory surface preparations]		20 15
	[Resin cement]		20 15
	[Other]		20 15
3215	Printing ink, writing or drawing ink and other inks, whether or not concentrated or solid		
3215.1	- printing ink :		
3215.11	Black	0	
[3215.11.10]	[Lithographic ink and jelly]		20 15
	[Newspaper ink]		20 15
[3215.11.20]	[Rotary ink]		20 15
	[Screen printing ink]		20 15
[3215.11.30]	[Other]		20 15
3215.19	Other	0	
[3215.19.10]	[Lithographic ink and jelly]		20 15
	[Newspaper ink]		20 15
[3215.19.20]	[Rotary ink]		20 15
	[Screen printing ink]		20 15
[3215.19.30]	[Other]		20 15
3215.90	Other	0	
[3215.90.10]	[Fountain pen ink]		20 15
	[Ball pen ink]		20 15
[3215.90.20]	[Indelible ink]		20 15
	[Drawing ink]		20 15
[3215.90.30]	[Other]		20 15

Chapter 33 - Essential oils and resinoids; perfumery, cosmetic or toilet preparations

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % Ad valorem	
		SA January 05 06	India January 05 06
Chapter 33	Essential oils and resinoids; perfumery, cosmetic or toilet preparations		
3301	Essential oils (terpeneless or not), including concretes and absolutes; resinoids; extracted oleoresins; concentrates of essential oils in fats, in fixed oils, in waxes or the like, obtained by enfleurage or maceration; terpenic by-products of the deterpenation of essential oils; aqueous distillates and aqueous solutions of essential oils		
3301.1	- essential oils of citrus fruit :		
3301.11	Of bergamot	0	20 20*
3301.12	Of orange	0	20 20*
3301.13	Of lemon	0	20 20*
3301.14	Of lime	0	20 20*
3301.19	Other [Citronella oil]	0	20 20*
3301.2	- essential oils other than those of citrus fruit :		
3301.21	Of geranium	0	20 20*
3301.22	Of jasmin [Jasmine concentrate]	0	20 20*
[3301.22.10]	[Other]		20 20*
3301.23	Of lavender or of lavandin	0	20 20*
3301.24	Of peppermint (MENTHA PIPERITA)	0	20 20*
3301.25	Of other mints [Spearmint oil (Ex-menta spicata)]	0	20 20*
[3301.25.10]	[Water-mint oil (Ex-mentha aquatic)]		20 20*
	[Horsemint oil (Ex-mentha sylvestries)]		20 20*
[3301.25.20]	[Bergament oil (Ex-mentha citrare)]		20 20*
	[Other]		20 20*
3301.26	Of vetiver	0	20 20*

3301.29			
[3301.29.11]	Other	0	
[3301.29.12]	[Anise oil; Cajeput oil; Cananga oil; Caraway oil; Cassia oil; Cedarwood oil; Cinnamon bark oil; Cinnamon leaf oil :]		
[3301.29.13]	[Anise oil (aniseed oil)]	20	20*
	[Cajeput oil]	20	20*
[3301.29.14]	[Cananga oil]	20	20*
	[Caraway oil]	20	20*
[3301.29.15]	[Cassia oil]	20	20*
	[Cedarwood oil]	20	20*
[3301.29.16]	[Cinnamon bark oil]	20	20*
	[Cinnamon leaf oil]	20	20*
[3301.29.17]	[Clove leaf/stem oil; Coriander seed oil; Dill oil; Eucalyptus oil; Fennel seed oil; Ginger oil; Ginger grass oil; Clove bud oil :]		
[3301.29.18]	[Clove leaf/stem oil]	20	20*
	[Coriander seed oil]	20	20*
	[Dill oil (anethum oil)]	20	20*
	[Eucalyptus oil]	20	20*
[3301.29.21]	[Fennel seed oil]	20	20*
	[Ginger oil]	20	20*
[3301.29.22]	[Ginger grass oil]	20	20*
	[Clove bud oil]	20	20*
[3301.29.23]	[Tuberose concentrate; Nutmeg oil; Palmarosa oil; Patchouli oil; Pepper oil; Petitgrain oil; Sandalwood oil; Rose oil :]		
[3301.29.24]	[Tuberose concentrare]	20	20*
	[Nutmeg oil]	20	20*
[3301.29.25]	[Palmarosa oil]	20	20*
	[Patchouli oil]	20	20*
[3301.29.26]	[Pepper oil]	20	20*
	[Petitgrain oil]	20	20*
[3301.29.27]	[Sandalwood oil]	20	20*
	[Rose oil]	20	20*
[3301.29.28]			
[3301.29.31]			

[3301.29.32]			
[3301.29.33]			
[3301.29.34]			
[3301.29.35]			
[3301.29.36]			
[3301.29.37]			
[3301.29.38]			
[3301.29.41]	[Camphor oil; Lemon grass oil; Ylang ylang oil; Davana oil; Cumin oil; Neem oil; Spices oil n.e.s.; Celery seed oil :] [Camphor oil] [Lemon grass oil]		20 20*
[3301.29.42]	[Ylang ylang oil] [Davana oil]		20 20*
[3301.29.43]	[Cumin oil] [Celery seed oil]		20 20*
[3301.29.44]	[Garlic oil] [Paprika oil]		20 20*
[3301.29.45]	[Turmeric oil] [Spices oils not elsewhere specified or included]		20 20*
[3301.29.46]	[Other]		20 20*
3301.30	Resinoids	0	
[3301.30.10]	[Agar oil] [Other :]		20 20*
3301.90	- other :		
3301.90.10 [-]	Aqueous distillates and aqueous solutions of essential oils [-]	20	

	[Fennugreek, Ginger, Pepper, Turmeric, Cardamon, Celery seed & Nutmeg Oleoresins :]		
[3301.90.11]	[Fennugreek oleoresins]	20	20*
	[Ginger oleoresins]	20	20*
[3301.90.12]	[Pepper oleoresins]	20	20*
	[Turmeric oleoresins]	20	20*
[3301.90.13]	[Cardamon oleoresins]	20	20*
	[Celery seed oleoresins]	20	20*
[3301.90.14]	[Nutmeg oleoresins]	20	20*
3301.90.20 [-]	Extracted oleoresins obtained from extraction of opium [-]	15	
	[Clove, Capsicum, Coriander, Cumin & Fennel Oleoresins and oleoresins of spices now elsewhere specified :]		
[3301.90.21]	[Clove oleoresins]	20	20*
	[Capsicum oleoresins]	20	20*
[3301.90.22]	[Coriander oleoresins]	20	20*
	[Cumin oleoresins]	20	20*
[3301.90.23]	[Fennel oleoresins]	20	20*
	[Oleoresins of spices not elsewhere specified]	20	20*
[3301.90.24]			
3301.90.30 [-]	Extracted oleoresins obtained from extraction of liquorice [-]	15	
	[Attars of all kinds in fixed oil base; Mustard oil aroma E. oil Essence of ambrettolide (ambrette seed oil essence :)]		
	[Attars of all kinds in fixed oil base]	20	20*
3301.90.40 [-]	Extracted oleoresins obtained from extraction of hops [-]	0	
	[Concentrates of essential oils in fats, in fixed oils or in waxes or the like, obtained by cold absorption or by maceration not elsewhere specified :]		
[3301.90.41]	[Flavouring essences all types (including those for liquors)]	20	20*
	[Other]	20	20*
3301.90.50 [-]	Extracted oleoresins obtained from extraction of pyrethrum or of the roots of plants containing rotenone [-]	0	
	[Terpenic by-products of the deterpenation of essential oils :]		
[3301.90.51]	[Flavouring essences all types (including those for liquors)]	20	20*
	[Other]	20	20*
3301.90.60	Other extracted oleoresins obtained from extraction of natural cellular raw plant materials, suitable for pharmaceutical purposes	15	
	[Aqueous distillates of essential oils, not elsewhere specified]	20	20*

	[Aqueous solutions of essential oils :] [Flavouring essences all types including those for liquors]		20	20*
3301.90.80	Extracted oleoresins, of a kind used in the food industry, obtained from the extraction of paprika	15		
3301.90.90	Other	0	20	20*
3302	Mixtures of odoriferous substances and mixtures (including alcoholic solutions) with a basis of one or more of these substances, of a kind used as raw materials in industry; other preparations based on odoriferous substances, of a kind used for the manufacture of beverages			
3302.10	Of a kind used in the food or drink industries	0	20	100 ^W
[3302.10.10]	[Synthetic flavouring essences] [Other]		20	100 ^W
3302.90	- other :			
3302.90.10	Containing, by volume, 50 per cent or more ethyl or propyl alcohol (excluding perfume bases)	10		
[3302.90.11]	[Mixtures of Aromatic chemicals and essential oils as perfume base :] [Synthetic perfumery compounds]		20	20*
[3302.90.12]	[Synthetic essential oil] [Other]		20	20*
	[Aleuritic acid]		20	20*
3302.90.90	Other	0		
3303	Perfumes and toilet waters			
3303.00	Perfumes and toilet waters	20		
[3303.00.10]	[Eu-de-cologne] [Rose water] [Keora water]		20	15
[3303.00.20]	[Perfumes and perfumery compounds not containing spirit (excluding aqueous distillates)]		20	15
[3303.00.30]	[Perfumes containing spirit] [Spirituuous toilet preparations not elsewhere specified]		20	15
3304	Beauty or make-up preparations and preparations for the care of the skin (other than medicaments), including sunscreen or sun tan preparations; manicure or pedicure preparations			
3304.10	Lip make-up preparations	20	20	15
3304.20	Eye make-up preparations	20	20	15
3304.30	Manicure or pedicure preparations	20	20	15
3304.9	- other :			

3304.91	Powders, whether or not compressed	20		
	[Face powders]		20	15
[3304.91.10]	[Talcum powders]		20	15
[3304.91.20]	[Other]		20	15
3304.99				
[3304.99.10]	Other	20		
[3304.99.20]	[Face creams]		20	15
	[Nail polish / lacquers]		20	15
[3304.99.30]	[Moisturising lotion]		20	15
	[Sindus, bindi, kumkum]		20	15
[3304.99.40]	[Turmeric preparations all types]		20	15
	[Other]		20	15
[3304.99.50]				
[3304.99.90]				
3305	Preparations for use on the hair			
3305.10	Shampoos	20		
	[Containing spirit]		20	15
3305.20	Preparations for permanent waving or straightening	20	20	15
3305.30	Hair lacquers	20	20	15
3305.90	Other	20		
	[Hair oil :]			
	[Perfumed]		20	15
[3305.90.11]	[Other]		20	15
	[Brilliantines (spirituous)]		20	15
[3305.90.19]	[Hair cream]		20	15
	[Hair dyes (natural, herbal or synthetic)]		20	15
[3305.90.20]	[Hair fixes]		20	15
	[Other]		20	15
3306	Preparations for oral or dental hygiene, including denture fixative pastes and powders; yarn used to clean between the teeth (dental floss), in individual retail packings			
3306.10.00	Dentifrices	10		
	[In powder]		20	15
[3306.10.10]	[In paste]		20	15
[3306.10.20]	[Other]		20	15
3306.2	- yarn used to clean between the teeth (dental floss) :			
[3306.20]	[Yarn used to clean between the teeth (dental floss)]		20	15

3306.20.10 [-]	Of high tenacity aramid yarn [-]	0	
3306.20.90 [-]	Other [-]	15	
3306.90	Other	10	20 15
3307	Pre-shave, shaving or after-shave preparations, personal deodorants, bath preparations, depilatories and other perfumery, cosmetic or toilet preparations, not elsewhere specified or included; prepared room deodorisers, whether or not perfumed or having disinfectant properties		
3307.1	- pre-shave, shaving or after-shave preparations :		
3307.10.10	Styptic pencils [Shaving cream]	15	20 15
3307.10.90	Other	20	20 15
3307.20	Personal deodorants and anti-perspirants	20	20 15
3307.30	Perfumed bath salts and other bath preparations [Bath oil (thailam)]	20	20 15
3307.4	- preparations for perfuming or deodorizing rooms, including odoriferous preparations used during religious rites :		
3307.41	"Agarbatti" and other odoriferous preparations which operate by burning	0	20 15
3307.49	Other	10	20 15
3307.9	- other :		
3307.90.10 [3307.90.10]	Contact lens or artificial eye solutions, including soluble tablets [Depilatories]	0	20 15
	[Sterile contact lens care solution]		20 15
3307.90.90	Other	20	20 15

Chapter 34 - Soap; organic surface-active products and preparations for use as soap, in the form of bars, cakes, moulded pieces or shapes, whether or not containing soap; organic surface-active products and preparations for washing the skin, in the form of liquid or cream put up for retail sale, whether or not containing soap; paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % <i>Ad valorem</i>	
		SA January 05 06	India January 05 06
Chapter 34	Soap; organic surface-active products and preparations for use as soap, in the form of bars, cakes, moulded pieces or shapes, whether or not containing soap; organic surface-active products and preparations for washing the skin, in the form of liquid or cream put up for retail sale, whether or not containing soap; paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent		
3401	Soap; organic surface-active products and preparations for use as soap, in the form of bars, cakes, moulded pieces or shapes, whether or not containing soap; paper, wadding, felt and non-wovens, impregnated, coated or covered with soap or detergent		
3401.1	- soap and organic surface-active products and preparations, in the form of bars, cakes, moulded pieces or shapes, and paper, wadding, felt and nonwovens, impregnated, coated or covered with soap or detergent :		
3401.11	For toilet use (including medicated products)	20	
[3401.11.10]	[Medicated toilet soaps]		20 15
	[Shaving soaps other than shaving cream]		20 15
[3401.11.20]	[Other]		20 15

3401.19	Other <i>[Bars and blocks of not less than 500 grammes in weight :]</i>	20		
[3401.19.11]	[Industrial soap]		20	15
	[Other]		20	15
[3401.19.19]	[Flakes, chips and powder]		20	15
	[Tablets and cakes]		20	15
[3401.19.20]	<i>[Household and laundry soaps not elsewhere specified or included :]</i>			
	[Households soaps]		20	15
[3401.19.30]	[Laundry soaps]		20	15
	[Other]		20	15
3401.20	Soap in other forms	20	20	15
3401.30	Organic surface-active products and preparations for washing the skin, in the form of liquid or cream and put up for retail sale, whether or not containing soap <i>[For toilet use (including medicated products) :]</i>	20		
	[Medicated toilet soaps]		20	15
[3401.30.11]	[Shaving cream and shaving gel]		20	15
	[Other]		20	15
[3401.30.12]	[Other]		20	15
3402	Organic surface-active agents (excluding soap); surface-active preparations, washing preparations (including auxiliary washing preparations) and cleaning preparations, whether or not containing soap, (excluding those of heading 3401)			
3402.1	- organic surface-active agents, whether or not put up for retail sale :			
3402.11	- anionic :			
3402.11.10	In immediate packings of a content not exceeding 10 kg	20		
[3402.11.10]	[Silicon surfactant]		20	15 ^π
3402.11.20	In immediate packings of a content exceeding 10 kg	15		
[-]	[-]			
	[Other]		20	15 ^π
3402.12	Cationic	20	20	15 ^π
3402.13	Non-ionic	20	20	15 ^π
3402.19	Other	20	20	15 ^π
3402.20	Preparations put up for retail sale	20		
	[Washing preparations (including auxiliary washing preparations) and cleaning preparations, having a basis of soap or other organic surface-active agents]		20	15
[3402.20.10]	[Cleaning or degreasing preparations not having a basis of soap or other organic surface-active agents]		20	15
3402.90	Other <i>[Synthetic detergents :]</i>	20		
	[Washing preparations (including auxiliary washing preparations) and cleaning		20	15

[3402.90.12]	[Cleaning or degreasing preparations not having a basis of soap or other organic surface-active agents]		20	15
	[Other]		20	15
[3402.90.19]	[Sulphonated / sulphated / oxidized / chlorinated castor oil; Sulphonated / sulphated / oxidized / chlorinated fish oil; Sulphonated / sulphated / oxidized / chlorinated sperm oil and Sulphonated / sulphated / oxidized / chlorinated neats foot oil]		20	15
[3402.90.20]	[Penetrators]		20	15
	[Wetting agents :]		20	15
[3402.90.30]	[Washing preparations (including auxiliary washing preparations) and cleaning preparations, having a basis of soap or other organic surface-active agents]		20	15
	[Cleaning or degreasing preparations not having a basis of soap or other organic surface-active agents]		20	15
[3402.90.41]	[Other]		20	15
	[Washing preparations whether or not containing soaps :]		20	15
3403	Lubricating preparations (including cutting-oil preparations, bolt or nut release preparations, anti-rust or anti-corrosion preparations and mould release preparations, based on lubricants) and preparations of a kind used for the oil or grease treatment of textile materials, leather, furskins or other materials, but excluding preparations containing, as basic constituents, 70 % or more by mass of petroleum oils or of oils obtained from bituminous minerals			
3403.1	- containing petroleum oils or oils obtained from bituminous minerals :			
3403.11	Preparations for the treatment of textile materials, leather, furskins or other materials	0	20	15
3403.19	Other	0	20	15
3403.9	- other :			
3403.91	Preparations for the treatment of textile materials, leather, furskins or other materials	0	20	15
3403.99	Other	0	20	15
3404	Artificial waxes and prepared waxes			
3404.10	Of chemically modified lignite	15	20	15
3404.20	Of poly(oxyethylene) (polyethylene glycol)	15	20	15
3404.90	- other :			
3404.90.10	Of oxidised polyethylenes	0		
	[Sealing wax (including bottle sealing wax) in sticks, cakes or similar forms]		20	15
[3404.90.10]	[Polyethelene wax]		20	15
	[Artificial waxes (including water soluble waxes) prepared waxes, not emulsified or containing solvents :]			
[3404.90.20]	[Poly Brominated Biphenyls]		20	15

3405	Polishes and creams, for footwear, furniture, floors, coachwork, glass or metal, scouring pastes and powders and similar preparations (whether or not in the form of paper, wadding, felt, non-wovens, cellular plastics or cellular rubber, impregnated, coated or covered with such preparations), (excluding waxes of heading 3404)		
3405.10	Polishes, creams and similar preparations for footwear or leather	15	20 15
3405.20	Polishes, creams and similar preparations for the maintenance of wooden furniture, floors or other woodwork	15	20 15
3405.30	Polishes and similar preparations for coachwork (excluding metal polishes)	15	20 15
3405.40	Scouring pastes and powders and other scouring preparations	15	20 15
3405.90	- other :		
3405.90.10	Grinding preparations of diamond dust, powder or grit [Polishes and compositions for application to metal including diamond polishing]	0	20 15
3405.90.90	Other	15	20 15
3406	Candles, tapers and the like		
3406.00	Candles, tapers and the like [Candles]	20	20 15
3407	Modelling pastes, including those put up for children's amusement; preparations known as "dental wax" or as "dental impression compounds", put up in sets, in packings for retail sale or in plates, horseshoe shapes, sticks or similar forms; other preparations for use in dentistry, with a basis of plaster (of calcined gypsum or calcium sulphate)		
3407.00	Modelling pastes, including those put up for children's amusement; preparations known as "dental wax" or as "dental impression compounds", put up in sets, in packings for retail sale or in plates, horseshoe shapes, sticks or similar forms; other preparations for use in dentistry, with a basis of plaster (of calcined gypsum or calcium sulphate)	10	
[3407.00.10]	[Modelling pastes including those put up for children's amusement]		20 15
[3407.00.90]	[Other]		20 15

Notification No. 15/2002-Cus., dated 1-3-2005 – See GENERAL EXEMPTION No. 109 in Part 8.

Chapter 35 - Albuminoidal substances; modified starches; glues; enzymes

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % <i>Ad valorem</i>	
		SA January 05 06	India January 05 06
Chapter 35	Albuminoidal substances; modified starches; glues; enzymes		
3501	Casein, caseinates and other casein derivatives; casein glues		
3501.10	Casein	0	20 20*
3501.90	Other	0	20 20*
3502	Albumins (including concentrates of two or more whey proteins, containing by mass more than 80 % whey proteins, calculated on the dry matter), albuminates and other albumin derivatives		
3502.1	- egg albumin :		
3502.11	Dried	5	20 20*
3502.19	- other :		
[3502.19]	[Other]		20 20*
3502.19.10	Liquid	20	
[-]	[-]		
3502.19.90	Other	5	
[-]	[-]		
3502.20	Milk albumin, including concentrates of two or more whey proteins	0	20 20*
3502.90	Other	0	20 20*
3503	Gelatin (including gelatin in rectangular (including square) sheets, whether or not surface-worked or coloured) and gelatin derivatives; isinglass; other glues of animal origin (excluding casein glues of heading no. 3501)		
3503.00.10	Gelatin, in immediate packings of a content not exceeding 10 kg [Isinglass]	17	20 20*
3503.00.15	Gelatin, in immediate packings of a content exceeding 10 kg	0	
[-]	[-]		
	[Gelatin edible grade and not elsewhere specified]		20 20*

3503.00.30	Gelatin derivatives [Gelatin derived from bones hides and similar items and fish glues]	8.5	20	20*
3503.00.35 [-]	Isinglass and other glues of animal origin [-]	0		
3503.00.90	Other	0	20	20*
3504	Peptones and their derivatives; other protein substances and their derivatives, not elsewhere specified or included; hide powder, whether or not chromed			
3504.00 [3504.00.10] [3504.00.91]	Peptones and their derivatives; other protein substances and other derivatives, not elsewhere specified or included; hide powder, whether or not chromed [Peptones] [Other :] [Isolated Soya protein] [Others]	0	20 20 20	20* 20* 20*
3505	Dextrins and other modified starches (for example, pregelatinised or esterified starches); glues based on starches, or on dextrins or other modified starches			
3505.10 [3505.10.10] [3505.10.90]	Dextrins and other modified starches [Esterified starches] [Other]	0	20 20	20* 20*
3505.20	Glues	0	20	20*
3506	Prepared glues and other prepared adhesives, not elsewhere specified or included; products suitable for use as glues or adhesives, put up for retail sale as glues or adhesives, not exceeding a net mass of 1 kg			
3506.10	Products suitable for use as glues or adhesives, put up for retail sale as glues or adhesives, not exceeding a net mass of 1 kg	0	20	15
3506.9	- other :			
3506.91 [3506.91.10]	Adhesives based on polymers of headings 3901 to 3913 or on rubber [Based on latex, Phenol Formaldehyde (PF), Urea Formaldehyde (UF) and Polyvinyl Alcohol (PVA)] [Other]	0	20 20	15 15
3506.99 [3506.99.10]	Other [Synthetic glue with phenol, urea / cresol (with formaldehyde) as the main component]	0	20	15
3507	Enzymes; prepared enzymes not elsewhere specified or included			
3507.10	Rennet and concentrates thereof [Microbial rennet :]	0		

	[Animal rennet]		20	15
[3507.10.11]	[Other]		20	15
	<i>[Other :]</i>			
[3507.10.19]	[Animal rennet]		20	15
	[Other]		20	15
[3507.10.91]				
[3507.10.99]				
3507.90	Other	0		
[3507.90.10]	[Industrial enzymes (textile assistamt)]		20	15
	[Pancretin pure (excluding medicament)]		20	15
[3507.90.20]	[Pepsin (excluding medicament)]		20	15
	Pectin esterases pure]		20	15
[3507.90.30]	[Pectolytic enzyme (pectimase)]		20	15
	<i>[Other enzymes of microbial origin :]</i>			
[3507.90.40]	[Streptokinase]		20	15
	[Amylases enzymes]		20	15
[3507.90.50]	[Other]		20	15
	<i>[Enzymes for pharmaceutical use, other than streptokinase :]</i>			
	[Papain, pure, pharmaceutical grade]		20	15
[3507.90.61]	[Other]		20	15
	<i>[Other :]</i>			
[3507.90.62]	[Enzymatic preparations containing food stuffs]		20	15
	[Other]		20	15

Chapter 36 - Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % <i>Ad valorem</i>	
		SA January	India January
Chapter 36	Explosives; pyrotechnic products; matches; pyrophoric alloys; certain combustible preparations		

3601	Propellent powders		
3601.00	Propellent powders	10	
[3601.00.10]	[Blasting powder]		30 15
	[Gun powder]		30 15
[3601.00.20]	[Other]		30 15
3602	Prepared explosives, (excluding propellent powders)		
3602.00	Prepared explosives (excluding propellent powders)	0	
	[Industrial explosives]		30 15
[3602.00.10]	[Other]		30 15
3603	Safety fuses; detonating fuses; percussion or detonating caps; igniters; electric detonators		
3603.00	Safety fuses; detonating fuses; percussion or detonating caps; igniters; electric detonators	0	
[3603.00.11]	[<i>Safety fuses :</i>		
	[For Mine blasting]		30 15
			30 15
[3603.00.19]	[Other]		30 15
	[Detonating fuses]		
[3603.00.20]	[<i>Percussion and detonating caps :</i>		
	[Non-ordnance]		30 15
	[[Other]		30 15
[3603.00.31]	[<i>Igniters :</i>		
	[Non-ordnance]		30 15
			30 15
[3603.00.39]	[Other]		
	[<i>Electric detonators :</i>		
	[Containing explosives electrically ignited, non-ordnance]		30 15
[3603.00.41]	[Other]		30 15
3604	Fireworks, signalling flares, rain rockets, fog signals and other pyrotechnic articles		
3604.10	Fireworks	0	30 15
3604.90	Other	0	
	[Ship signals]		30 15
3605	Matches (excluding pyrotechnic articles of heading no. 3604)		
3605.00	Matches (excluding pyrotechnic articles of heading 3604)	15	
	[Safety matches]		30 15
3606	Ferro-cerium and other pyrophoric alloys in all forms; articles of combustible materials as specified in Note 2 to this Chapter		

3606.10 [3606.10]	Liquid or liquefied-gas fuels in containers of a kind used for filling or refilling cigarette or similar lighters and of a capacity not exceeding 300 ml [Liquid or liquefied-gas fuels in containers of a kind used for filling and refilling of cigarette or similar lighters and of a capacity not exceeding 300 cm ³]	0	30	15
3606.90 [3606.90.10]	Other [Combustible preparations] [Other :]	0	30	15
[3606.90.91]	[Ferro-cerium, in all forms]		30	15
	[Pyrophoric alloys, in all forms]		30	15
	[DNPT (Dinitroso penta-methylene tetramine)]		30	15
[3606.90.92]	[Others]		30	15

Chapter 38 - Miscellaneous chemical products

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % <i>Ad valorem</i>			
		SA January 05 06		India January 05 06	
38	Miscellaneous chemical products				
3801	Artificial graphite; colloidal or semi-colloidal graphite; preparations based on graphite or other carbon in the form of pastes, blocks, plates or other semi-manufactures				
3801.10	Artificial graphite	0		20	15 ^{tr}
3801.20	Colloidal or semi-colloidal graphite	0		20	15
3801.30	Carbonaceous pastes for electrodes and similar pastes for furnace linings	0		20	15
3801.90	Other	0		20	15
3802	Activated carbon; activated natural mineral products; animal black, including spent animal black				
3802.10	Activated carbon	0		20	15 ^{tr}

3802.90	Other [Activated natural mineral products :]	0	
[3802.90.11]	[Activated alumina]		20 15
	[Activated bauxite]		20 15
[3802.90.12]	[Other]		20 15
	[Animal black (e.g. bone black and ivory black) including spent animal black]		20 15
3803	Tall oil, whether or not refined		
3803.00	Tall oil, whether or not refined	0	20 15
3804	Residual lyes from the manufacture of wood pulp, whether or not concentrated, desugared or chemically treated, including lignin sulphonates, but excluding tall oil of heading 3803		
3804.00	Residual lyes from the manufacture of wood pulp, whether or not concentrated, desugared or chemically treated, including lignin sulphonates, but excluding tall oil of heading 3803	0	20 15
3805	Gum, wood or sulphate turpentine and other terpenic oils produced by the distillation or other treatment of coniferous woods; crude dipentene; sulphite turpentine and other crude para-cymene; pine oil containing alpha- terpineol as the main constituent		
3805.10	Gum, wood or sulphate turpentine oils	0	
	[Wood turpentine oil and spirit of turpentine]		20 15
[3805.10.10]	[Gum turpentine oil]		20 15
	[Sulphate turpentine oil]		20 15
3805.20	Pine oil	0	20 15
3805.90	Other	0	
	[Terpenic oils produced by the distillation or other treatment of coniferous woods]		20 15
[3805.90.10]	[Crude dipentene]		20 15
3806	Rosin and resin acids, and derivatives thereof; rosin spirit and rosin oils; run gums		
3806.10	Rosin and resin acids	0	
	[Gum rosin]		20 15
3806.20	Salts of rosin, of resin acids or of derivatives of rosin or resin acids (excluding salts of rosin adducts)	0	20 15
3806.30	Ester gums	0	
3806.90	Other	0	
	[Run gums]		20 15
3807	Wood tar; wood tar oils; wood creosote; wood naphtha; vegetable pitch; brewers' pitch and similar preparations based on rosin, resin acids or on vegetable pitch		

3807.00	Wood tar; wood tar oils; wood creosote; wood naphtha; vegetable pitch; brewers' pitch and similar preparations based on rosin, resin acids or on vegetable pitch	0	
[3807.00.10]	[Wood tar]		20 15
	[Wood tar oils, wood creosote, wood naphtha]		20 15
			20 15
3808	Insecticides, rodenticides, fungicides, herbicides, anti-sprouting products and plant-growth regulators, disinfectants and similar products, put up in forms or packings for retail sale or as preparations or articles (for example, sulphur-treated bands, wicks and candles, and fly-papers)		

3808.10	Insecticides <i>[Aldrin, Aluminium phosphite, Calcium cyanide, Chlordane, Chloro benzilate, DDVP, DDT :]</i>	0		
[3808.10.11]	[Aldrin]		20	15
[3808.10.12]	[Aluminium phosphite (for example phostoxin)]		20	15
[3808.10.13]	[Calcium cyanide]		20	15
[3808.10.13]	[Chlordane]		20	15
[3808.10.14]	[Chloro benzilate]		20	15
[3808.10.14]	[D.D.V.P. (Dimethyl-Dichloro-vinyl-phosphate)]		20	15
[3808.10.15]	[D.D.T. (excluding D.D.T. of heading 2903.62)]			
[3808.10.15]	<i>[Diagonal, Heptachlor, Lindane, Methyl bromide, Parathion Methyl, Dimethoate technical, Melathion :]</i>			
[3808.10.16]	[Diagonal]		20	15
[3808.10.17]	[Heptachlor]		20	15
[3808.10.17]	[Lindane]		20	15
[3808.10.17]	[Methyl bromide]		20	15
[3808.10.21]	[Parathion, methyl]		20	15
[3808.10.21]	[Dimethoate, technical grade]		20	15
[3808.10.21]	[Melathion]			
[3808.10.22]	<i>[Endosulphan technical, Quinalphos, Isoproturon, Fenthion, Cipermethrin technical, Allethrin, Synthetic pyrethrum :]</i>			
[3808.10.23]	[Endosulphan technical grade]		20	15
[3808.10.23]	[Quinal phos]		20	15
[3808.10.24]	[Isoproturon]		20	15
[3808.10.24]	[Fenthion]		20	15
[3808.10.25]	[Cipermethrin technical grade]		20	15
[3808.10.25]	[Allethrin]		20	15
[3808.10.26]	[Synthetic pyrethrum]			
[3808.10.26]	<i>[Other :]</i>		20	15
[3808.10.27]	[Repellants for insects such as flies, mosquito]		20	15
[3808.10.27]	[Paper impregnated with insecticide such as DDT coated paper]		20	15
[3808.10.27]	[Other]			
3808.2	- fungicides			
	[Maneb]		20	15
3808.20.20	Suitable for the treatment of wood, plants, trees or seed (excluding those containing compounds of copper, chromium and arsenic or metallic compounds of dithiocarbamates or bis-dithiocarbamates as active ingredient)	0		
[3808.20.20]	[Sodium penta chlorophenate (santobrite)]		20	15

[3808.20.30]	[Thiram (tetramethyl thiuram disulphate)]		20	15
	[Zineb]		20	15
	[Copper oxychloride]		20	15
3808.20.90	Other	10	20	15
3808.3	- herbicides, anti-sprouting products and plant-growth regulators :			
3808.30.05	With atrazine as active ingredient	10		
[-]	[-]			
3808.30.10	With alachlor as active ingredient	10		
[3808.30.10]	[Chloromethyl phenoxy acetic acid (M.C.P.A.)]		20	15
3808.30.17	With diuron or simazine as active ingredient	10		
[-]	[-]			
3808.30.30	With 2-methyl-4-chlorophenoxyacetic acid or its derivatives as active ingredient	10		
	[Gibberellic acid]		20	15
3808.30.35	With 2,4-dichlorophenoxyacetic acid or its derivatives as active ingredient	10		
[-]	[-]			
3808.30.40	With trifluralin as active ingredient	10		
[3808.30.40]	[Plant growth regulators]		20	15
[3808.30.50]	[Weedicides and weed killing agents]		20	15
3808.30.80	Other plant-growth regulators and anti-sprouting products	10		
[-]	[-]			
3808.30.90	Other	0	20	15
3808.4	- disinfectants :			
[3808.10]	[Disinfectants]		20	15
3808.40.10	In immediate packings of a content not exceeding 5 kg or in containers holding not more than 5 li	10		
3808.40.30	Trichlorocyanuric acid (TCIA) containing disinfectants	10		
[-]	[-]			
3808.40.80	Other, with a coal tar derivative as active ingredient	10		
[-]	[-]			
3808.40.90	Other	0		
[-]	[-]			
3808.90	Other	0		
	[Pesticides, not elsewhere specified or included]		20	15

3809	Finishing agents, dye carriers to accelerate the dyeing or fixing of dyestuffs and other products and preparations (for example, dressings and mordants), of a kind used in the textile, paper, leather or like industries, not elsewhere specified or included		
3809.10	With a basis of amylaceous substances	0	20 20*
3809.9	- other :		
3809.91	Of a kind used in the textile or like industry	0	
[3809.91.10]	[Textile assistants mordanting agents]		20 15
	[Textile assistants desizing agents]		20 15
[3809.91.20]	[Textile assistants dispersing agents]		20 15
	[Textile assistants emulsifying agents]		20 15
[3809.91.30]	[Textile assistants-hydro sulphite formaldehyde compound (rongalite or formusul)]		20 15
	[Textile assistants – textile preservatives]		20 15
[3809.91.40]	[Textile assistants water proofing agents]		20 15
	[Prepared textile glazings, dressings and mordants]		20 15
[3809.91.50]	[Other]		20 15
3809.92	Of a kind used in the paper or like industries	0	20 15
3809.93	Of a kind used in the leather or like industries	0	
[3809.93.10]	[Fatty oil or pull up oil]		20 15
	[Other]		20 15
[3809.99]	[Other]		20 15
3810	Pickling preparations for metal surfaces; fluxes and other auxiliary preparations for soldering, brazing or welding; soldering, brazing or welding powders and pastes consisting of metal and other materials; preparations of a kind used as cores or coatings for welding electrodes or rods		
3810.10	Pickling preparations for metal surfaces; soldering, brazing or welding powders and pastes consisting of metal and other materials	0	
[3810.10.10]	[Pickling preparations and other soldering, brazing or welding powder / pastes]		20 15
	[Thermite portion for welding (alumina thermic heat generators)]		20 15
[3810.10.20]	[Other]		20 15
3810.90	Other	0	
[3810.90.10]	[Preparations of a kind used as cores or coatings for welding electrodes and rods]		20 15
	[Other]		20 15

3811	Anti-knock preparations, oxidation inhibitors, gum inhibitors, viscosity improvers, anti-corrosive preparations and other prepared additives, for mineral oils (including gasoline) or for other liquids used for the same purposes as mineral oils		
3811.1	- anti-knock preparations :		
3811.11	Based on lead compounds	0	20 15
3811.19	Other	0	20 15
3811.2	- additives for lubricating oils :		
3811.21	Containing petroleum oils or oils obtained from bituminous materials	0	20 15
3811.29	Other	0	20 15
3811.90	Other	0	20 15
3812	Prepared rubber accelerators; compound plasticiser for rubber or plastics, not elsewhere specified or included; anti-oxidising preparations and other compound stabilisers for rubber or plastics		
3812.10	Prepared rubber accelerators	0	20 15 ^{II}
3812.20	Compound plasticisers for rubber or plastics [Phthalate plasticisers]	0	20 15
3812.3	- anti-oxidising preparations and other compound stabilisers for rubber or plastics :		
3812.30.10	Anti-oxidising preparations for rubber [Anti-oxidants for rubber]	10	20 15
3812.30.20	Compound stabilisers containing cadmium caprylate, cadmium naphthanatebenzoate, cadmium octoate, barium caprylate, barium nonyl phenate, dibutyltin thioglycolate, dimethyltin thioglycolate, zinc octoate, potassium octoate or zinc stearate	10	20 15
[3812.30.30]	[Vulcanising agents for rubber]		20 15
3812.30.90	Other	10	20 15
3813	<i>Preparations and charges for fire- extinguishers; charged fire-extinguishing grenades</i>		
[3813.00]	[Preparations and charges for fire-extinguishers; charged fire-extinguishing grenades]		20 15
3813.00.15 [-]	Preparations in liquid form, containing fluorine compounds or containing protein [-]	10	
3813.00.90 [-]	Other [-]	0	
3814	Organic composite solvents and thinners, not elsewhere specified or included; prepared paint or varnish removers		

3814.00	Organic composite solvents and thinners, not elsewhere specified or included; prepared paint or varnish removers	10	
	[Composite solvents and thinners not elsewhere specified or included]		20 15
[3814.00.10]	[Prepared paint or varnish removers]		20 15
3815	Reaction initiators, reaction accelerators and catalytic preparations, not elsewhere specified or included		
3815.1	- supported catalysts :		
3815.11	With nickel or nickel compounds as the active substance	0	20 10*
3815.12	With precious metal or precious metal compounds as the active substance	0	
	[Platinum or palladium catalysts with a base of activated carbon]		20 10*
[3815.12.10]	[Other]		20 10*
3815.19	Other	0	20 10*
3815.90	Other	0	20 10*
3816	Refractory cements, mortars, concretes and similar compositions, (excluding products of heading no. 3801).		
3816.00	Refractory cements, mortars, concretes and similar compositions (excluding products of heading No. 3801)	0	20 15
3817	Mixed alkylbenzenes and mixed alkylnaphthalenes, (excluding those of heading no. 2707 or 2902)		
[3817.00]	[Mixed alkylbenzenes :]		
3817.00.10	Mixed alkylbenzenes	10	
[-]	[-]		
	[Linear alkylbenzenes]		20 15
[3817.00.11]	[Other]		20 15
3817.00.20	Mixed alkylnaphthalenes	0	20 15
3818	Chemical elements doped for use in electronics, in the form of discs, wafers or similar forms; chemical compounds doped for use in electronics		
3818.00.10	Chemical elements	0	
	[Undeformed silicon wafers]		20 15
[3818.00.10]			
3818.00.20	Chemical compounds, packed for retail sale	10	
[-]	[-]		
3818.00.90	Other	10	20 15
3819	Hydraulic brake fluids and other prepared liquids for hydraulic transmission, not containing or containing less than 70 % by mass of petroleum oils or oils obtained from bituminous minerals		
	[Hydraulic brake fluids]		20 15

3819.00.20	Prepared liquids for hydraulic transmission, containing 44 percent or more by mass of diethyl glycol and 38 per cent or more of ethylene or propylene copolymers	0		
[-]	[-]			
3819.00.90	Other	10	20	15
3820	Anti-freezing preparations and prepared de-icing fluids			
3820.00	Anti-freezing preparations and prepared de-icing fluids	10	20	15
3821	Prepared culture media for development of micro-organisms			
3821.00	Prepared culture media for development of micro-organisms	0	20	15
3822	Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing (excluding those of heading 3002 or 3006); certified reference materials			
3822.00	Diagnostic or laboratory reagents on a backing, prepared diagnostic or laboratory reagents whether or not on a backing (excluding those of heading No. 3002 or 3006); certified reference materials <i>[For medical diagnosis :]</i> [Pregnancy confirmation reagent]	0		
			20	15
3823	Industrial monocarboxylic fatty acids; acid oils from refining; industrial fatty alcohols			
3823.1	- industrial monocarboxylic fatty acids; acid oils from refining :			
3823.11				
	Stearic acid	0		
[3823.11.11]	<i>[Palm stearin :]</i>			
	[Crude]		20	20*
[3823.11.12]	[RBD]		20	20*
	[Other]		20	20*
[3823.11.19]	[Other stearic or stearin]		20	15*
[3823.11.90]				
3823.12	Oleic acid	0	20	15*
3823.13	Tall oil fatty acids	10	20	15*
3823.19	Other	10	20	15*
3823.70	Industrial fatty alcohols	10		
	[Cetyl alcohol]		20	15*
[3823.70.10]	[Laurel alcohol]		20	15*
	[Oleyl alcohol]		20	15*
[3823.70.20]	[Stearyl alcohol]		20	15*
	[Other]		20	15*
[3823.70.30]				

3824	<i>Prepared binders for foundry moulds or cores; chemical products and preparations of the chemical or allied industries (including those consisting of mixtures of natural products), not elsewhere specified or included</i>		
3824.10	Prepared binders for foundry moulds or cores	0	20 15
3824.20	Naphthenic acids, their water-insoluble salts and their esters	0	
	[Copper Naphthenate]		20 15
[3824.20.10]	[Naphthenic acids]		20 15
	[Other]		20 15
3824.30	Non-agglomerated metal carbides mixed together or with metallic binders	0	20 15
3824.40	Prepared additives for cements, mortars or concretes	0	
	[Damp proof or water proof compounds]		20 15
3824.50	Non-refractory mortars and concretes	0	
	[Concretes ready to use known as "Ready-Mix concrete (RMC)"]		20 15
3824.60	Sorbitol (excluding that of subheading 2905.44)	0	
[3824.60.10]	[In aqueous solution]		20 20*
[3824.60.90]	[Other]		20 20*
3824.7	- mixtures containing perhalogenated derivatives of acyclic hydrocarbons containing two or more different halogens :		
3824.71	Containing acyclic hydrocarbons perhalogenated only with fluorine and chlorine	10	
	[Containing ozone depleting substances]		20 15
3824.79	Other	10	
	[Containing ozone depleting substances]		20 15
3824.90	- other :		
3824.90.01	Mixtures of hydrocarbons and lubricity agents	0.183c/li	
[-]	[-]		
	<i>[Ammoniacal gas liquors and spent oxide produced in coal gas purification, case hardening compound, heat transfer salts; mixture of diphenyl and diphenyl oxide as heat transfer medium, mixed polyethylene glycols; salts for curing or salting, surface tension reducing agents :]</i>		20 15
[3824.90.11]	[Ammoniacal gas liquors and spent oxide produced in coal gas purification]		20 15
	[Case hardening compound (heat treatment salts)]		20 15
[3824.90.12]	[Heat transfer salts]		20 15
	[Mixture of diphenyl and diphenyl oxide as heat transfer medium]		20 15
[3824.90.13]	[Mixed Polyethylene glycols]		20 15
	[Salts for curing or salting]		20 15

3824.90.25	Flotation reagents containing dicresyldithiophosphoric acid or alcyldithiophosphates	10	20	15
[3824.90.25]	[Precipitated silica and silica gel]			
[3824.90.26]	[Oil well chemical]		20	15
[3824.90.31]	<i>[Mixture containing perhalogenated derivatives of acyclic hydrocarbons containing two or more different halogens other than chlorine and fluorine; ferrite powder; capacitor fluids – PCB type; dipping oil for treatment of grapes; Poly Brominated Biphenyls, Poly Chlorinated Biphenyls, Poly Chlorinated Terphenyls, Crocidolite; Goods of a kind known as “Hazardous Waste”; Phosphogypsum :]</i>		20	15
[3824.90.32]	[Mixture containing perhalogenated derivatives of acyclic hydrocarbons containing two or more different halogens other than chlorine or fluorine]		20	15
	[Ferrite powder]		20	15
	[Capacitor fluids – PBC type]		20	15
[3824.90.33]	[Dipping oil for treatment of grapes]		20	15
[3824.90.34]	[Poly Brominated Biphenyls, Poly Chlorinated Biphenyls, Poly Chlorinated Terphenyls, Crocidolite]		20	15
[3824.90.35]	[Goods of a kind known as “Hazardous Wastes”]		20	15
3824.90.37	Mono-, di- and triesters of glycerol with unmodified fatty acids, with a soap content (calculated as sodium stearate), by mass, of 3,5 per cent or more and a 1-monoglyceride content, by mass, not exceeding 38 per cent	10		
	[Phosphogypsum]		20	15
3824.90.40	Mono-, di- and triesters of glycerol with a soap content (calculated as sodium stearate), by mass, of less than 3,5 per cent and a 1-monoglyceride content, by mass, not exceeding 45 per cent	10		
[–]	[–]			
3824.90.45	Phthalic acid esters of mixed aliphatic alcohols	10		
[–]	[–]			
3824.90.47	Preparations put up as correction fluids	10		
[–]	[–]			
3824.90.50	Chlorinated paraffins	10		
[–]	[–]			
3824.90.90	Other	0	20	15
3825	Residual products of the chemical or allied industries, not elsewhere specified or included; municipal waste; sewage sludge; other wastes specified in Note 6 to this Chapter			
3825.10	Municipal waste	0	20	15
3825.20	Sewage sludge	0	20	15
3825.30	Clinical waste	0	20	15

3825.4	- waste organic solvents :		
3825.41	Halogenated	0	20 15
3825.49	Other	0	20 15
3825.50	Wastes of metal pickling liquors, hydraulic fluids, brake fluids and anti-freeze fluids	0	20 15
3825.6	- other wastes from chemical or allied industries :		
3825.61	Mainly containing organic constituents	0	20 15
3825.69	Other	0	20 15
3825.90	Other	0	20 15

Chapter 39 – Plastics and articles thereof

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % <i>Ad valorem</i>	
		SA January 05 06	India January 05 06
SECTION VII	<i>PLASTICS AND ARTICLES THEREOF; RUBBER AND ARTICLES THEREOF</i>		
Chapter 39	<i>Plastics and articles thereof</i>		
SUB- CHAPTER 1	PRIMARY FORMS		
3901	Polymers of ethylene, in primary forms		
3901.10 [3901.10.10]	Polyethylene having a specific gravity of less than 0,94 [Linear low density polyethylene (LLDPE)] [Other]	10	20 10* 20 15
3901.20	Polyethylene having a specific gravity of 0.94 or more	10	20 15
3901.30	- ethylene-vinyl acetate copolymers :		
[3901.30]	[Ethylene-vinyl acetate copolymers]		20 15
3901.30.10 [–]	Of a value for duty purposes not exceeding 220c/kg [–]	10	
3901.30.20 [–]	Of a value for duty purposes exceeding 220c/kg [–]	0	
3901.90	- other :		
3901.90.10	Copolymers of ethylene and acrylic or methacrylic acid in which the carboxyl groups are partially linked or partially neutralised by metal ions	0	
3901.90.20 [–]	Other ethylene methacrylate [–]	0	

3901.90.30 [-]	Other, chlorinated [-]	0	
3901.90.90	Other	10	20 15
3902	Polymers of propylene or of other olefins, in primary forms		
3902.10	- polypropylene :		
[3902.10]	[Polypropylene]		20 10*
3902.10.10 [-]	Expanded beads [-]	0	
3902.10.90 [-]	Other [-]	10	
3902.20	Polyisobutylene	0	20 15
3902.30	Propylene copolymers	10	20 10*
3902.90	Other	0	20 10*
3903	Polymers of styrene, in primary forms		
3903.1	- polystyrene :		
3903.11	Expansile	0	20 10*
3903.19	Other [Moulding powder]	0	20 10*
3903.20	Styrene-acrylonitrile (SAN) copolymers	0	20 10*
3903.30	Acrylonitrile-butadiene-styrene (ABS) copolymers	0	20 10*
3903.90	Other	0	20 10*
[3903.90.10]	[Copolymers, solely of styrene with allyl alcohol, of any acetyl value of 175 or more] [Brominated polystyrene, containing by weight 58% or more but not more than 71% of bromine, in one of the forms mentioned in Note 6(b) to this Chapter]		20 10*
[3903.90.20]	[Other]		20 10*
3904	Polymers of vinyl chloride or of other halogenated olefins, in primary forms		
[3904.00]	[Poly (vinyl chloride), not mixed with any other substances :]		
3904.10	Poly(vinyl chloride), not mixed with any other substances [Binders for pigments]	10	20 15
3904.2	- other poly(vinyl chloride) :		
3904.21	Non-plasticised [Poly (vinyl chloride) resins]	10	20 15
3904.22	Plasticised [Poly (vinyl chloride) (PVC) Resins (emulsion grade)]	10	20 15
3904.30	Vinyl chloride-vinyl acetate copolymers [Poly (vinyl derivatives)]	10 0	20 15
3904.40	Other vinyl chloride copolymers	10	20 15
3904.50	Vinylidene chloride polymers	0	20 15
[3904.50.10]	[Copolymer of vinylidene chloride with acrylonitrile, in the form of expansible beads of a diameter of 4 micrometers or more but not more than 20 micrometers] [Other]		20 15

3904.6	- fluoro-polymers :		
3904.61	Polytetrafluoroethylene	0	20 15
3904.69	Other [Poly (vinyl fluoride), in one of the forms mentioned in Note 6(b) to this Chapter]	0	20 15
3904.90	Other	0	
3905	Polymers of vinyl acetate or of other vinyl esters, in primary forms; other vinyl polymers in primary forms		
3905.1	- poly(vinyl acetate) :		
3905.12	In aqueous dispersion	10	
[3905.12.10]	[Poly (vinyl acetate) (PVA), moulding material]		20 15
	[Poly (vinyl acetate) resins]		20 15
[3905.12.20]	[Other]		20 15
3905.19	Other	0	
	[Poly (vinyl Acetate) (PVA) moulding material]		20 15
[3905.19.10]	[Poly (vinyl) Acetate and resins]		20 15
	[Other]		20 15
3905.2	- vinyl acetate copolymers :		
3905.21	In aqueous dispersion	10	20 15
3905.29	Other	0	20 15
3905.30	Poly(vinyl alcohols), whether or not containing unhydrolysed acetate groups	0	20 15
3905.9	- other :		
3905.91	Copolymers	0	20 15
3905.99	Other	0	
	[Poly (vinyl pyrrolidone) (p alcohol)]		20 15
[3905.99.10]			20 15
3906	Acrylic polymers in primary forms		
3906.10	Poly(methyl methacrylate) [Polymethyl methacrylate :]	0	
	[Binders of pigments or inks]		20 15
[3906.10.10]	[Other]		20 15
3906.90	- other :		
	[Acrylic resins]		20 15
3906.90.20	Liquids and pastes [excluding polyacrylamide flocculating agents and the like (anionic and nonionic)]	10	
	[Copolymers of acrylonitrile]		20 15
3906.90.90	Other	0	20 15
3907	Polyacetals, other polyethers and epoxide resins, in primary forms; polycarbonates, alkyd resins, polyallyl esters and other polyesters, in primary forms		
3907.10	Polyacetals	0	20 15

3907.20	- other polyethers :		
	[Poly (ether alcohols)]		20 15
3907.20.15	Polyether-polyols, containing 2 or more hydroxyl groups, liquids or pastes, with a hydroxyl number exceeding 100 mg KOH/g but not exceeding 800 mg KOH/g	10	
[-]	[-]		
3907.20.90	Other	0	20 15
3907.30	Epoxide resins	0	
	[Epoxy resins]		20 15
[3907.30.10]	[Others]		20 15
3907.40	Polycarbonates	0	20 15
3907.50	Alkyd resins	10	20 15
3907.60	- poly(ethylene terephthalate) :		
3907.60.10	Liquids and pastes	0	
	[Having an intrinsic viscosity of less than 0.64 dl/g]		20 15
[3907.60.10]			
	[Having an intrinsic viscosity of not less than 0.64 dl/g and not greater than 0.72 dl/g]		20 15
[3907.60.20]			
3907.60.90	Other	10	
	[Other (including clean, colourless grades)]		20 15
[3907.60.90]			
3907.9	- other polyesters :		
3907.91	Unsaturated	10	
	[Maleic resins]		20 15
[3907.91.10]	[Polyester or contract resins]		20 15
	[Fumeric Resins]		20 15
[3907.91.20]	[Diallylphthalate resins]		20 15
	[Poly (butylene terephthalate)]		20 15
[3907.91.30]	[Other]		20 15
3907.99	Other	0	
	[Diallyl phthalate resins]		20 15
[3907.99.10]	[Poly (butylene Terephthalate)]		20 15
	[Other]		20 15
[3907.99.20]			
3908	Polyamides in primary forms		
3908.10	Polyamide-6,-11,-12,-6.6,-6.9,-6,10 or -6,12	0	
	[Nylon moulding powder]		20 15
3908.90	Other	0	
	[Nylon moulding powder]		20 15
[3908.90.10]	[Nylon in other primary forms]		20 15
			20 15
3909	Amino-resins, phenolic resins and polyurethanes, in primary forms		

3909.10	Urea resins; thiourea resins [Urea formaldehyde resins]	0	20	15
3909.20	Melamine resins [Melamine formaldehyde resins]	0	20	15
3909.30	Other amino-resins [Poly (phenylene-oxide)]	0	20	15
3909.4	- phenolic resins :			
	[Cresol formaldehyde oxide]		20	15
3909.40.20 [3909.40.20]	Oil-soluble resins [Phenol formaldehyde moulding powder]	0	20	15
	[Alkyl Phenyl formaldehyde resins]		20	15
	[Kentonic resins]		20	15
	[Phenoxi resins]		20	15
	[Terpene phenolic resins]		20	15
3909.40.90	Other	10	20	15
3909.50	Polyurethanes	0	20	15
3910	Silicones in primary forms			
3910.00 [3910.00.10] [3910.00.20]	Silicones in primary forms [Silicone resins] [Silicone oil] [Other]	0	20 20 20	15 15 15
3911	Petroleum resins, coumarone-indene resins, polyterpenes, polysulphides, polysulphones and other products specified in Note 3 to this Chapter, not elsewhere specified or included, in primary forms			
3911.10	Petroleum resins, coumarone, indene or coumarone-indene resins and polyterpenes	0	20	15
3911.90	Other [Polysulphones]	0	20	15
3912	Cellulose and its chemical derivatives, not elsewhere specified or included, in primary forms			
3912.1	- cellulose acetates :			
3912.11 [3912.11.10]	Non-plasticised [Cellulose acetate flakes] [Cellulose acetate moulding powder] [Cellulose acetobutyrate moulding powder]	0	20 20 20	15 15 15
3912.12 [3912.12.10] [3912.12.20]	Plasticised [Cellulose acetate flakes] [Cellulose acetate moulding powder] [Cellulose acetobutyrate moulding powder] [Other]	0	20 20 20 20	15 15 15 15

3912.20	Cellulose nitrates (including collodions) <i>[Non-plasticised :]</i>	0		
[3912.20.11]	[Moulding powders]		20	15
	[Other]		20	15
[3912.20.19]	<i>[Plasticised :]</i>			
	[Moulding powders]		20	15
[3912.20.21]	[Other]		20	15
3912.3	- cellulose ethers :			
3912.31	Carboxymethylcellulose and its salts	10	20	15
3912.39	Other <i>[Non-plasticised :]</i>	0		
[3912.39.11]	[Ethyl cellulose]		20	15
	[Methyl cellulose]		20	15
[3912.39.12]	[Other cellulose ethers]		20	15
	<i>[Plasticised :]</i>			
[3912.39.19]	[Ethyl cellulose]		20	15
	[Methyl cellulose]		20	15
[3912.39.21]	Other cellulose ethers]		20	15
3912.90	Other	0		
[3912.90.10]	[Cellulose Propionate and aceto propionate non-plasticised]		20	15
	[Viscose sponge]		20	15
[3912.90.20]	[Other]		20	15
3913	Natural polymers (for example, alginic acid) and modified natural polymers (for example, hardened proteins, chemical derivatives of natural rubber), not elsewhere specified or included, in primary forms			
3913.10	Alginic acid, its salts and esters [Sodium Alginate]	0	20	15
3913.90	Other <i>[Chemical derivatives of natural rubber :]</i>	0		
	[Chlorinated rubber]		20	15
[3913.90.11]	[Other]		20	15
	[Hardened proteins (such as hardened casein, gelatin etc.)]		20	15
[3913.90.19]	[Dextran]		20	15

3914	<i>Ion-exchangers based on polymers of headings 3901 to 3913, in primary forms</i>		
3914.00	Ion-exchangers based on polymers of headings 3901 to 3913, in primary forms	0	
[3914.00.10]	[Ion-exchangers of the condensation, polycondensation or polyaddition type]		20 15
	[Ion-exchangers of the polymerisation or co-polymerisation type]		20 15
[3914.00.20]	[Other]		20 15
SUB-CHAPTER 2	WASTE, PARINGS AND SCRAP; SEMI-MANUFACTURES; ARTICLES		
3915	Waste, parings and scrap, of plastics		
3915.10	Of polymers of ethylene	15	20 15
3915.20	Of polymers of styrene	15	20 15
3915.30	Of polymers of vinyl chloride	15	
	[Of co-polymers of vinyl chloride]		20 15
3915.90	- of other plastics :		
	[Of polypropylene]		20 15
[3915.90.10]	[Of polymers of vinyl acetate :]		
	[Of co-polymers of vinyl acetate]		20 15
3915.90.40	Of carboxymethylcellulose	10	
[-]	[-]		
	[Of alkyds, polyesters and epoxide resins :]		
	[Of alkyds and polyesters]		20 15
[3915.90.41]	[Of PET Bottles]		20 15
	[Of epoxide resins]		20 15
[3915.90.42]	[Of Polyamides]		20 15
	[Of Amino resins and phenolic resins and polyurethanes :]		
[3915.90.49]	[Of phenoplast]		20 15
	[Of aminoplast]		20 15
[3915.90.50]	[Of polyurethanes]		20 15
	[Of cellulose and its chemical derivatives :]		
	[Of regenerated cellulose]		20 15
3915.90.90	Other	0	20 15
3916	Monofilament of which any cross-sectional dimension exceeds 1mm, rods, sticks and profile shapes, whether or not surface-worked but not otherwise		
3916.10	Of polymers of ethylene	15	
	[Rods of polyethylene]		20 15
[3916.10.10]	[Canes]		20 15
	[Other]		20 15
3916.2	- of polymers of vinyl chloride :		

	<i>[Of poly(vinyl chloride) copolymers :]</i>		
	[Canes]		20 15
[3916.20.11]			20 15
3916.20.20	Plaiting material with a rattan core	0	
[-]	[-]		
3916.20.90	Other	18	
	[Canes]		20 15
3916.90	- of other plastics :		
3916.90.10	Of phenolic resins compounded with fibre, fabric or paper	0	
[3916.90.10]	[Canes]		20 15
3916.90.20	Of silicones	0	
	<i>[Other :]</i>		
	<i>[Of phenoplast, Aminoplast, Alkyds & Polyesters, Polyamides, Polyurethanes, Epoxide-resins (including waste & scrap), Polypropylene and Acrylic, methacrylic and acrylomethacrylic polymers :]</i>		
[3916.90.21]	[Of Phenoplast]		20 15
	[Of Aminoplast]		20 15
[3916.90.22]	[Of Alkyds and polysters]		20 15
	[Of Polyamides]		20 15
[3916.90.23]	[Of Polyurethanes]		20 15
	[Of Epoxide-resins (including waste and scrap)]		20 15
	[Of Polypropylene]		20 15
[3916.90.24]	[Of Acrylicmethacrylic and acrymethacrylic polymers]		20 15
	<i>[Of polymerisation and copolymerisation products of polystyren and polymethyl methacrylate :]</i>		
[3916.90.31]	[Of polymerisation and copolymerisation products of polystyrene]		20 15
	[Of polymethyl methacrylate]		20 15
[3916.90.40]	[Of regenerated cellulose]		20 15
[3916.90.50]	[Of cellulose nitrate and celluloid, whether or not plasticised]		20 15
3916.90.60	Of cellulose nitrates	0	
	[Of vulcanized fibre]		20 15
[3916.90.60]			
3916.90.70	Of artificial resins	0	
	[Of cellulose acetate and acetate butyrate, whether or not plasticised]		20 15
[3916.90.70]			

	[Of vinyl plastic]		20	15
3916.90.90	Other	15		
[3916.90.90]	[Of other polymerisation and copolymerisation products]		20	15
3917	Tubes, pipes and hoses, and fittings therefor (for example, joints, elbows, flanges), of plastics			
3917.10	- artificial guts (sausage casings) of hardened protein or of cellulosic materials :			
	[Of hardened protein]		20	15
	[Of cellulosic materials]		20	15
3917.10.30	Unprinted	0		
[-]	[-]			
3917.10.90	Other	10		
[-]	[-]			
3917.2	- tubes, pipes and hoses, rigid :			
3917.21	- of polymers of ethylene :			
3917.21.10	Seamless, with an outside cross-sectional dimension of 305 mm or more but not exceeding 495 mm, with an integral spiral baffle without fittings	0		
3917.21.90	Other	15	20	15
3917.22	Of polymers of propylene	15	20	15
3917.23	Of polymers of vinyl chloride	15		
	[Seamless tubes]		20	15
3917.29	- of other plastics :			
3917.29.10	Seamless, of phenoplasts compounded with fibre, fabric or paper, without fittings	0		
[3917.29.10]	[Seamless tubes of copolymers of vinyl acetate and vinyl chloride]		20	15
3917.29.20	Of silicones, seamless, without fittings	0		
[3917.29.20]	[Seamless tubes of polymers and copolymers of polystyrene]		20	15
3917.29.30	Of polymers of styrene, seamless, without fittings	15		
[3917.29.30]	[Tubes of cellulose nitrate and celluloid, whether or not plasticised]		20	15
3917.29.40	Of vinylidene polymers, vinyl acetate polymers, polyvinyl alcohol or acrylic polymers, seamless, without fittings	15		
3917.29.50	Of other condensation, polycondensation or polyaddition products, seamless, without fittings	15		
			20	15
3917.29.60	Of other polymerisation or copolymerisation products, seamless, without fittings	15		
[-]	[-]			
3917.29.70	Of cellulose nitrate, seamless, without fittings	0		
[-]	[-]			

3917.29.80 [-]	Of other artificial resins, seamless, without fittings [-]	0	
3917.29.85 [-]	Other, seamless, without fittings [-]	10	
3917.29.90	Other	15	20 15
3917.3	- other tubes, pipes and hoses :		
3917.31	- flexible tubes, pipes and hoses, having a minimum burst pressure of 27.6 Mpa :		
[3719.31]	[Flexible tubes, pipes and hoses, having a minimum burst pressure of 27.6 Mpa]		20 15
3917.31.05 [-]	Composite tubes consisting of a core tube of polyesters and an outer tube of polyurethane with a braided textile reinforcing material between the core tube and outer tube, seamless, without fittings [-]	0	
3917.31.10 [-]	Of silicones, seamless, without fittings [-]	0	
3917.31.20 [-]	Of polymers of ethylene, seamless, without fittings [-]	15	
3917.31.30 [-]	Of polymers of styrene, seamless without fittings [-]	15	
3917.31.40 [-]	Of polymers of vinyl chloride, seamless, without fittings [-]	15	
3917.31.50 [-]	Of polymers of propylene, seamless, without fittings [-]	15	
3917.31.60	Of polymers of vinylidene chloride, polymers of vinyl acetate, polyvinyl alcohol or acrylic polymers, seamless, without fittings	15	
3917.31.70 [-]	Of cellulose nitrate, seamless, without fittings [-]	0	
3917.31.75 [-]	Of other condensation, polycondensation or polyaddition products, seamless, without fittings [-]	15	
3917.31.80 [-]	Of other polymerisation or copolymerisation products, seamless, without fittings [-]	15	
3917.31.85 [-]	Other, seamless, without fittings [-]	10	
3917.31.90 [-]	Other [-]	15	

3917.32	- other, not reinforced or other wise combined with other materials, without fittings :		
3917.32.03 [-]	Artificial guts (sausage casings), seamed or with closed ends, unprinted [-]	0	
3917.32.05 [-]	Artificial guts (sausage casings) seamed or with closed ends, printed [-]	10	
	<i>[Other, not reinforced or otherwise combined with other materials, without fittings :]</i>		
3917.32.10 [3917.32.10]	Of silicones, seamless [Of condensation or rearrangement polymerisation products, whether or not chemically modified]	0	20 15
3917.32.20	Of polymers of ethylene, seamless [Of addition polymerisation products]	15	20 15
3917.32.30 [-]	Of polymers of styrene, seamless [-]	15	
3917.32.40 [-]	Of polymers of vinyl chloride, seamless [-]	15	
3917.32.50 [-]	Of polymers of propylene, seamless [-]	15	
3917.32.60	Of polymers of vinylidene chloride, polymers of vinyl acetate, polyvinyl alcohol or acrylic polymers, seamless	15	
3917.32.70 [-]	Of cellulose nitrates, seamless [-]	0	
3917.32.75 [-]	Of other condensation, polycondensation or polyaddition products, seamless [-]	15	
3917.32.80 [-]	Of other polymerisation or copolymerisation products, seamless [-]	15	
3917.32.85 [-]	Other, seamless [-]	10	
3917.32.90	Other	15	20 15
3917.33	Other, not reinforced or otherwise combined with other materials, with fittings	15	20 15
3917.39	- other :		
3917.39.10 [3917.39.10]	Of silicones, seamless, without fittings [Of condensation or rearrangement polymerisation products, whether or not chemically modified]	0	20 15
3917.39.15 [-]	Of phenoplasts compounded with fibre, fabric or paper, seamless, without fittings [-]	0	

3917.39.20	Of polymers of ethylene, seamless, without fittings [Of addition polymerisation products]	15	20	15
[3917.39.20]				
3917.39.25	Of polymers of styrene, seamless, without fittings	15		
[-]	[-]			
3917.39.30	Of polymers of vinyl chloride, seamless, without fittings (excluding plaiting material with a rattan core)	15		
[-]	[-]			
3917.39.35	Plaiting material, seamless, of polymers of vinyl chloride with a rattan core, without fittings	0		
[-]	[-]			
3917.39.40	Of polymers of propylene, seamless, without fittings	15		
[-]	[-]			
3917.39.45	Of polymers of vinylidene chloride, polymers of vinyl acetate, polyvinyl alcohol or acrylic polymers, seamless, without fittings	15		
[-]	[-]			
3917.39.50	Of cellulose nitrate, seamless, without fittings	0		
[-]	[-]			
3917.39.55	Of other condensation, polycondensation or polyaddition products, seamless, without fittings	15		
[-]	[-]			
3917.39.60	Of other polymerisation or co-polymerisation products, seamless, without fittings	15		
[-]	[-]			
3917.39.65	Other,seamless,without fittings	10		
[-]	[-]			
3917.39.90	Other	15	20	15
3917.40	Fittings	15	20	15
3918	Floor coverings of plastics, whether or not self-adhesive, in rolls or in the form of tiles; wall or ceiling coverings of plastics, as defined in Note 9 to this Chapter			
3918.10	Of polymers of vinyl chloride	15		
[3918.10.10]	[Wall or ceiling coverings combined with knitted or woven fabrics, nonwovens or felts]		20	15
[3918.10.90]	[Other]		20	15
3918.90	- of other plastics :			
	[Floor coverings of linoxyn]		20	15

3918.90.20 [3918.90.20]	Of polyethylene terephthalates, not self-adhesive [Wall or ceiling coverings combined with knitted or woven fabrics, non wovens or felt]	0	20	15
3918.90.30 [-]	Of silicones [-]	0		
3918.90.40 [-]	Of other condensation, polycondensation or polyaddition products [-]	15		
3918.90.90	Other	10	20	15
3919	Self-adhesive plates, sheets, film, foil, tape, strip and other flat shapes, of plastics, whether or not in rolls			
3919.10	- in rolls of a width not exceeding 20 cm :			
[3919.10]	[In rolls of a width not exceeding 20 cm]		20	15
3919.10.01 [-]	Of alkyds, coated with glass microspheres or microprisms [-]	0		
3919.10.03 [-]	Of polyethylene terephthalates [-]	15		
3919.10.05 [-]	Of silicones [-]	0		
3919.10.06	Of cellular polyurethane, self-adhesive on both sides, commonly known as double-sided adhesive tape	0		
3919.10.07 [-]	Of other condensation, polycondensation or polyaddition products [-]	15		
3919.10.10 [-]	Of polymers of ethylene [-]	15		
3919.10.13 [-]	Of polymers of styrene [-]	15		
3919.10.30 [-]	Of polymers of vinyl chloride [-]	15		
3919.10.35 [-]	Of polymers of vinylidene chloride, of a thickness not exceeding 0,05 mm, unprinted	0		
3919.10.37 [-]	Of polymers of vinylidene chloride, (excluding that of a thickness not exceeding 0,05 mm, unprinted), polymers of vinyl acetate and polyvinyl alcohol [-]	15		
3919.10.39 [-]	Of acrylic polymers, coated with microspheres or microprisms [-]	0		
3919.10.40 [-]	Of acrylic polymers [-]	15		

3919.10.41 [-]	Of biaxially oriented polymers of propylene (excluding that which is self-adhesive on both sides), of a width not exceeding 25 mm and of a value for duty purposes exceeding 1 300c/m ²	0	
3919.10.43	Of biaxially orientated polymers of propylene (excluding that which is self-adhesive on both sides), of a width not exceeding 150 mm	15	
3919.10.47 [-]	Other, of biaxially oriented polymers of propylene [-]	0	
3919.10.50 [-]	Other, of polymers of propylene [-]	15	
3919.10.53 [-]	Of other polymerisation or copolymerisation products [-]	15	
3919.10.55 [-]	Of regenerated cellulose film [-]	15	
3919.10.57 [-]	Of cellulose nitrates [-]	0	
3919.10.60 [-]	Of hardened proteins [-]	15	
3919.10.63 [-]	Of rubber hydrochlorides, of a thickness not exceeding 0,05 mm [-]	0	
3919.10.65 [-]	Of rubber hydrochlorides, of a thickness exceeding 0,05 mm [-]	15	
3919.10.67 [-]	Of other artificial resins [-]	0	
3919.10.90 [-]	Other [-]	10	
3919.90	- other :		
3919.90.01 [-]	Of alkyds or polyurethane, coated with glass microspheres [-]	0	
3919.90.03 [-]	Of polyethylene terephthalates [-]	15	
3919.90.05 [-]	Of silicones [-]	0	
3919.90.06 [-]	Of cellular polyurethane, self-adhesive on both sides, commonly known as double-sided adhesive tape [-]	0	
3919.90.07 [-]	Of other condensation, polycondensation or polyaddition products, seamless, without fittings [-]	15	

3919.90.10	Of polymers of ethylene [Plastic stickers, whether or not printed, embossed, or impressed]	15	20	15
[3919.90.10]				
3919.90.13	Of polymers of styrene	15		
[-]	[-]			
	[Cellulose adhesive tape]		20	15
3919.90.21	Of polymers of vinyl chloride, of a thickness not exceeding 0,25 mm, coated with glass microspheres	0		
[-]	[-]			
3919.90.30	Of other polymers of vinyl chloride	16		
[-]	[-]			
3919.90.33	Of polymers of vinylidene chloride, of a thickness not exceeding 0,05 mm, unprinted	0		
[-]	[-]			
3919.90.35	Of polymers of vinylidene chloride (excluding that of a thickness not exceeding 0,05 mm, unprinted), polymers of vinyl acetate and polyvinyl alcohol	15		
[-]	[-]			
3919.90.36	Of acrylic polymers, coated with glass microspheres	0		
[-]	[-]			
3919.90.37	Of other acrylic polymers	15		
[-]	[-]			
3919.90.40	Of biaxially oriented polymers of propylene (excluding that which is self-adhesive on both sides)	15		
3919.90.43	Other, of biaxially oriented polymers of propylene	0		
[-]	[-]			
3919.90.45	Other, of polymers of propylene	15		
[-]	[-]			
3919.90.47	Of other polymerisation or copolymerisation products	15		
[-]	[-]			
3919.90.50	Of regenerated cellulose film	15		
[-]	[-]			
3919.90.53	Of cellulose nitrate	0		
[-]	[-]			
3919.90.55	Of hardened proteins	15		
[-]	[-]			
3919.90.59	Of rubber hydrochlorides, of a thickness exceeding 0,05 mm	0		
[-]	[-]			

3919.90.63 [-]	Of other artificial resins [-]	0	
3919.90.90	Other	10	20 15
3920	Other plates, sheets, film, foil and strip, of plastics, non-cellular and not reinforced, laminated, supported or similarly combined with other materials		
3920.10	Of polymers of ethylene <i>[Sheets of polyethylene :]</i> [Rigid, plain]	15	20 15
[3920.10.11]	[Flexible, plain]		20 15
	[Other]		20 15
[3920.10.12]	<i>[Other :]</i> [Rigid, plain]		20 15
[3920.10.19]	[Flexible, plain]		20 15
	[Other]		20 15
3920.20	- of polymers of propylene :		
[3920.20.10]	[Rigid, plain]		20 15
3920.20.20	Biaxially oriented (excluding that of a thickness exceeding 0,012 mm but not exceeding 0,06 mm, not heat shrinkable)	0	20 15
[3920.20.20]	[Flexible, plain]		
3920.20.90	Other	15	20 15
3920.30	Of polymers of styrene [Rigid, plain]	15	20 15
[3920.30.10]	[Flexible, plain]		20 15
	[Other]		20 15
3920.4	- of polymers of vinyl chloride :		
3920.43	Containing by mass not less than 6 per cent [%] of plasticisers	15	20 15
3920.49	Other	15	20 15
3920.5	- of acrylic polymers :		

3920.51	Of poly(methyl methacrylate) <i>[Sheets :]</i>	15		
	[Rigid, plain]		20	15
[3920.51.11]	[Flexible, plain]		20	15
	[Other]		20	15
[3920.51.12]	<i>[Other :]</i>			
	[Rigid, plain]		20	15
[3920.51.19]	[Flexible, plain]		20	15
	[Other]		20	15
3920.59	Other <i>[Polyacrylate Sheets :]</i>	15		
	[Rigid, plain]		20	15
[3920.59.11]	[Flexible, plain]		20	15
	[Other]		20	15
[3920.59.12]	<i>[Other :]</i>			
			20	15
3920.6	- of polycarbonates, alkyd resins, polyallyl esters or other polyesters:			
3920.61	Of polycarbonates	15		
	[Rigid, plain]		20	15
[3920.61.10]	[Flexible, plain]		20	15
	[Other]		20	15
[3920.61.20]				
3920.62	- of poly(ethylene terephthalate) :			
3920.62.10	Of a thickness exceeding 0.18 mm but not exceeding 6 mm	0 15		
	[Rigid, plain]		20	15
[3920.62.10]	[Flexible, plain]		20	15
3920.63	Of unsaturated polyesters	15		
	[Rigid, plain]		20	15
[3920.63.10]	[Flexible, plain]		20	15
	[Other]		20	15
3920.69	Of other polyesters <i>[Packaging film :]</i>	15		
	[Rigid, plain]		20	15
[3920.69.11]	[Flexible, plain]		20	15
	[Other]		20	15
[3920.69.12]	<i>[Sun and/or dust control film]</i>			
	[Rigid, plain]		20	15
[3920.69.19]	[Flexible, plain]		20	15
	[Other]		20	15
	<i>[Other film :]</i>			
[3920.69.21]	[Rigid, plain]		20	15

3920.7	- of cellulose or its chemical derivatives :		
3920.71	Of regenerated cellulose <i>[Cello phane transparent :]</i> [Film]	0	20 15
[3920.71.11]	[Other]		20 15
	<i>[Sheets of cellulose nitrate and celluloid whether or not plasticised :]</i>		
[3920.71.19]	[Plain]		20 15
	[Other]		20 15
3920.72	Of vulcanised fibre [Rigid, plain]	10	20 15
[3920.72.10]	[Flexible, plain]		20 15
	[Other]		20 15
3920.73	Of cellulose acetate <i>[Sheets of cellulose acetate, non-plasticised :]</i> [Rigid, plain]	10	20 15
[3920.73.11]	[Flexible, plain]		20 15
	[Other]		20 15
[3920.73.12]	<i>[Sheets of cellulose acetate (plasticised) :]</i> [Rigid, plain]		20 15
[3920.73.19]	[Flexible, plain]		20 15
	[Other]		20 15
3920.79	- of other cellulose derivatives :		
3920.79.10	Of cellulose nitrate	0	
[-]	[-]		
	<i>[Sheets of cellulose nitrate and celluloid, whether or not plasticised :]</i> [Rigid, plain]		20 15
[3920.79.11]	[Flexible, plain]		20 15
	[Other]		20 15
3920.79.90	Other	10	
[-]	[-]		
	<i>[Other :]</i> [Rigid, plain]		20 15
[3920.79.91]	[Flexible, plain]		20 15
	[Other]		20 15
3920.9	- of other plastics:		
3920.91	Of poly(vinyl butyral)	15	
[3920.91.11]	[Rigid, plain]		20 15
	[Flexible, plain]		20 15
[3920.91.12]	[Other]		20 15

3920.92	Of polyamides <i>[Poly (amide fluoride) film :]</i>	15		
	[Rigid, plain]		20	15
[3920.92.11]	[Flexible, plain]		20	15
	[Other]		20	15
[3920.92.12]	<i>[Other :]</i>		20	15
3920.93	Of amino-resins	15		
	[Rigid, plain]		20	15
[3920.93.10]	[Flexible, plain]		20	15
[3920.93.20]	[Other]		20	15
3920.94	Of phenolic resins	15		
	[Rigid, plain]		20	15
[3920.94.10]	[Flexible, plain]		20	15
	[Other]		20	15
3920.99	- of other plastics :			
3920.99.05	Of silicones	0		
[-]	[-]			
3920.99.10	Of other condensation, polycondensation or polyaddition products	15		
[-]	[-]			
	<i>[Plates, sheets, film, foil, and strip of poly (vinyl acetate) :]</i>			
	[Rigid, plain]		20	15
[3920.99.11]	[Flexible, plain]		20	15
	[Other]		20	15
3920.99.15	Of polymers of vinylidene chloride, of a thickness not exceeding 0,05 mm, unprinted	0		
[-]	[-]			
3920.99.20	Of other polymers of vinylidene chloride, polymers of vinyl acetate or polyvinyl alcohol	15		
[-]	[-]			
	<i>[Film, sheets, strip of vinyl plastic :]</i>			
	[Rigid, plain]		20	15
[3920.99.21]	[Flexible, plain]		20	15
	[Other]		20	15
[3920.99.22]				
3920.99.25	Strip of polytetrafluoroethylene, suitable for use as thread-sealing tape	15		
[-]	[-]			
3920.99.30	Of other polymerisation or copolymerisation products	15		
[-]	[-]			

	<i>[Plates, sheets, strip, film or foil of copolymers of vinyl chloride and vinyl acetate :]</i>		
	[Rigid, plain]		20 15
[3920.99.31]	[Flexible, plain]		20 15
			20 15
3920.99.40	Of hardened proteins	15	
[-]	[-]		
	<i>[Sheet of Poly (tetrafluoro-ethylene) (PTFE) :]</i>		
	[Rigid, plain]		20 15
[3920.99.41]	[Flexible, plain]		20 15
	[Other]		20 15
3920.99.50	Of rubber hydrochlorides, of a thickness not exceeding 0,05 mm	0	
[-]	[-]		
	<i>[Retro-reflective sheeting :]</i>		
[3920.99.51]	[Rigid, plain]		20 15
	[Flexible, plain]		20 15
[3920.99.52]	[Other]		20 15
3920.99.60	Of rubber hydrochlorides, of a thickness exceeding 0,05 mm	15	
[3920.99.60]	[Clicking boards for leather machinery]		20 15
3920.99.70	Of other artificial resins	0	
[-]	[-]		
3920.99.90	Other	10	
[-]	[-]		
	<i>[Other :]</i>		
[3920.99.91]	[Rigid, plain]		20 15
[3920.99.92]	[Flexible, plain]		20 15
[3920.99.99]	[Other]		20 15
3921	Other plates, sheets, film, foil and strip, of plastics		
3921.1	- cellular :		
3921.11	Of polymers of styrene	15	20 15
3921.12	Of polymers of vinyl chloride	16	20 15
3921.13	Of polyurethanes	15	
	[Flexible]		20 15
3921.14	Of regenerated cellulose	10	20 15
3921.19	- of other plastics :		15
3921.19.10	Of polyethylene terephthalates	0	
[-]	[-]		

3921.19.30 [-]	Of other condensation, polycondensation and poly-addition products [-]	15	
3921.19.40 [-]	Of polymers of ethylene [-]	15	
3921.19.50 [-]	Of polymers of vinylidene, of polymers of vinyl acetate or of polyvinyl alcohol [-]	15	
3921.19.55 [-]	Of acrylic polymers [-]	15	
3921.19.60 [-]	Of other polymerisation or copolymerisation products [-]	15	
3921.19.65 [-]	Of cellulose nitrate [-]	0	
3921.19.70 [-]	Of hardened proteins [-]	15	
3921.19.75 [-]	Of rubber hydrochlorides, of a thickness not exceeding 0,05 mm [-]	0	
3921.19.80 [-]	Of rubber hydrochlorides, of a thickness exceeding 0,05 mm [-]	15	
3921.19.85 [-]	Of other artificial resins [-]	0	
3921.19.90 [-]	Other [-]	10	
3921.90	- other :		
3921.90.05 [-]	Laminates of phenolic resins with a basis of paper or textile fibre, thermosetting [-]	10	
	[Thermocol]		20 15
3921.90.12 [-]	Other laminates of phenolic resin, thermosetting [-]	15	
3921.90.14 [-]	Of alkyd resins, coated with glass microspheres [-]	0	
3921.90.16 [-]	Textile fabrics embedded in or coated or covered on both sides with polyurethane [-]	15	
3921.90.18 [-]	Of polyethylene terephthalates [-]	0	
3921.90.20 [-]	Of silicones [-]	0	

	<i>[Of polymers of vinyl chloride :]</i>		
[3921.90.21]	[Rigid, lacquered]		20 15
	[Flexible, lacquered]		20 15
[3921.90.22]	[Rigid, metallised]		20 15
	[Flexible, mettalisèd]		20 15
[3921.90.23]	[Rigid, laminated]		20 15
	[Flexible, laminated]		20 15
[3921.90.24]	[Other]		20 15
3921.90.22 [See above]	Of other condensation, polycondensation or polyaddition products	15	
3921.90.24 [See above]	Textile fabrics embedded in or coated or covered on both sides with polymers of ethylene	15	
3921.90.26 [See above]	Other, of polymers of ethylene	15	
3921.90.28 [See above]	Of polymers of styrene	15	
	<i>[Of regenerated cellulose :]</i>		
[3921.90.31]	[Rigid, lacquered]		20 15
	[Flexible, lacquered]		20 15
	[Rigid, metallised]		20 15
[3921.90.32]	[Flexible, mettalisèd]		20 15
	[Rigid, laminated]		20 15
[3921.90.33]	[Flexible, laminated]		20 15
	[Other]		20 15
3921.90.47 [-]	Of polymers of vinyl chloride [-]	15	
3921.90.50 [-]	Of polymers of vinylidene chloride, of a thickness not exceeding 0,05 mm, unprinted [-]	0	
3921.90.52 [-]	Of polymers of vinylidene chloride (excluding that of a thickness not exceeding 0,05 mm, unprinted), of polymers of vinyl acetate or of polyvinyl alcohol [-]	15	
3921.90.53 [-]	Of acrylic polymers, coated with glass microspheres [-]	0	
3921.90.54 [-]	Of other acrylic polymers [-]	15	
3921.90.63 [-]	Of polymers of propylene [-]	15	

3921.90.64	Textile fabrics embedded in or coated or covered on both sides with polymerisation or copolymerisation products	15	
3921.90.66 [-]	Of other polymerisation or copolymerisation products [-]	15	
3921.90.68 [-]	Film of regenerated cellulose [-]	0	
3921.90.70 [-]	Of cellulose nitrate [-]	0	
3921.90.72 [-]	Of hardened proteins [-]	15	
3921.90.74 [-]	Of rubber hydrochloride, of a thickness not exceeding 0,05 mm [-]	0	
3921.90.76 [-]	Of rubber hydrochloride, of a thickness exceeding 0,05 mm [-]	0	
3921.90.78 [-]	Of other artificial resins [-]	0	
3921.90.90 [-]	Other [-]	10	
	<i>[Other :]</i>		
	[Rigid, lacquered]		20 15
[3921.90.91]	[Flexible, lacquered]		20 15
	[Rigid, metallised]		20 15
[3921.90.92]	[Flexible, metallised]		20 15
	[Rigid, laminated]		20 15
[3921.90.93]	[Flexible, laminated]		20 15
	[Other]		20 15
3922	Baths, shower-baths, sinks, wash-basins, bidets, lavatory pans, seats and covers, flushing cisterns and similar sanitary ware, of plastics		
3922.10	Baths, shower-baths, sinks and wash-basins	20	20 15
3922.20	Lavatory seats and covers	20	20 15
3922.90	Other	20	20 15
3923	Articles for the conveyance or packing of goods, of plastics; stoppers, lids, caps and other closures, of plastics		
3923.10	Boxes, cases, crates and similar articles	15	
	[Plastic containers for audio or video cassettes, cassette tapes, floppy disks and similar articles]		20 15
	[Watch-box, jewellery box, and similar containers of plastics]		20 15
	[Insulated ware]		20 15
[3923.10.20]	[Packing for accommodating connectors]		20 15
	[Other]		20 15
3923.2	- sacks and bags (including cones) :		

3923.21	- of polymers of ethylene :		
3923.21.10	Carrier bags and flat bags, with a thickness of more than 24 µm, unprinted or printed with a single resin system ink based on a co-solvent polyamide with a mass of dry solid content not exceeding 2,25 per cent of the mass of the unprinted bag or printed with other inks with a mass of dry solid content not exceeding 1,125 per cent of the mass of the unprinted bag (excluding bags for use as immediate packings, refuse bags and refuse bin liners)	15	
3923.21.90	Other	15	
3923.29	- of other plastics :		
3923.29.10	Carrier bags and flat bags, of polymers of propylene, with a thickness of more than 24 µm, unprinted or printed with a single resin system ink based on a co-solvent polyamide with a mass of dry solid content not exceeding 2,25 per cent of the mass of the unprinted bag or printed with other inks with a mass of the dry solid content not exceeding 1,125 per cent (excluding bags for use as immediate packings, refuse bags and refuse bin liners)	15	
[3923.29.10]	[Of poly (vinyl chloride)]		20 15
3923.29.90	Other	15	20 15
3923.30	Carboys, bottles, flasks and similar articles	15	
[3923.30.10]	[Insulated ware]		20 15
[3923.30.90]	[Other]		20 15
3923.4	- spools, cops, bobbins and similar supports :		
[3923.40]	[Spools, cops, bobbins and similar supports]		20 15
3923.40.10	For use with textile machinery	0	
[-]	[-]		
3923.40.90	Other	15	
[-]	[-]		
3923.50	- stoppers, lids, caps and other closures :		
3923.50.10	Cylindrical closures of a length not exceeding 75 mm and of diameter of 15 mm or more but not exceeding 24mm	0	
3923.50.90	Other	15	20 15
3923.9	- other :		
3923.90.10	Textile spinning cans	0	
[3923.90.10]	[Insulated ware]		20 15
3923.90.20	Capsules and tubular neckbands, for bottles and similar containers	5	
[3923.90.20]	[Aseptic bags]		20 15
3923.90.90	Other	15	

3924	Tableware, kitchenware, other household articles and toilet articles, of plastics		
3924.10	Tableware and kitchenware [Insulated ware]	20	20 15
3924.90	Other	20	
[3924.90.10]	[Toilet articles]		20 15
	[Insulated ware]		20 15
[3924.90.20]	[Other]		20 15
3925	Builders' ware of plastics, not elsewhere specified or included		
3925.10	Reservoirs, tanks, vats and similar containers, of a capacity exceeding 300 li	20	20 15
3925.20	Doors, windows and their frames and thresholds for doors	20	20 15
3925.30	Shutters, blinds (including Venetian blinds) and similar articles and parts thereof	20	20 15
3925.90	Other	20	
	[Of polyurethane]		20 15
3926	Other articles of plastics and articles of other materials of headings 3901 to 3914		
3926.10	Office or school supplies <i>[Office supplies of a kind classified as stationery other than pins, clips, and writing instruments :]</i> [Of polyurethane foam]	20	
[3926.10.11]	[Other]		20 15
3926.20	- articles of apparel and clothing accessories (including gloves, mittens and mitts) :		
	<i>[Gloves :]</i> [Disposable]		20 15
3926.20.20	Protective jackets and one-piece protective suits, incorporating fittings for connection to breathing apparatus	0	
[-]	[-]		
[3926.20.21]	<i>[Aprons :]</i> [Of polyurethane foam] [Other]		20 15 20 15
[3926.20.29]	<i>[Plastic stickers for garments :]</i> [Of polyurethane foam] [Other]		20 15 20 15
[3926.20.31]	<i>[Collar stays, patties, butterfly, shoulder-pads and other stays :]</i> [Of polyurethane foam]		20 15
[3926.20.39]	[Other]		20 15

3926.20.90 [–]	Other [–]	20	
	<i>[Other :]</i> [Of polyurethane foam]		20 15
3926.30 [3926.30.10] [3926.30.90]	Fittings for furniture, coachwork or the like [Of polyurethane foam] [Other]	20	20 15 20 15
3926.40 [3926.40.11] [3926.40.19] [3926.40.21] [3926.40.29] [3926.40.31] [3926.40.39] [3926.40.41] [3926.40.49] [3926.40.51] [3926.40.59] [3926.40.60] [3926.40.91]	Statuettes and other ornamental articles <i>[Bangles :]</i> [Of polyurethane foam] [Other] <i>[Beads :]</i> [Of polyurethane foam] [Other] <i>[Statuettes :]</i> [Of polyurethane foam] [Other] <i>[Table and other household articles (including hotel and restaurant) for decoration :]</i> [Of polyurethane foam] [Other] <i>[Decorative sheets :]</i> [Of polyurethane foam] [Other] [Sequins] <i>[Other :]</i> [Of polyurethane foam] [Other]	20	20 15 20 15 20 15 20 15 20 15 20 15 20 15 20 15 20 15 20 15 20 15 20 15 20 15

[3926.40.99]			
3926.90	- other:		
3926.90.03 [-]	Beads, not coated with pearl essence [-]	15	
[3926.90.10]	[PVC belt conveyor]		
3926.90.15 [-]	Protectors, heat shrinkable or prestretched, specially designed for the protection, insulation and strain relief of wire, cable, cable joints and the like from abrasion, corrosion and moisture [-]	0	
3926.90.17 [-]	Laboratory ware (excluding those of polymers of vinyl chloride) [-]	0	
3926.90.20 [-]	Transmission belts [-]	5	
[3926.90.21]	<i>[Couplers, packing rings, O rings and the like :]</i> [Of polyurethane foam] [Other]		20 15 20 15
3926.90.25 [-]	Power transmission line equipment [-]	5	
3926.90.27 [-]	Washers [-]	0	
3926.90.30 [-]	Anti-noise ear protectors [-]	0	
	<i>[Lasts, with or without steel hinges, EVA and grape sheets for soles an heels; welts :]</i>		20 15
3926.90.33 [-]	Cinematographic film, perforated, without sound track [-]	0	
3926.90.36 [-]	Fishing net floats [-]	0	
	<i>[Rings, buckles, tacks, washers and other decorative fittings made of plastic used as trimmings and embellishments for leather products; patterns for leather footwear, leather garments and leather goods :]</i>		
3926.90.43 [-]	Face shields [-]	0	
	<i>[Retro-reflective sheeting of other than of heading 3920 :]</i> [Of polyurethane foam]		20 15
	<i>[Hangers :]</i> [Of polyurethane foam]		20 15

	<i>[Plastic or nylon tipped hammers; Insulating linear of nylon, HDPE :]</i> [Of polyurethane foam]		20	15
3926.90.80 [3926.90.80]	Tags of plastics, with imprinted identification markings, used for marking live fish [Polypropylene articles, not elsewhere specified or included]	0	20	15
3926.90.83 [-]	Connectors for optical fibres and optical fibre cables [-]	0		
3926.90.85 [-]	Saddle-trees [-]	0		
3926.90.87 [-]	Condoms [-]	0		
3926.90.90 [-]	Other [-]	20		
	<i>[Other :]</i> [Of polyurethane foam]		20	15

Chapter 40 - Rubber and articles thereof

TARIFF HEADING / SUB- HEADING	RSA DESCRIPTION: 1 JANUARY 2006 [INDIA WHERE IT DIFFERS FROM RSA]	GENERAL TARIFF: Jan 05 (& Jan 06 if different) % <i>Ad valorem</i>	
		SA January 05 06	India January 05 06
40	Rubber and articles thereof		
4001	Natural rubber, balata, gutta-percha, guayule, chicle and similar natural gums, in primary forms or in plates, sheets or strip		
4001.10	Natural rubber latex, whether or not pre-vulcanised [Prevulcanised]	0	70 70
4001.2	- natural rubber in other forms :		
4001.21	Smoked sheets	0	20 20*
4001.22	Technically specified natural rubber (TSNR)	0	20 20*
4001.29	Other [Hevea]	0	20 20*
[4001.29.10]	[Pale Crepe]		20 20*
	[Estate Brown Crepe]		20 20*
4001.30	- balata, gutta-percha, guayule, chicle and similar natural gums :		

[4001.30]	[Balata, gutta-percha, guayule, chicle, and similar natural gums]		20	15
4001.30.15 [-]	Inter-mixtures (excluding crêpe soling sheets) [-]	15		
4001.30.90 [-]	Other [-]	0		
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			
4002.1	- styrene-butadiene rubber (SBR); carboxylated styrene-butadiene rubber (XSBR) :			
4002.11	- latex :			
[4002.11]	[Latex]		20	15
4002.11.20 [-]	Pre-vulcanised [-]	0		
4002.11.90 [-]	Other [-]	10		
4002.19	- other :			
	[Oil extended styrene butadiene rubber]		20	15
4002.19.20 [4002.19.20]	Styrene-butadiene-styrene [Styrene butadiene rubber with styrene content of over 50%]	0	20	15
	[Styrene butadiene styrene oil bound copolymer]		20	15
4002.19.90	Other	10	20	15
4002.20	- butadiene rubber (BR) :			
[4002.20]	[Butadiene rubber (BR)]		20	15
4002.20.20 [-]	Pre-vulcanised latex [-]	0	20	15
4002.20.30 [-]	Other latex [-]	10	20	15
4002.20.90 [-]	Other [-]	10	20	15
4002.3	- isobutene-isoprene (butyl) rubber (IIR); halo-isobutene-isoprene rubber (CIIR or BIIR):			
4002.31	- isobutene-isoprene (butyl) rubber (IIR) :			
[4002.31]	[Isobutene-isoprene (butyl) rubber (IIR)]		20	15
4002.31.30 [-]	Latex (excluding pre-vulcanised latex) [-]	10		
4002.31.90 [-]	Other [-]	0		
4002.39	- other :			
[4002.39]	[Other]		20	15

4002.39.30 [-]	Latex (excluding pre-vulcanised latex) [-]	10	
4002.39.90 [-]	Other [-]	0	
4002.4	- chloroprene (chlorobutadiene) rubber (CR) :		
[4002.41]	[Latex]		20 15
4002.41	- latex :		
4002.41.20 [-]	Pre-vulcanised [-]	0	
4002.41.30 [-]	Other, containing by mass 90 per cent or more chloroprene in solid form [-]	0	
4002.41.90 [-]	Other [-]	10	
4002.49	Other	0	20 15
4002.5	- acrylonitrile-butadiene rubber (NBR) :		
[4002.51]	[Latex]		20 15
4002.51.20 [-]	Pre-vulcanised [-]	0	
4002.51.90 [-]	Other [-]	10	
4002.59	Other	0	20 15
4002.60	Isoprene rubber (IR)	0	20 15
4002.7	- ethylene-propylene-non-conjugated diene rubber (EPDM) :		
[4002.70]	[Ethylene-propylene-non-conjugated diene rubber (EPDM)]		20 15
4002.70.30 [-]	Latex (excluding pre-vulcanised latex) [-]	10	
4002.70.90 [-]	Other [-]	0	
4002.80	Mixtures of any product of heading 40.01 with any product of this heading	10	
	[Latex]		20 15
[4002.80.10]	[Chemically modified from natural rubber including graft rubber]		20 15
4002.9	- other :		
4002.91	- latex :		
[4002.91]	[Latex]		20 15
4002.91.20 [-]	Vinylpyridene butadiene styrene latex [-]	0	
4002.91.30 [-]	Other, pre-vulcanised [-]	0	
4002.91.90 [-]	Other [-]	10	

4002.99	Other [Factice (rubber substitute derived from oil)]	0	20	15
[4002.99.10]	[Tread rubber compound, cushion gum and tread rubber for resoling or repairing or retreading rubber tyres]		20	15
4003	Reclaimed rubber in primary forms or in plates, sheets or strip			
4003.00	Reclaimed rubber in primary forms or in plates, sheets or strip	0	20	15
4004	Waste, parings and scrap of rubber (excluding hard rubber) and powders and granules obtained therefrom			
4004.00	Waste, parings and scrap of rubber (excluding hard rubber) and powders and granules obtained therefrom	0	20	15
4005	Compounded rubber, unvulcanised, in primary forms or in plates, sheets or strip			
4005.10	Compounded with carbon black or silica	10	20	15
4005.20	Solutions; dispersions (excluding those of subheading 4005.10) [Can sealing compound]	10	20	15
4005.9	- other :			
4005.91	- plates, sheets and strip :			
[4005.91.10]	[Hospital Sheeting]		20	15
4005.91.30	Strip (excluding that of balata, gutta-percha or factice), self-adhesive, coated with glass microspheres	0		
4005.91.90	Other	10		
4005.99	- other :			
4005.99.10	Granules of unvulcanised natural rubber or synthetic rubber compounded ready for vulcanisation; mixtures of natural and synthetic rubber [Granules of unvulcanised natural or synthetic rubber, compounded, ready for vulcanisation]	10	20	15
4005.99.20	Natural rubber and gutta-percha [-]	10		
4005.99.30	Styrene-butadiene rubber (SBR) [-]	10		
4005.99.40	Butadiene rubber (BR) [-]	10		
4005.99.90	Other	0	20	15
4006	Other forms (for example, rods, tubes and profile shapes) and articles (for example, discs and rings), of unvulcanised rubber			
4006.10	"Camel-back" strips for retreading rubber tyres	10	20	15
4006.90	Other [Thread, not covered]	10	20	15
4007	<i>Vulcanised rubber thread and cord</i>			

4007.00			
[4007.00.10]	Vulcanised rubber thread and cord [Thread, not covered]	10	20 15
[4007.00.20]	[Cord, not covered]		20 15
[4007.00.90]	[Other]		20 15
4008	Plates, sheets, strip and profile shapes, of vulcanised rubber (excluding hard rubber)		
4008.1	- of cellular rubber :		
4008.11	- plates, sheets and strip :		
	[Of micro-cellular rubber]		20 15
4008.11.30	Strip, self-adhesive, coated with glass microspheres	0	
[-]	[-]		
4008.11.90	Other	15	
4008.19	Other	0	
[4008.19.10]	[Block of micro-cellular rubber but not of latex foam sponge, used in the manufacture of soles, heels or soles and heels combined, for footwear]		20 15
[4008.19.90]	[Other]		20 15
4008.2	- of non-cellular rubber :		
4008.21	- plates, sheets and strip :		
[4008.21.10]	[Used in manufacture of soles, heels, or soles and heels combined, for footwear]		20 15
	[For resoling or repairing or retreading rubber tyres]		20 15
4008.21.40	Strip, self-adhesive, coated with glass microspheres	0	
[-]	[-]		
4008.21.70	Printing blankets with a micro grounded surface in standard gauges of 1 mm or more but not exceeding 2,58 mm and elasticity or stretching capability not exceeding 0,7 per cent at 500 n/5 cm	0	
[-]	[-]		
4008.21.80	Other, containing 90 per cent or more by mass of natural rubber	0	
[-]	[-]		
4008.21.90	Other	15	20 15
4008.29	Other	15	
	[Rubber sheets and Resin rubber sheets for soles and heels]		20 15
[4008.29.10]	[Block used in the manufacture of soles, heels or soles and heels combined, for footwear]		20 15
			20 15

4009	Tubes, pipes and hoses, of vulcanised rubber (excluding hard rubber), with or without their fittings (for example, joints, elbows, flanges)		
4009.1	- not reinforced or otherwise combined with other materials :		
4009.11	Without fittings	15	20 15
4009.12	With fittings	15	20 15
4009.2	- reinforced or otherwise combined only with metal :		
4009.21	Without fittings	15	20 15
4009.22	With fittings	15	20 15
4009.3	- reinforced or otherwise combined only with textile materials :		
4009.31	Without fittings	15	20 15
4009.32	With fittings	15	20 15
4009.4	- reinforced or otherwise combined with other materials :		
4009.41	Without fittings	15	20 15
4009.42	With fittings	15	20 15
4010	<i>Conveyor or transmission belts or belting, of vulcanised rubber</i>		
4010.1	- conveyor belts or belting :		
4010.11	Reinforced only with metal [Where the rubber compound content is less than 25% by weight]	15	20 15
4010.12	Reinforced only with textile materials [Where the rubber compound content is less than 25% by weight]	15	20 15
4010.13	Reinforced only with plastics [Where the rubber compound content is less than 25% by weight]	15	20 15
4010.19	Other [Where the rubber compound content is less than 25% by weight]	15	20 15
4010.3	- transmission belts or belting :		
4010.31	Endless transmission belts of trapezoidal cross-section (V-belts), V-ribbed, of an outside circumference exceeding 60 cm but not exceeding 180 cm [Endless transmission belts of trapezoidal cross-section (V-belts), V-ribbed, of an outside circumference exceeding 180cm but not exceeding 240cm :]	15	
4010.32	Endless transmission belts of trapezoidal cross-section (V-belts), (excluding V-ribbed), of an outside circumference exceeding 60 cm but not exceeding 180 cm [Where the rubber compound content is less than 25% by weight]	15	20 15
4010.33	Endless transmission belts of trapezoidal cross-section (V-belts), V-ribbed, of an outside circumference exceeding 180 cm but not exceeding 240 cm [Endless transmission belts of trapezoidal cross-section (V-belts), V-ribbed, of an outside circumference exceeding 60cm but not exceeding 180cm :]	15	
4010.34	Endless transmission belts of trapezoidal cross-section (V-belts), (excluding V-ribbed), of an outside circumference exceeding 180 cm but not exceeding 240 cm [Where the rubber compound content is less than 25% by weight]	15	20 15
4010.35	Endless synchronous belts, of an outside circumference exceeding 60 cm but not exceeding 150 cm [Where the rubber compound content is less than 25% by weight]	0	20 15
4010.36	Endless synchronous belts, of an outside circumference exceeding 150 cm but not exceeding 198 cm [Where the rubber compound content is less than 25% by weight]	15	20 15

4010.39	Other [Where the rubber compound content is less than 25% by weight :] [Endless flat belt]	15		20	15
[4010.39.11]	[Ply belting]			20	15
[4010.39.91]	[Endless flat belt]			20	15
	[Ply belting]			20	15
4011	<i>New pneumatic tyres, of rubber</i>				
4011.10	Of a kind used on motor cars (including station wagons and racing cars)	30			
[4011.10.10]	[Radials]			20	15
	[Other]			20	15
[4011.10.90]					
4011.2	- of a kind used on buses or lorries :				
	[Radials]			20	15
4011.20.15	With a load index not exceeding 121	25			
[-]	[-]				
4011.20.25	With a load index exceeding 121	25			
[-]	[-]				
4011.20.90	Other	25		20	15
4011.30	Of a kind used on aircraft	0		20	3
4011.40	Of a kind used on motorcycles	0			
	[For motor cycles]			20	15
[4011.40.10]	[For motor scooters]			20	15
4011.50	Of a kind used on bicycles	0			
	[Multi-cellular polyurethane (MCP) tubeless tyres]			20	15
4011.6	- other having a "herring-bone" or similar tread:				
4011.61	- of a kind used on agricultural or forestry vehicles and machines :				
[4011.61]	[Of a kind used on agricultural or forestry vehicles and machines]			20	15
4011.61.10	Having a rim size of less than 91 cm	20			
[-]	[-]				
4011.61.20	Having a rim size of 91 cm or more	0			
[-]	[-]				
4011.62	Of a kind used on construction or industrial handling vehicles and machines and having a rim size not exceeding 61 cm	20		20	15
4011.63	- of a kind use on construction or industrial handling vehicles and machines and having a rim size exceeding 61 cm :				
[4011.63]	[Of a kind used on construction or industrial handling vehicles and machines and having a rim size exceeding 61cm]			20	15
4011.63.10	Having a rim size of less than 91 cm	20			
[-]	[-]				
4011.63.20	Having a rim size of 91 cm or more	0			
[-]	[-]				
4011.69	- other :				

[4011.69]	[Other]		20	15
4011.69.10 [-]	Having a rim size of less than 91 cm [-]	20		
4011.69.20 [-]	Having a rim size of 91 cm or more [-]	0		
4011.9	- other :			
4011.92	- of a kind used on agricultural or forestry vehicles and machines:			
[4011.92]	[Of a kind used on agricultural or forestry vehicles and machines]		20	15
4011.92.10 [-]	Having a rim size of less than 91 cm [-]	20		
4011.92.20 [-]	Having a rim size of 91 cm or more [-]	0		
4011.93	Of a kind used on construction or industrial handling vehicles and machines and having a rim size not exceeding 61cm	20	20	15
4011.94	- of a kind used on construction or industrial handling vehicles and machines and having a rim size exceeding 61 cm :			
[4011.94]	[Of a kind used on construction or industrial handling vehicles and machines and having a rim size exceeding 61cm]		20	15
4011.94.10 [-]	Having a rim size of less than 91 cm [-]	20		
4011.94.20 [-]	Having a rim size of 91 cm or more [-]	0		
4011.99	- other :			
[4011.99]	[Other]		20	15
4011.99.10 [-]	Having a rim size of less than 91 cm (excluding those for use on wheelchairs) [-]	20		
4011.99.90 [-]	Other [-]	0		
4012	Retreaded or used pneumatic tyres of rubber, solid or cushion tyres, tyre treads and tyre flaps, of rubber			
4012.1	- retreaded tyres :			
4012.11	Of a kind used on motor cars (including station wagons and racing cars)	43	20	15
4012.12	Of a kind used on buses or lorries	36	20	15
4012.13	Of a kind used on aircraft	0	20	15
4012.19	Other [For two wheeler]	43	20	15
4012.20 [4012.20.10]	Used pneumatic tyres [For buses, lorries and earth moving equipment including bigger size vehicles and light commercial vehicles] For passenger automobile vehicles, including two-wheelers, three-wheelers and peronal type vehicles]	0	20	15 20 15

4012.90	Other [Solid Rubber tyres for motor vehicles]	25	20	15
[4012.90.10]	[Solid rubber tyres for other vehicles]		20	15
	[Tyre with metal framework]		20	15
[4012.90.20]	[Tyre flaps :] [Of a kind used in two-wheeled and three-wheeled motor vehicles]		20	15
4013	Inner tubes, of rubber			
4013.10	Of a kind used on motor cars (including station wagons and racing cars), buses or lorries	0	20	15
4013.20	Of a kind used on bicycles	0	20	15
4013.90				
[4013.90.10]	Other	0		
[4013.90.20]	[For aircraft]		20	15
	[For motor cycle]		20	15
[4013.90.30]	[For off the road vehicles, not elsewhere specified] [For tractors :]		20	15
	[Rear tyres]		20	15
[4013.90.41]	[Other]		20	15
	[Of a kind used in tyres of cycle rickshaws and three-wheeled powered cycle-rickshaws]		20	15
[4013.90.49]	[Other]		20	15
[4013.90.50]				
[4013.90.90]				
4014	Hygienic or pharmaceutical articles (including teats), of vulcanised rubber other than hard rubber), with or without fittings of hard rubber			
4014.10	Sheath contraceptives [Rubber contraceptives, male (condoms)]	0	20	15
4014.9	- other :			
	[Hot water bottles]		20	15
	[Ice bags]		20	15
	[Feeding bottle nipples]		20	15
4014.90.50	Syringes of a capacity exceeding 230 cm ³ ; enemas; cushions (ring type) and other inflatable articles for specialised nursing; oxygen bags, cannulae, vaporisers and other articles for the treatment or prevention of affections or diseases of the body (including earplugs); hot water bottles	0		
[-]	[-]			
4014.90.90	Other	20	20	15
4015	Articles of apparel and clothing accessories (including gloves, mittens and mitts) for all purposes, of vulcanised rubber other than hard rubber			

4015.1	- gloves, mittens and mitts :		
4015.11	Surgical	20	20 15
4015.19	- other :		
[4015.19]	[Other]		20 15
4015.19.10 [-]	Specially designed for outdoor sports or games (excluding that for diving activities) [-]	10	
4015.19.90 [-]	Other [-]	20	
4015.90	Other	20	
[4015.90.10]	[Rubber apron] [Labels] [Industrial gloves] [Other :] [Diving suits] [Other]		20 15 20 15 20 15 20 15 20 15
4016	Other articles of vulcanised rubber (excluding hard rubber)		
4016.10	- of cellular rubber :		
[4016.10]	[Of cellular rubber]		20 15
4016.10.10 [-]	Identifiable as integral parts of industrial machinery [-]	0	
4016.10.90 [-]	Other [-]	15	
4016.9	- other :		
4016.91	Floor coverings and mats	15	20 15
4016.92	Erasers	15	20 15
4016.93	- gaskets, washers and other seals :		
4016.93.10 [4016.93.10]	Identifiable as integral parts of industrial machinery [Patches for puncture repair of self-vulcanizing rubber or a rubber backing] [Rubber ring (O-ring)] [Rubber seals (Oil seals and the like)] [Gaskets] [Washers] [Plugs]	0	20 15 20 15 20 15 20 15 20 15
4016.93.90	Other	15	20 15
4016.94	Boat or dock fenders, whether or not inflatable	15	20 15
	- other inflatable articles :		
4016.95.10	Identifiable as integral parts of industrial machinery [Air mattresses]	0	20 15
4016.95.20	Of rubberised fabric, with hermetically sealed ends, for use as moulds in the manufacture, construction or maintenance of concrete pipes, voided (cavity) blocks, beams, slabs and structures	0	

4016.95.30	Of rubberised fabric with hermetically sealed ends, for use as stoppers in the closing or sealing of pipes	0	
4016.95.90	Other	15	20 15
4016.99	- other :		
4016.99.10	Parts of railway and tramway locomotive and rolling-stock; parts of railway and tramway track fixtures and fittings; mechanical equipment, not electrically powered, for signalling to or controlling road, rail or other vehicles, ships or aircraft [Rubber cots for textile industry]	0	20 15
4016.99.15	Parts of air brakes, vacuum brakes, hydraulic-air brakes or hydraulic-vacuum brakes, suitable for use with heavy motor vehicles	0	
4016.99.17	Unmounted rubber strips for windscreen wiper blades	0	
4016.99.20	Other parts for use with motor vehicles [Rubber bands]	20	
4016.99.30	Parts of aircraft, parachutes, rotochutes, aircraft launching gear, deck-arrester or similar gear and ground flying trainers	0	
4016.99.40	Plugs for baths, sinks and washbasins [Rubber blankets]	20	20 15
4016.99.50	Castrating rings [Rubber cushion]	20	20 15
4016.99.60	Cable for launching gliders [Rubber bushes]	0	20 15
4016.99.70	Collapsible containers, of a capacity of 2 m ³ or more [Ear plug]	0	20 15
[4016.99.80]	[Stoppers]		20 15
4016.99.85	Other, identifiable as integral parts of industrial machinery [-]	0	
4016.99.87	Profile shapes, reinforced with steel, of a length exceeding 175 cm but not exceeding	0	
4016.99.90	Other	15	20 15
4017	Hard rubber (for example, ebonite) in all forms, including waste and scrap; articles of hard rubber		

4017.00			
[4017.00.10]	Hard rubber (for example, ebonite) in all forms, including waste and scrap: articles of hard rubber	0	
[4017.00.20]	[Plates, sheet, rods and tubes, etc. of ebonite and vulcanite]		20 15
	[Scrap, waste, and powder of hardened rubber (ebonite and vulcanite)]		20 15
[4017.00.30]	[Printers' rollers]		20 15
	[Textile rollers]		20 15
[4017.00.40]	[Type writers and cyclostyling rollers]		20 15
	[Other]		20 15
[4017.00.50]			
[4017.00.90]			

Appendix 6 - Demand variables for SIC-classified Chemical Sub-sectors 2000 to 2005

Coke & refined petroleum products	2000	2001	2002	2003	2004	2005
1. Domestic output Rbill	49.2	53.9	50.3	52.3	55.0	57.5
2. Exports Rbill	11.8	14.2	11.3	8.1	7.0	7.5
3. Imports Rbill	6.7	6.9	10.2	2.3	3.8	3.9
4 Total demand Rbill (1+3)	56.0	60.8	60.5	54.6	58.9	61.4
5 Domestic demand (4 less 2)	44.1	46.5	49.2	46.5	51.9	54.0
6. Domestic sales (1 less 2)	37.4	39.6	39.0	44.2	48.1	50.0
7.Domestic sales as % of domestic demand.	84.8	85.2	79.3	95.1	92.6	92.7
Imports/ domestic demand%	15.2	14.8	20.7	4.9	7.4	7.3
Exports/ domestic output%	24.0	26.4	22.5	15.5	12.7	13.0
Ex+Im/ total demand %	33.1	34.8	35.6	19.0	18.4	18.6
Exports/total demand %	21.1	23.4	18.7	14.8	11.9	12.2

Basic chemicals	2000	2001	2002	2003	2004	2005
1. Domestic output Rbill	37.8	38.9	42.1	44.6	42.4	43.2
2. Exports Rbill	13.2	14.3	13.6	11.4	12.6	13.4
3. Imports Rbill	12.6	10.8	11.0	11.3	12.8	13.2
4 Total demand Rbill (1+3)	50.3	49.7	53.1	55.8	55.3	56.5
5 Domestic demand (4 less 2)	37.2	35.4	39.6	44.4	42.7	43.0
6. Domestic sales (1 less 2)	24.6	24.6	28.6	33.1	29.9	29.8
7.Domestic sales as a % of domestic demand.	66.2	69.5	72.2	74.6	70.0	69.2
Imports/ domestic demand%	33.8	30.5	27.8	25.4	30.0	30.8
Exports/ domestic output%	34.9	36.8	32.2	25.7	29.6	31.1
Ex+Im/ total demand %	51.2	50.5	46.2	40.7	45.9	47.3
Exports/total demand %	26.2	28.8	25.5	20.5	22.7	23.8
Other chemicals & mm fibers	2000	2001	2002	2003	2004	2005
1. Domestic output Rbill	47.4	49.8	53.0	55.2	60.6	63.2
2. Exports Rbill	4.1	4.3	4.6	4.1	4.0	4.4
3. Imports Rbill	11.3	11.1	12.2	12.4	12.3	12.3
4 Total demand Rbill (1+3)	58.7	60.9	65.1	67.7	73.0	75.5
5 Domestic demand (4 less 2)	54.6	56.6	60.5	63.6	68.9	71.1
6. Domestic sales (1 less 2)	43.3	45.5	48.4	51.1	56.6	58.7
7.6 Domestic sales as % of 5	79.3	80.4	79.9	80.4	82.1	82.6
Imports/ domestic demand%	20.7	19.6	20.1	19.6	17.9	17.4
Exports/domestic output%	8.7	8.7	8.7	7.4	6.6	7.0
Ex+Im/ total demand %	26.2	25.3	25.8	24.5	22.4	22.2
Exports/total demand %	7.0	7.1	7.1	6.1	5.5	5.9
Plastic products	2000	2001	2002	2003	2004	2005
1. Domestic output Rbill	15.6	16.5	18.4	19.7	20.3	21.7
2. Exports Rbill	1.0	1.1	1.5	1.4	1.5	1.6
3. Imports Rbill	1.8	1.9	2.3	2.2	2.3	2.4
4 Total demand Rbill (1+3)	17.4	18.5	20.7	21.9	22.7	24.1
5 Domestic demand (4 less 2)	16.4	17.3	19.2	20.5	21.2	22.5
6. Domestic sales (1 less 2)	14.6	15.4	16.9	18.3	18.8	20.0
7.Domestic sales as % of 5	88.9	88.9	88.2	89.4	88.9	89.1

Imports/ domestic demand%	11.1	11.1	11.8	10.6	11.1	10.9
Exports/ domestic output%	6.3	6.9	8.2	6.9	7.3	7.5
Ex+Im/ total demand %	16.1	16.6	18.2	16.2	16.9	16.9
Exports/total demand %	5.6	6.2	7.3	6.2	6.5	6.7
Rubber products	2000	2001	2002	2003	2004	2005
1. Domestic output Rbill	7.1	7.0	7.3	7.3	7.7	8.4
2. Exports Rbill	1.2	1.2	1.2	1.3	1.2	1.3
3. Imports Rbill	2.1	2.1	2.1	2.9	2.9	3.1
4 Total demand Rbill (1+3)	9.2	9.0	9.3	10.2	10.5	11.4
5 Domestic demand (4 less 2)	8.0	7.9	8.2	9.0	9.3	10.1
6. Domestic sales (1 less 2)	5.9	5.8	6.1	6.0	6.5	7.1
7. Domestic sales as % of 5	73.4	74.0	74.8	67.4	69.1	69.7
Imports/ domestic demand%	26.6	26.0	25.2	32.6	30.9	30.3
Exports/ domestic output%	17.1	16.5	15.9	17.2	15.7	15.6
Ex+Im/ total demand %	36.2	35.4	34.4	40.8	38.8	38.2
Exports/total demand %	13.2	12.8	12.4	12.3	11.4	11.4
Total manufacturing						
Ex+Im/total demand %	37.9	36.6	35.4	35.5	36.6	37.3