

***Market Survey cum Detailed Techno
Economic Feasibility Report***

on

Active Pharma Ingredients

- *Metformin*
- *Amoxicillin*
- *Ibuprofen*
- *Paracetamol*

OP: AECACD RP: OS-1

**Prepared for: M/s. XXXXXX XXX XX
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Project Location

Djibouti: Country Profile & Geotechnical Site Characterization

General

Djibouti, small strategically located country on the northeast coast of the Horn of Africa. It is situated on the Bab el Mandeb Strait, which lies to the east and separates the Red Sea from the Gulf of Aden.



Map



Djibouti

Formerly known as French Somaliland (1896–1967) and the French Territory of the Afars and Issas (1967–77), the country took Djibouti as its name when it gained independence from France on June 27, 1977. Djibouti's capital, Djibouti city, is built on coral reefs that jut into the southern entrance of the gulf; other major towns are Obock, Tadjoura, Ali Sabieh, Arta, and Dikhil.

The country's Lilliputian aspect belies its regional and geopolitical importance. The capital is the site of a modern deepwater port that serves Indian Ocean and Red Sea traffic and hosts a French naval base. Djibouti city is also the railhead for the only line serving Addis Ababa, the capital of neighbouring Ethiopia.

Land Relief



Djibouti

Djibouti is bounded by Eritrea to the north, Ethiopia to the west and southwest, and Somalia to the south. The Gulf of Tadjoura, which opens into the Gulf of Aden, bifurcates the eastern half of the country and supplies much of its 230 miles (370 km) of coastline.

The landscape of Djibouti is varied and extreme, ranging from rugged mountains in the north to a series of low desert plains separated by parallel plateaus in the west and south. Its highest peak is Mount Moussa at 6,654 feet (2,028 metres). The lowest point, which is also the lowest in Africa, is the saline Lake Assal, 509 feet (155 metres) below sea level.

The country is internationally renowned as a geologic treasure trove. Located at a triple juncture of the Red Sea, Gulf of Aden, and East African rift systems, the country hosts significant seismic and geothermal activity. Slight tremors are frequent, and much of the terrain is littered with basalt from past volcanic activity. In November 1978 the eruption of the Ardoukoba volcano, complete with spectacular lava flows, attracted the attention of

volcanologists worldwide. Of particular interest was the tremendous seismic activity that accompanied the eruption and led to the widening by more than a metre of the plates between Africa and the Arabian Peninsula.

Drainage



Lake Assal, Djibouti

Besides Lake Assal, the other major inland body of water is Lake Abbe, located on Djibouti's southwestern border with Ethiopia. The country is completely devoid of any permanent above-ground rivers, although some subterranean rivers exist.

Climate

The often torrid climate varies between two major seasons. The cool season lasts from October to April and typifies a Mediterranean-style climate in which temperatures range from the low 70s to the mid-80s F (low 20s to low 30s C) with low humidity. The hot season lasts from May to September. Temperatures increase as the hot khamsin wind blows off the inland desert, and they range from an average low in the mid-80s F (low 30s C) to a stifling high in the low 110s F (mid-40s C). This time of year is also noted for days in which humidity is at its highest. Among the coolest areas in the country is the Day Forest, which is located at a high elevation; temperatures in the low to mid-50s F (low to mid-10s C) have been recorded.

The average annual precipitation is limited and is usually spread over 26 days. Different regions of the country receive varying amounts of precipitation: the coastal regions receive 5 inches (130 mm) of rainfall per annum, while the northern and mountainous portions of the country receive about 15 inches (380 mm). The rainy season lasts between January and March, with the majority of precipitation falling in quick, short bursts. One outcome of this erratic rainfall pattern is periodic flash floods that devastate those areas located at sea level.

Plant and Animal Life

Despite Djibouti's relatively harsh landscape, abundances of flora and fauna abound. In the northern portion of the country, one finds the ancient Day Forest National Park and a variety of tree species, such as jujube, fig, olive, juniper, and momosa. To the south and southwest of the Gulf of Tadjoura, the vegetation is similar to that found in other arid regions of Africa, inclusive of acacia and doum palm trees. Among the types of fauna are a wide variety of bird species, numerous types of antelopes and gazelles, and more limited numbers of carnivores (such as cheetahs) and scavengers (such as hyenas), as well as monkeys, squirrels, and warthogs. Perhaps most spectacular is the extremely rich diversity of marine life found along Djibouti's coastline and coral reefs, a factor that has made the country a special point of interest for international scuba-diving associations.

Language

The republic recognizes two official languages: French and Arabic. However, Somali is the most widely spoken language, although it is rarely written and is not taught in the schools. The use of Afar is mostly restricted to Afar areas. Many Djiboutians are multilingual.

Fluency in French is particularly important for those with political aspirations. French is the means of instruction in primary and secondary schools, although Arabic is also taught as the first language at both these levels.

Economy

Djibouti has few natural resources and has limited capacity for agricultural and industrial pursuits; the country also has extensive unemployment, foreign debt, and regular budget deficits. The government continues to focus on financial-, telecommunications-, and trade-related services, solidifying the country's position as an important regional business and trade hub in the Horn of Africa. As a result, the economy relies heavily on the service sector, which accounts for some four-fifths of the country's gross domestic product.

Agriculture, forestry, and fishing

Because of Djibouti's harsh landscape and limited areas of arable land, agriculture is not a viable economic sector and is largely practiced at subsistence level only. In rural areas, nomadic pastoralism is a way of life. Sheep and goats are raised for milk, meat, and skins, while camels are used for transport caravans. Agriculture there is confined to a few wadis, which produce small yields of vegetables (mostly tomatoes) and dates.

Forests account for less than 1 percent of Djibouti's total land area. Much of the country's limited forest cover has long been exploited for grazing and firewood.

Offshore, Djibouti's waters teem with many species of marine life, including tuna, barracuda, and grouper. The government has sponsored experimental fisheries projects and has succeeded in producing small marketable yields of fish products. However, many Cushitic peoples in the region do not consume fish, and this factor has limited development in this area.

Resources and Power



Quarrying Salt

Djibouti has few natural resources. Salt is exploited—some is exported, and some is marketed through the informal sector of the economy. Efforts to exploit the country's vast potential for geothermal energy are under way but have yet to yield substantial results. Virtually all the country's electricity is generated by fossil fuels.

Manufacturing

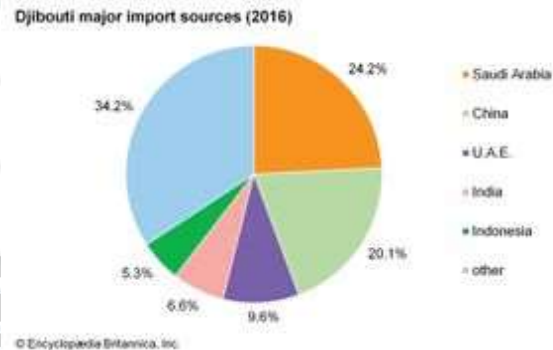
Because of limited development in the manufacturing and industrial sectors, Djibouti is heavily reliant on the import of consumer products. Despite liberal investment laws and Djibouti's status as a free-trade zone, high labour and energy costs, an extremely small domestic market, and regional instability have hindered the attraction of foreign investors. The government traditionally has sought to overcome this handicap by launching parastatals (government-owned enterprises) in specifically targeted industries, such as a mineral-water-bottling plant at Tadjoura and a dairy plant outside Djibouti city. It has also attempted to exploit significant geothermal activity in the hopes of making the country energy self-sufficient. However, the parastatal sector was plagued by inefficiency and the need for significant budget subsidies. Since the mid-1980s the government has worked toward the privatization of these companies in an attempt to increase profit and productivity. In 1996 these efforts were further expanded as part of a structural-adjustment program sponsored by the International Monetary Fund and the World Bank.

Finance and Services

The Central Bank of Djibouti issues the Djiboutian franc, the national currency, which is pegged to the U.S. dollar at a fixed parity. There are several commercial banks, development banks, and insurance companies in the country, most of which are located in Djibouti city.

The country is a popular business and finance centre in the region, as its banking and finance laws tend to be less restrictive than those of other countries. Subsequently, foreign businesspersons, particularly those from neighbouring countries, have utilized Djiboutian banks as financial havens for investment capital and as centres for generating import transactions in order to avoid the more regulated banking systems of their respective countries. The quality of the country's telecommunication services also benefits the business sector.

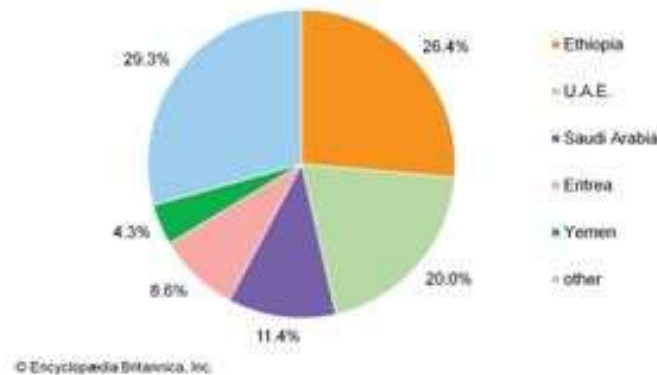
Trade



Djibouti: Major import sources

Since 1982 Djibouti has suffered from an overall trade deficit. Because of limitations in the agricultural and manufacturing sectors, the country must import almost all goods intended for final consumption. Imports include food and beverages, machinery and transportation equipment, electric appliances, and petroleum products. Exports include aircraft parts, animal hides and skins, and live animals. Many goods listed as exports are reexports destined for neighbouring countries. Important trading partners include India, Ethiopia, the Persian Gulf states, and China.

Djibouti major export destinations (2016)



Djibouti: Major export destinations

A darker side of Djibouti's trade habits concerns its daily importation from Ethiopia of the mild narcotic known as khat (qat; *Catha edulis*). This item of trade, which is managed by a government-sanctioned private syndicate, constitutes a sizable part of Djibouti's total imports. The Djiboutian government continues to support the khat trade because it is estimated to employ as much as almost one-tenth of the country's working population and contributes to a windfall in government revenue through taxes.

Labour and Taxation

Djibouti's high unemployment rate—estimated to be anywhere from almost three-fifths to more than four-fifths of the country's workforce—is further exacerbated by the thousands of illegal migrants who go to Djibouti and are willing to accept subminimum wages.

Tax revenue in Djibouti funds more than half the annual budget. Sources of revenue include indirect taxes, direct taxes, transit taxes, and harbour dues and related fees.

Transportation and Telecommunications



Djibouti-Addis Ababa railway

Djibouti's title as a regional trade hub is built upon its modern international port and the Djibouti-Addis Ababa railway. There is also much unrecorded transshipment, via camels, dhows, and trucks, to bordering countries.

Djibouti's road network comprises about 2,000 miles (3,000 km) of roads, of which less than half is paved. Primary routes include a paved road linking Tadjoura and the north with the capital, and the Grand Bara road, which links the capital with the south.

The Djibouti–Addis Ababa railway was historically an important source of revenue for Djibouti. Built in the early 20th century, it was jointly owned by the governments of Djibouti and Ethiopia and was upgraded with the financial support of the European Union. Despite these improvements, however, the line continued to deteriorate, affecting both passenger and freight traffic. Eventually the railway fell into disuse, but a new electrified rail line was built parallel to the existing track. Financed largely by the Export-Import Bank of China, the \$3.4 billion project was completed in October 2016. Capable of accommodating freight trains at speeds of up to 75 miles (120 km) per hour and passenger trains at speeds of up to 100 miles (160 km) per hour, the electrified rail line promised to greatly reduce the transit time between Addis Ababa and Djibouti city.

The port of Djibouti is a free-trade zone with modern container and refrigeration facilities and a rail link to Ethiopia. The international port provides capabilities for bunkering and the transshipment of goods to other countries in the region. Attempts at diversification—including the construction of new container terminals, the refurbishment of docking berths, and the inauguration of a new port with a deepwater container facilities and an oil and gas terminal at nearby Doralé—have centred on capturing a larger share of the worldwide transshipment of goods along the Red Sea and Gulf of Aden.

Djibouti has several small airports throughout the country that provide access to domestic air service. There is an international airport located at Ambouli, near Djibouti city.

Djibouti’s international telecommunications services are some of the best in sub-Saharan Africa, designed to support the country’s position as a financial and business hub. An earth station links Djibouti to the Arab Satellite Communication Organization (Arabsat). Djibouti is also linked to the submarine South East Asia–Middle East–Western Europe–3 (SEA-ME-WE-3) telecommunications system.

With regard to personal communication, mobile phone use is far more prevalent than landline use and continues to increase. Internet usage outside the business realm is limited but growing.

Health and Welfare

Historically, Djiboutians on average have been better off than the populations of their immediate neighbours. There are still problems, however. Many Djiboutians live in poor housing with inadequate water and sanitation. The infant mortality rate is high because of diarrhea, acute respiratory infections, malaria, and nutritional deficiencies. For the general population, tuberculosis is a major health problem, as are other respiratory diseases, diarrhea, and HIV/AIDS. About four-fifths of the country's population has access to health care; that figure is considerably lower in rural areas. Djibouti city has a hospital and several primary care clinics, and local dispensaries serve the rural areas.

The widespread chewing of khat in Djibouti presents some health and societal problems. There is the obvious issue of physical side effects associated with prolonged usage that have a negative impact on one's health. Some studies have indicated that most adult male Djiboutians spend more than five hours a day chewing khat, with the country's high level of unemployment thought to be partially to blame for the pervasive habit. There is also a problem with khat usage by the portion of the Djiboutian workforce that is gainfully employed, as it is widely recognized that use of the drug severely hinders labour productivity.

Education

Six years of primary education begin at age six. This is followed by seven years of secondary education that begin with a four-year cycle and continue with an additional three-year cycle. Although efforts have been made to increase school enrollment and attendance, it is estimated that fewer than half of primary-school-age children obtain an education. The University of Djibouti (2006) offers undergraduate and postgraduate programs. More than two-thirds of the adult population is literate.

Cultural life

Djibouti is renowned for its delicate multicoloured textiles, which are made into sarong like garments called futa. These garments are sold in the capital's colourful central market.

The cuisine of Djibouti mingles African and French influences to produce meals that might include roast lamb with a delicate yogurt sauce, lentil stew, flatbread, and cucumber salad, served with mineral water and fruit juice. The souk (marketplace) of Djibouti city is famed for its spicy oven-baked fish. The capital also houses several high-quality Vietnamese, Chinese, and Lebanese restaurants, making it a somewhat remote but altogether fascinating destination for gourmands.

Muslim feasts and holidays, including ʿĪd al-Fiṭr, which marks the end of Ramadan, and ʿĪd al-Aḍḥā, which marks the culmination of the hajj, are celebrated by Djibouti's predominant Muslim population. In addition to these, other major holidays in the country include Independence Day, which is celebrated on June 27.

History

This discussion focuses on Djibouti since independence. For a more detailed treatment of earlier periods and of the country in its regional context, see eastern Africa, history of.

Independence and the Gouled presidency (1977–99)

Balancing Ethnic Tensions

On June 27, 1977, the French Territory of the Afars and the Issas became independent, taking the name Djibouti, with Hassan Gouled Aptidon as president. On the eve of independence, Djibouti's viability as a sovereign state was questionable. However, fears that the Afar and the Issa Somali would become pawns in a struggle between the republic's rival neighbours, Ethiopia and Somalia, did not materialize. No Djiboutian political leader, either Afar or Somali, ever condoned unification with either of the larger states. Indeed, Djibouti established a peaceful international profile through a policy of strict neutrality in regional affairs. In keeping with friendship treaties with both Somalia and Ethiopia, the government refused to support armed groups opposing the neighbouring regimes, and it hosted negotiations between Somalia's and Ethiopia's leaders that resulted in a series of accords in 1988.

Djibouti's balanced posture in external relations was reflected in its internal politics. Gouled, an Issa Somali, was elected to two consecutive terms as president in 1981 and 1987. Barkat Gourad Hamadou, an Afar serving as prime minister since 1978, was reappointed in 1987. Power appeared to be shared, with ministry appointments following a formula designed to maintain ethnic balance.

In the first years of self-government, though, ethnic tensions were evident. By 1978 the state had experienced two cabinet crises and changes of prime minister. Those ousted were Afars accused of fomenting ethnic strife. After opposition parties were banned in 1981, ethnic conflict in the political arena was for the most part minimal. However, Issa predominance in the civil service, the armed forces, and the Popular Assembly for Progress (Rassemblement Populaire pour le Progrès; RPP)—now the only legally recognized political party—was only slightly masked, and occasional tremors of social unrest disturbed Djibouti's superficial calm.

Introduction

The Active Ingredient (API) is the part of any drug that produces the intended effects. Some drugs, such as combination therapies, have multiple active ingredients to treat different symptoms or act in different ways.

Production of APIs has traditionally been done by the pharmaceutical companies themselves in their home countries. But in recent years many corporations have opted to send manufacturing overseas to cut costs. This has caused significant changes to how these drugs are regulated, with more rigorous guidelines and inspections put into place.

The similar terms active pharmaceutical ingredient and bulk active are also used in medicine, and the term active substance may be used for natural products. Some medication products may contain more than one active ingredient.

The terms active constituent or active principle are often chosen when referring to the active substance of interest in a plant (such as salicylic acid in willow bark or arecoline in areca nuts), because the word ingredient in many minds connotes a sense of human agency (that is, something that a person combines with other substances), whereas the natural products present in plants were not added by any human agency but rather occurred naturally ("a plant doesn't have ingredients")

Metformin

Introduction

Metformin, sold under the brand name Glucophage among others, is the first-line medication for the treatment of type 2 diabetes, particularly in people who are overweight. It is also used in the treatment of polycystic ovary syndrome. It is not associated with weight gain and is taken by mouth. It is sometimes used as an off-label augment to attenuate the risk of weight gain in people who take antipsychotics as well as phenelzine.

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Metformin was discovered in 1922. French physician Jean Sterne began the study in humans in the 1950s. It was introduced as a medication in France in 1957 and the United States in 1995. It is on the World Health Organization's List of Essential Medicines. Metformin is the most widely used medication for diabetes taken by mouth. It is available as a generic medication. In 2019, it was the fourth-most commonly prescribed medication in the United States, with more than 85 million prescription.

Medical Uses

Metformin is used to treat high blood sugar levels that are caused by a type of diabetes mellitus or sugar diabetes called type 2 diabetes. With this type of diabetes, insulin produced by the pancreas is not able to get sugar into the cells of the body where it can work properly.

Using metformin alone, with a type of oral antidiabetic medicine called a sulfonylurea, or with insulin, will help to lower blood sugar when it is too high and help restore the way you use food to make energy.

Metformin is used to lower the blood sugar in those with type 2 diabetes. It is also used as a second-line agent for infertility in those with polycystic ovary syndrome.

Type 2 Diabetes

The American Diabetes Association and the American College of Physicians both recommend metformin as a first-line agent to treat type 2 diabetes. It is as effective as repaglinide and more effective than all other oral diabetes mellitus type 2 drugs.

Efficacy

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The use of metformin reduces body weight in people with type 2 diabetes mellitus in contrast to sulfonylureas, which are associated with weight gain. Some evidence shows that metformin is associated with weight loss in obesity in the absence of diabetes. Metformin has a lower risk of hypoglycemia than the sulfonylureas, although hypoglycemia has uncommonly occurred during intense exercise, calorie deficit, or when used with other agents to lower blood glucose. Metformin modestly reduces low density lipoprotein and triglyceride levels.

Polycystic Ovarian Syndrome

In those with polycystic ovarian syndrome (PCOS), tentative evidence shows that metformin use increases the rate of live births. This includes in those who have not been able to get pregnant with clomiphene. Metformin does not appear to change the risk of miscarriage a number of other benefits have also been found both during pregnancy and in nonpregnant women with PCOS. In an updated Cochrane (2020) review on metformin versus placebo/no treatment before or during IVF/ICSI in women with PCOS no conclusive evidence of improved live birth rates was found. In long GnRH-agonist protocols there was uncertainty in the evidence of improved live birth rates but there could be increases in clinical pregnancy rate. In short GnRH-antagonist protocols metformin may reduce live birth rates with uncertainty on its effect on clinical pregnancy rate. Metformin may result in a reduction of OHSS but could come with a greater frequency of side effects. There was uncertainty as to metformin's impact on miscarriage. The evidence does not support general use during pregnancy for improving maternal and infant outcomes in obese women.

Product Detail

Specification:

Name	Metformin XXX
Appearance	White crystalline powder
Cas No	XXXX-XX-X
MF	XXXXXXXXXX
Mol. mass	XXX.XXXXX
Grade	Medicine grade
Assay	XX.x%
Melting point	xxx-xxx°C
Boiling point	xxx.xxx at xxx mmHg
Usage	XXXXXXXXXXXX

Raw Material-Description

The main raw materials that are required.

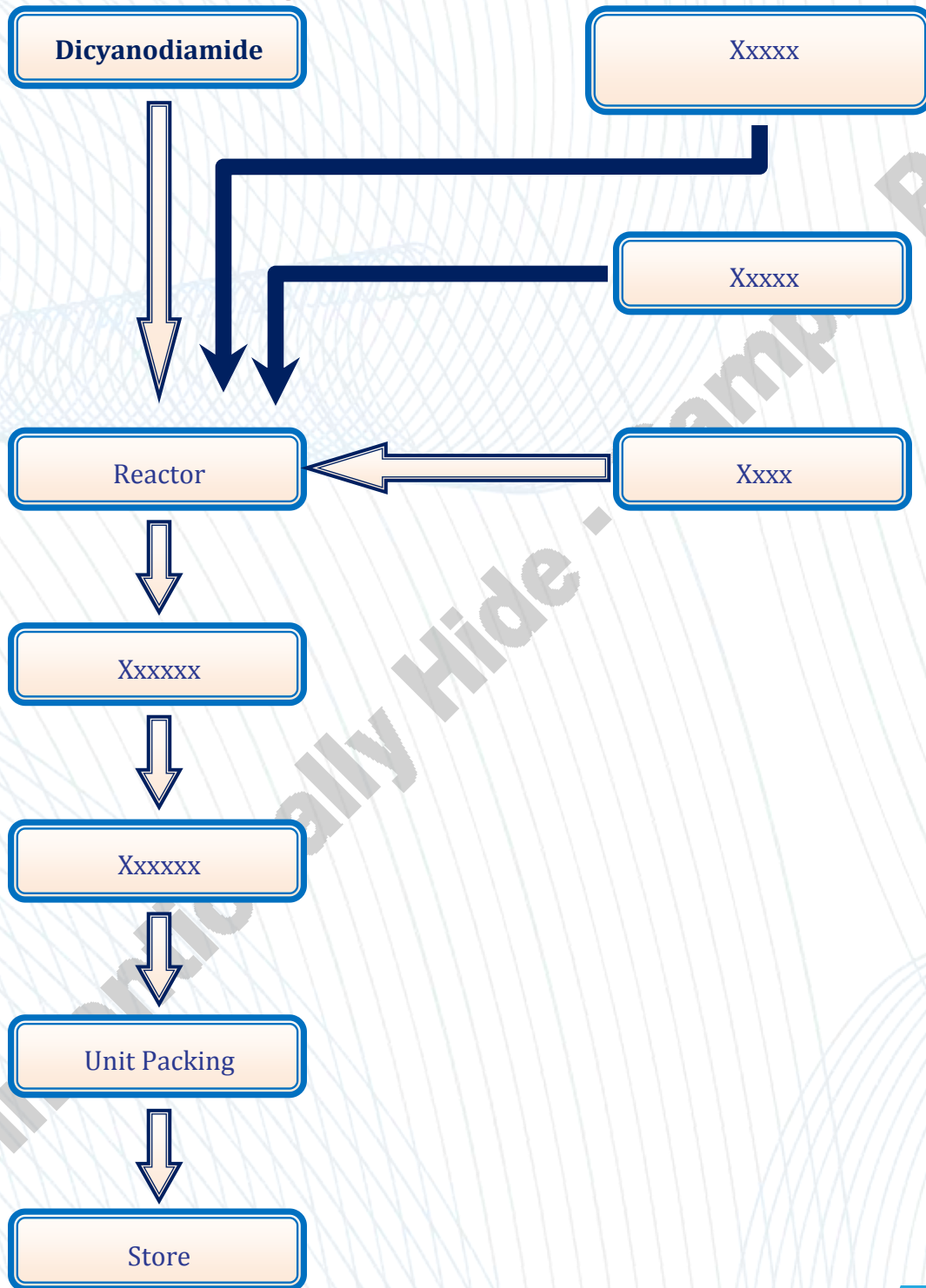
Dicyandiamide

Product name	: XXXXXXXXXXXXX
CAS NO	: XXX-XX-X
Molecular formula	: XXXXxXxX
Molecular weight	: xx.xx
Appearance	: Crystal Powder

Dimethylammonium Chloride

mp	160°C
bulk density	xxx xx/x3
storage temp.	x-xx°C

Process Flow Diagram



Handling and Storage

Precautions for Safe Handling

- *Advice on safe handling*
- *Avoid contact with skin and eyes. Avoid formation of dust and aerosols.*
- *Advice on protection against fire and explosion*
- *Provide appropriate exhaust ventilation at places where dust is formed.*

Hygiene Measures

- *XXXXXXXX XX XXXXXXXXXXXX XXXX XXXX XXXXXXXXXXXX XXXXXXXXXXXX XXX XXXXXX XXXXXXXXXXXX. XXXXX XXXXX
XXXXXXXX XXXXXX XXX XX XXX XXX XX XXXXXXXX.*
- *Conditions for safe storage, including any incompatibilities*

Storage Conditions

- *Keep container tightly closed in a dry and well-ventilated place. Store in cool place.*

Storage Stability

- *XXXXXXXXXXXXXXXX XXXXXXXX XXXXXXXXXXXXXXX X -x°C*

Personal Protective Equipment

Eye/face Protection

- Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as
- XXXXX (US) or XX XXX(XX).

Skin Protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Xxx xxxxxxxx xxxxxxxxxxxx xxxxxx xxxx xx xxxxxxxx xxx xxxxxxxxxxxxxxxx xx Xxxxxxxxxx
(EU) XXXX/XXX xxx xxx xxxxxxxx XX XXX xxxxxxxx xxxx xx.

Full Contact

Material : Xxxxxxx Xxxxxx
 Minimum layer thickness : x,xx xx
 Break through time : xxx xxx
 Material tested : Xxxxxxxxx®
 (XXX xxx/Xxxxxxx Zxxxxxx, Size M)

Splash Contact

Material : Xxxxxxx xxxxxx
 Minimum layer thickness : x,xx mm
 Break through time : xxx min

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This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

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Control of Environmental Exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Discharge into the environment must be avoided

Amoxicillin

Introduction

Amoxicillin is an antibiotic used to treat a number of bacterial infections. These include middle ear infection, strep throat, pneumonia, skin infections, and urinary tract infections among others. It is taken by mouth, or less commonly by injection.

It is on the World Health Organization's List of Essential Medicines, the safest and most effective medicines needed in a health system. It is one of the most commonly prescribed antibiotics in children. Amoxicillin is available as a generic medication.

Medical Uses

Amoxicillin BP

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Acute Otitis Media

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Respiratory Infections

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H. pylori

It is effective as one part of a multi-drug regimen for treatment of stomach infections of Helicobacter pylori. It is typically combined with a proton-pump inhibitor (such as omeprazole) and a macrolide antibiotic (such as clarithromycin); other drug combinations are also effective.

Lyme borreliosis

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xxxxxx, xxxxxx, xxxxxxxxxxx xxxxxxxxxxxx, xxxxxxxxxxx, xxxxx xxxxxxxx, xxxxxxx xxxxx xxxxxxxx,
XXXXXXXXXXXX xxxxxxxxxxxx, XXXX xxxxxxxx, xxx xxxxxxxx xxxxxxxx.

Skin infections

Amoxicillin is occasionally used for the treatment of skin infections, such as acne vulgaris. It is often an effective treatment for cases of acne vulgaris that have responded poorly to other antibiotics, such as doxycycline and minocycline.

Infections in infants in resource-limited settings

Amoxicillin is recommended by the World Health Organization for the treatment of infants with signs and symptoms of pneumonia in resource-limited situations when the parents are unable or unwilling to accept hospitalization of the child. Amoxicillin in combination with gentamicin is recommended for the treatment of infants with signs of other severe infections when hospitalization is not an option.

Prevention of bacterial endocarditis

It is also used to prevent bacterial endocarditis in high-risk people having dental work done, to prevent Streptococcus pneumoniae and other encapsulated bacterial infections in those without spleens, such as people with sickle-cell disease, and for both the prevention and the treatment of anthrax. The U K recommends against its use for infectious endocarditis prophylaxis. These recommendations do not appear to have changed the rates of infection for infectious endocarditis.

Combination Treatment

XXXXXXXXXX xx XXXXXXXXXXXX xx XXXXXXXXXXXX xx X-XXXXXXXX-XXXXXXXX XXXXXXXX, XXXXXX xxx XXXXXXXXXXXX xx XXXX X-XXXXXX XXXXXXXXXXXX, XXXX xx XXXXXXXXXXXX. XXX XXXX XXXXXX, xx xxx xx XXXXXXXXXXX XXXX XXXXXXXXXXX XXXX, x X-XXXXXXXX XXXXXXXXXXX. XXXX XXXX XXXXXXXXXXXX xx XXXXXXXXXXX XXXXXX xx-XXXXXXXX.

Spectrum of Activity

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In general, Streptococcus, Bacillus subtilis, Enterococcus, Haemophilus, Helicobacter, and Moraxella are susceptible to amoxicillin, whereas Citrobacter, Klebsiella and Pseudomonas aeruginosa are resistant to it. Some E. coli and most clinical strains of Staphylococcus aureus have developed resistance to amoxicillin to varying degrees.

Properties

Name	: Amoxicillin
CAS Number	: XXXXX-XX-X
Purity	: ≥XX%
Molecular Weight	: XXX.XX
Molecular Formula	: XxxXxxXxXxX•xXxX
Appearance	: xxxxx xx xxxxx xxxxxx xxxxxxxxxxxxxx xxxxxx, xxxxxx xxxxxx xxxxxx, xxx xxxxxxxxxxxx xx xxxxx

Raw Material

The main raw materials are:-

1. 6-XXX
2. D(-)-x-x- xxxxxxxxxxxxxx-xxxxxxxxxxxx xxxxxxxxxxxxxx-xxxxxxxxxxxx

- Xxxx xxxxxxxxxxx xxxxxxxxxxx xxx xxxxxx xx xxxxxxx, xxx xxxxx xxxxxxxxxxxxxx xxx xxxxxxxxxxxxxx-xxxxxxxxxxxx xxx xxxxxxxxxxxxxx, xxx xxx xxxxxx xxxxxxx xxxxxx xx xxxxxxxxxxxxxx xxx xx xxxxxxxxxxxxxx xx xxx xxxxxxx xxxxxxx. The other antibiotics are used in place of penicillin G or penicillin V.

Properties

Chemical formula	XxXxxXxxXxXxxx
Molar mass	xxx.xx x·xxx-x
Appearance	colourless
Melting point	xxx °C (xxx °F; xxx K)

Solubility in water 0.x g/xxx mL

Xxxxxxxx xxxxxxxx Xxxxxx Xxxxxxxxxxxxxxxxx xxxxx-xx-x

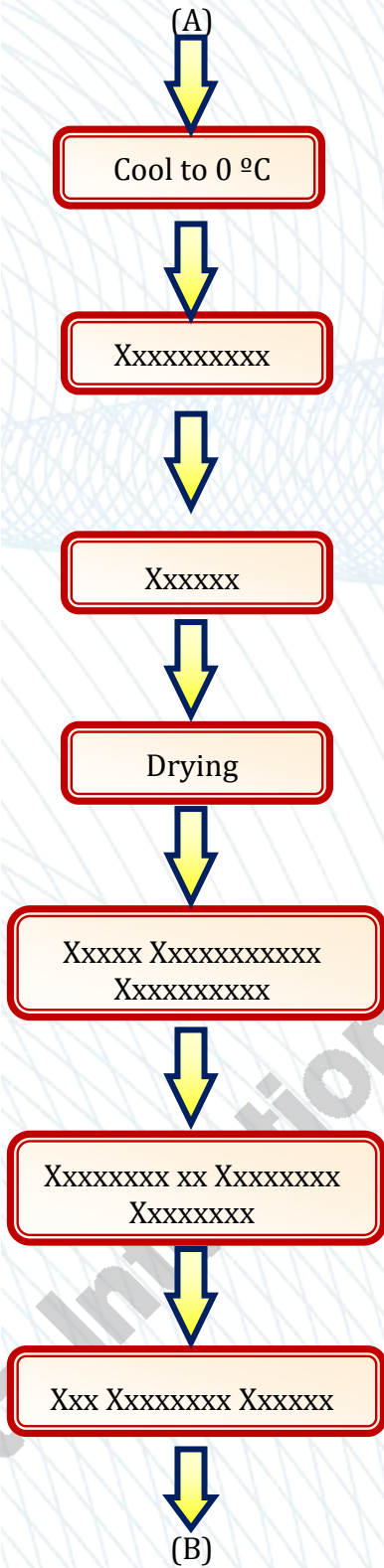
Physical State Xxxxx

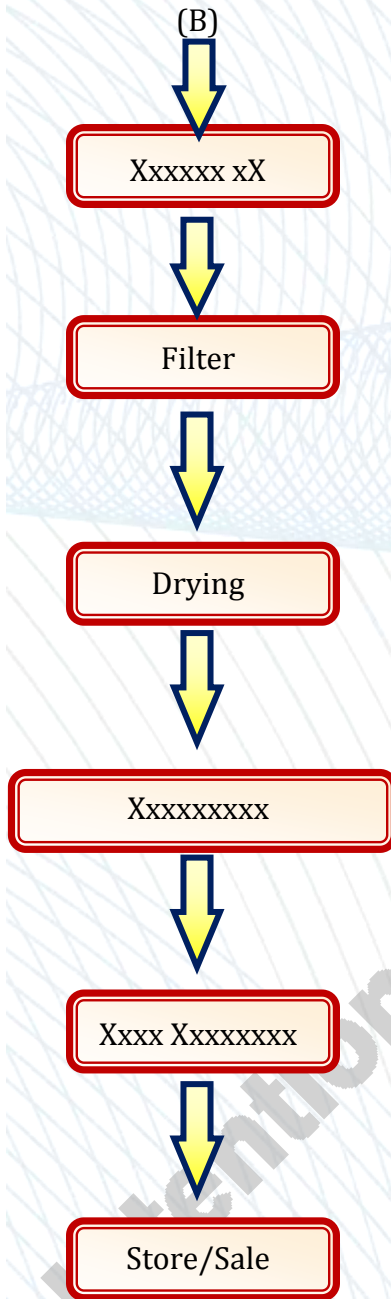
Appearance Light brown

Melting Point/Range xxx °C

Manufacturing Process

- charge water into the reactor
- add 6-APA
- add p-hydroxyphenylglycine methyl ester
- cool to 10 °C
- Axx xxxxxxxx
- add water
- xxxx xxx x xxxxx xx xx °C.
- add water
- xxxx xx x °C & xxxxxxxxxxx.
- xxxxxx
- xxxxxxxx xx xxx xxxxxxxxxxx xxxxxxxxxxx.
- Xxx xxxxxx
- Xxxxxx xX
- xxxxxxxxxxx
- xxxxxx
- Xxx xxxxx xxxxxxx.
- Xxxxxxx xxx xxxxxxxxxxx xxxxxxxxxxx.





Ibuprofen

Introduction

Ibuprofen is a nonsteroidal anti-inflammatory drug (NSAID). It works by reducing hormones that cause inflammation and pain in the body.

Ibuprofen is a medication in the nonsteroidal anti-inflammatory drug (NSAID) class that is used for treating pain, fever, and inflammation. This includes painful menstrual periods, migraines, and rheumatoid arthritis. It may also be used to close a patent ductus arteriosus in a premature baby. It can be used by mouth or intravenously. It typically begins working within an hour

Ibuprofen is used to reduce fever and treat pain or inflammation caused by many conditions such as headache, toothache, back pain, arthritis, menstrual cramps, or minor injury.

Properties

Chemical and Physical Data

Formula	X _{xx} X _{xx} X _x
Molar mass	xxx.xxx g·mol ⁻¹
Chirality	Xxxxxxxx mixture
Density	x.xx g/ml g/xx ³
Melting point	xx to xx °C
Boiling point	xxx °C (xxx °F) at x xxHg
Solubility in water	0.xxx xx/mL (xx °C)

Xxxxxxxx xx xxxxxxxxxxx xxxxxxxxxxx xx xxxxx, xxx xxxx xxxxxxxx xx xxxx xxxxxxxx
 xxxxxxxx xxxx xxxxxxxx (xx.xx g/xxmL at xx °C for xx% EtOH), xxxxxxxx, xxxxxxxx xxx
 xxxxxxxxxxxxxxxxxxxx.

Raw Material

Isobutyl benzene is a chemical compound with the molecular formula $C_{10}H_{14}$. It is used in the industrial manufacture of ibuprofen. Isobutyl benzene is a colorless flammable liquid that is a respiratory irritant.

Properties

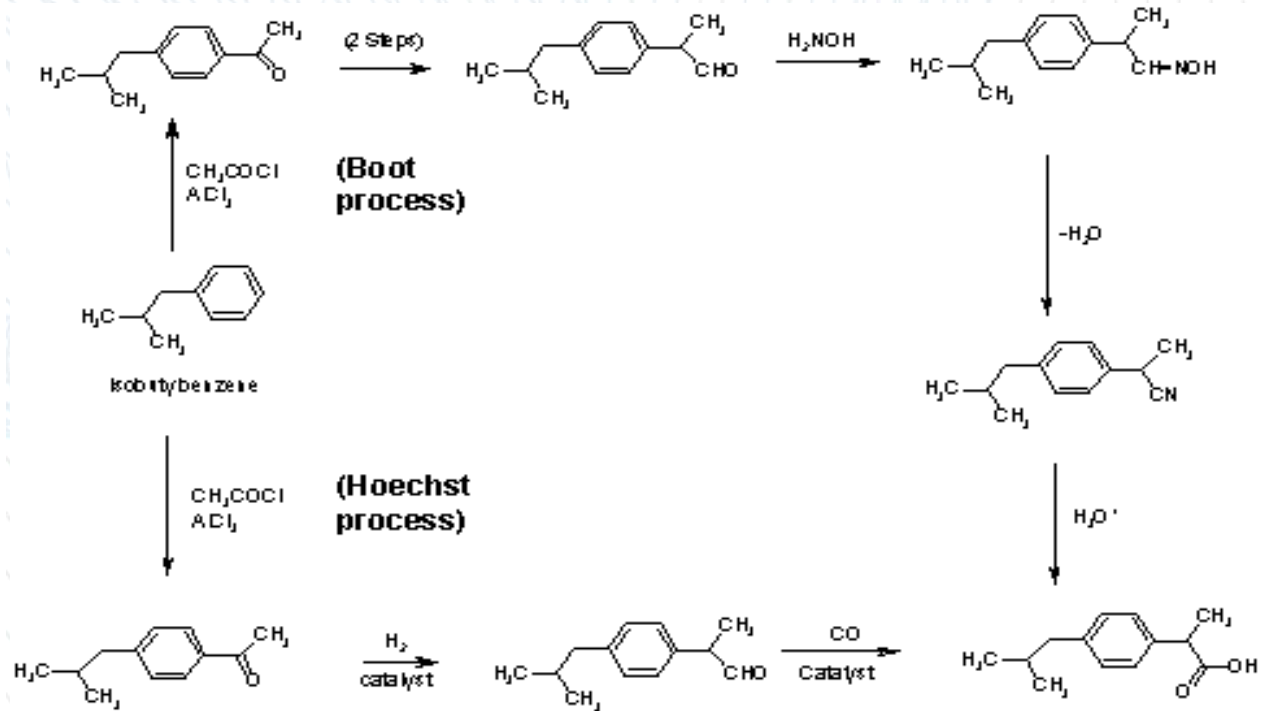
Chemical Formula	$C_{10}H_{14}$
Molar Mass	134.22 g·mol ⁻¹
Appearance	Colorless liquid
Odor	Gasoline-like
Density	0.68 g/cm ³ , 20 °C
Melting Point	-95 °C
Boiling Point	70 °C
Vapor Pressure	1.5 kPa (20 °C)
Refractive Index (nD)	1.48

Isobutyl benzene ($C_{10}H_{14}$) is a colorless, flammable, volatile liquid. It belongs to the class of organic compounds called alkyl benzenes. It is a colorless, corrosive, volatile liquid.

Properties

Chemical formula	$C_{10}H_{14}$
Molar mass	134.22 g/mol
Appearance	Colorless liquid
Density	0.68 g/cm ³ , 20 °C
Melting point	-95 °C
Boiling point	70 °C

Brief Description of Manufacturing Process of Ibuprofen



ISOBUTYL BENEZENE + XXXXXX XXXXXXXX (XX3XXXXXX) AT (X X, XxXxx)

Hydroxylamine \longrightarrow $-H_2O$

Description

Step-1

The ibuprofen is manufactured by the acylation of Isobutyl benzene with acetyl chloride using the aluminium chloride as the catalyst at a temp 0 C to -10 C. this route to ibuprofen begin with isobutyl benzene and use Friedel-Crafts acylation.

Step-2

- Removal of reaction water.
- XXXXXXXXXXXX XX XXXXXXXXXXXX XXXXXXXXXXXX XX XXXXX, XXX XXXX XXXXXXXX XX XXXX XXXXXXXX

Step-3

The reaction mass under go to the rearrangement with the addition of Zinc octate.

Step-4

The reaction mass shall be separated Layer separation. Use the organic layer for next step.

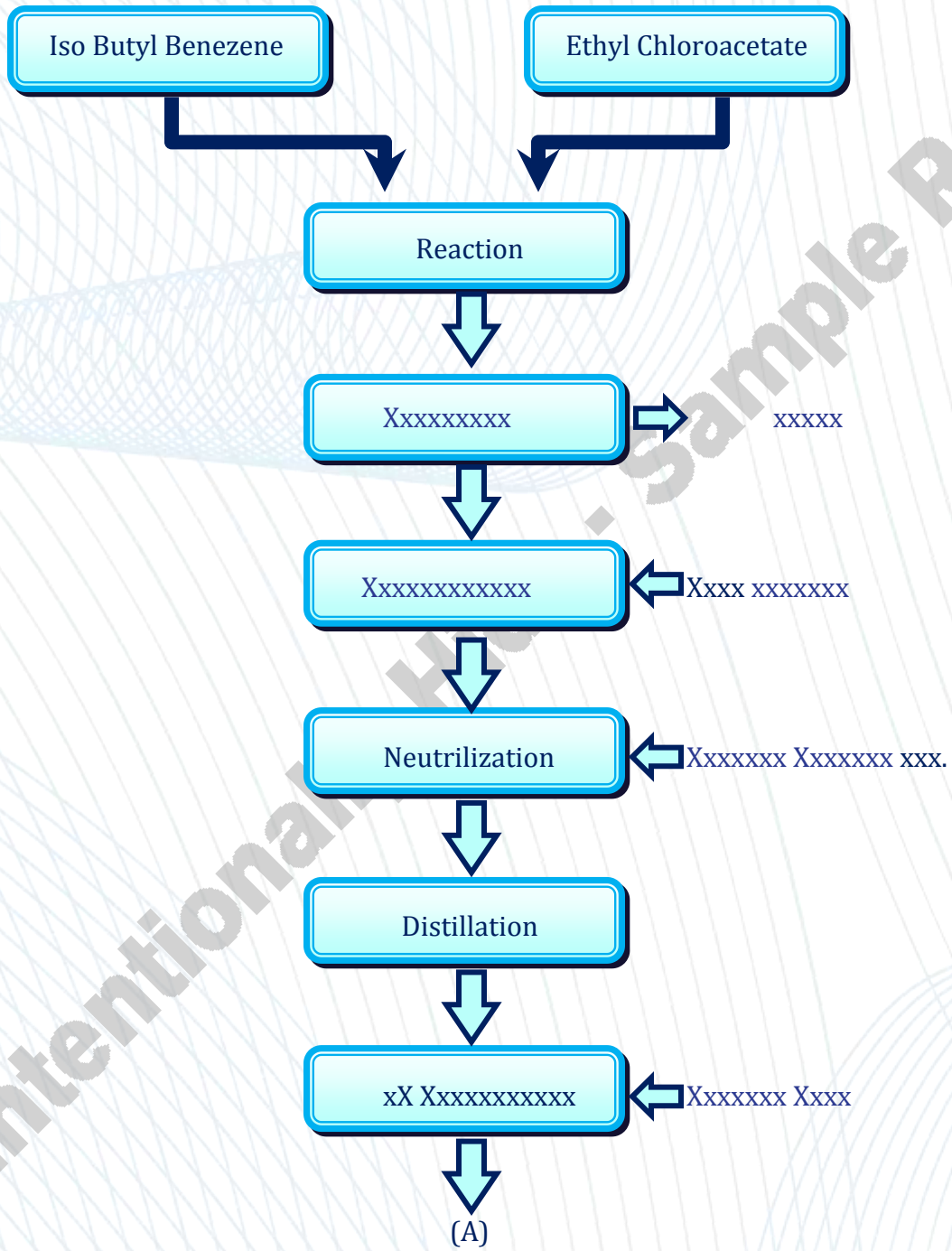
Step-5

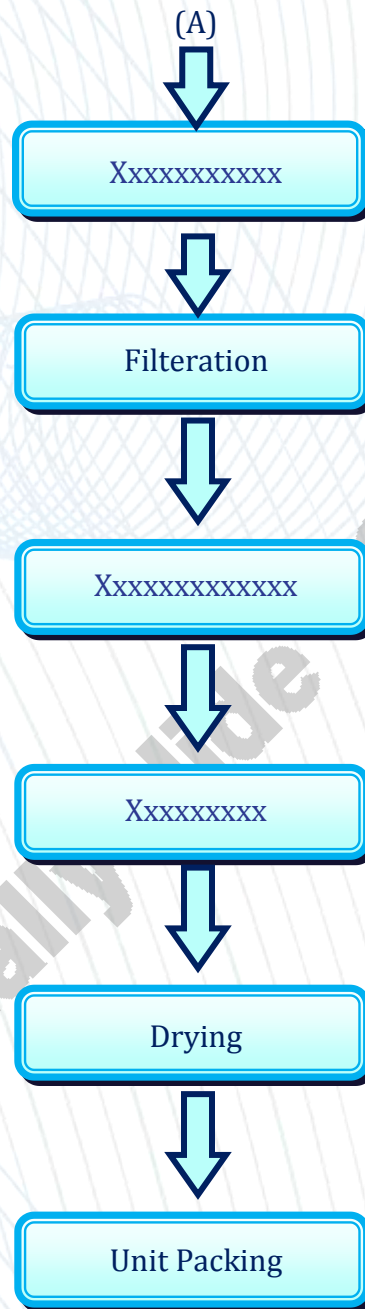
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Step-6

- Filter the precipate
- XXX XXXX XXXXXXXX XX XXXX XXXXXXXX.

Process Flow Diagram





Paracetamol

Introduction

Paracetamol (acetaminophen) is a pain reliever and a fever reducer. The exact mechanism of action of is not known. Paracetamol is used to treat many conditions such as headache, muscle aches, arthritis, backache, toothaches, colds, and fevers. It relieves pain in mild arthritis but has no effect on the underlying inflammation and swelling of the joint.

Paracetamol may also be used for other purposes not listed in this medication guide.

Paracetamol, also known as acetaminophen and APAP, is a medication used to treat pain and fever. It is typically used for mild to moderate pain relief. There is mixed evidence for its use to relieve fever in children. It is often sold in combination with other medications, such as in many cold medications. Paracetamol is also used for severe pain, such as cancer pain and pain after surgery, in combination with opioid pain medication. It is typically used either by mouth or rectally, but is also available by injection into a vein. Effects last between two and four hours.

Paracetamol is generally safe at recommended doses. The recommended maximum daily dose for an adult is three to four grams. Higher doses may lead to toxicity, including liver failure. Serious skin rashes may rarely occur. It appears to be safe during pregnancy and when breastfeeding. In those with liver disease, it may still be used, but in lower doses. It is classified as a mild analgesic. It does not have significant anti-inflammatory activity. How it works is not entirely clear.

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XXXXXXXXXXXX XX XXXXX, XXX XXXX XXXXXXXX XX XXXX XXXXXXXX XXXXXXXXXXXX XXXX XXXXXXXX XXXXXXXXXXXX.

Medical Uses

Fever

Paracetamol is used for reducing fever in people of all ages. The World Health Organization (WHO) recommends that paracetamol be used to treat fever in children only if their temperature is higher than 38.5 °C (101.3 °F). The efficacy of paracetamol by itself in children with fevers has been questioned and a meta-analysis showed that it is less effective than ibuprofen. Paracetamol does not have significant anti-inflammatory effects.

Pain

Paracetamol is used for the relief of mild to moderate pain. The use of the intravenous form for short-term pain in people in the emergency department is supported by limited evidence. In adults it appears to be useful for migraines, tension headaches, perineal pain after childbirth, and kidney stone pain.

Osteoarthritis

The American College of Rheumatology recommends paracetamol as one of several treatment options for people with arthritis pain of the hip, hand, or knee that does not improve with exercise and weight loss.

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XXXXXXXXXXXX XXXXXXXXXXXX XX XXXXX, XXX XXXX XXXXXXXXXXXX XX XXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXX XXXXXXXXXXXX XXXXXXXXXXXX.

Lower Back

Based on a systematic review, paracetamol was recommended by the American College of Physicians and the American Pain Society as a first-line treatment for lower back pain. The American College of Physicians, as of 2017, noted evidence that it was no different than placebo in the treatment of nonradicular low back pain. Other systematic reviews have also concluded that evidence for its efficacy is lacking.

Headaches

A joint statement of the German, Austrian, and Swiss headache societies and the German Society of Neurology recommends the use of paracetamol in combination with caffeine as one of several first-line therapies for treatment of tension and migraine headaches. In the treatment of acute migraine, it is superior to placebo, with 39% of people experiencing pain relief at one hour compared with 20% in the control group.

Postoperative

Paracetamol combined with NSAIDs may be more effective for treating postoperative pain than either paracetamol or NSAIDs alone.

Teeth

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XXXXX, XXX XXXX XXXXXXXXXXXX XX XXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXXXXXXXXXX
XXXXXXXXXXXX XXXXXXXXXXXX XX XXXXX, XXX XXXX XXXXXXXXXXXX XX XXXX XXXXXXXXXXXX XXXXXXXXXXXX XXXX XXXXXXXXXXXX XXXXXXXXXXXX.
Paracetamol is particularly useful when NSAIDs are contraindicated due to hypersensitivity or history of gastrointestinal ulceration or bleeding. It can also be used in combination with NSAIDs when these are ineffective in controlling dental pain alone. The Cochrane review of preoperative analgesics for additional pain relief in children and adolescents shows no evidence of benefit in taking paracetamol before dental treatment to help reduce pain after treatment for procedures under local anaesthetic, but the quality of evidence is low.

Combination Medications

XXXXXXXX XX XXXXXXXXXXX XXXXXXXXXXX XX XXXX, XXX XXX XXXXXXXX XX XXX XXXXXXXX
XXXXXXXX XXX XXXXXXXX XXXXXXXX, XXXXXXX XXX XXXXXXXXXXXXXXXXXXX. XXXXXXXXXXX XXXXXXXX XX
XXXXX, XXX XXX XXXXXXXX XX XXX XXXXXXXX XXXXXXXX XXX XXXXXXX XXXXXXXX XXXXXXXXXXX
XXXXXXXXXX XX XXXXX.

XXXXXXXX XX XXXXXXXXXXX XXXXXXXXXXX XX XXXX, XXX XXX XXXXXXXX XX XXX XXXXXXXX
XXXXXXXX XXX XXXXXXXX XXXXXXXX, XXXXXXX XXXXXXXX XX XXXX, XXX XXX XXXXXXXX XX XXX
XXXXXXXX XXXXXXXX XXX XXXXXXX XXXXXXXX, XXXXXXX.

Patent Ductus Arteriosus

Paracetamol is used to treat patent ductus arteriosus, a condition that affects newborns when a blood vessel used in developing the lungs fails to close as it normally does, but evidence for the safety and efficacy of paracetamol for this purpose is lacking. NSAIDs, particularly indomethacin and ibuprofen, have also been used, but the evidence for them is also not strong. XXXXXXXXXXX XX XXXX, XXX XXX XXXXXXXX XX XXX XXXXXXX XXXXXXXX
XXXX XXXXXXX XXXXXXXX, XXXXXXX XXXXXXXX XX XXXX, XXX XXX XXXXXXXX XX XXX XXXXXXX
XXXXXXXXXX XXX XXXXXXX XXXXXXXX, XXXXXXX.

Raw Material

The main raw materials are followings:

1. 4- XXXXXXXXXXX
2. XXXXXXX XXXXXXX
3. XXXX XXXXXXX

4-NITROPHENOL

4-Nitrophenol (also called p-nitrophenol or 4-hydroxynitrobenzene) is a phenolic compound that has a nitro group at the opposite position of the hydroxyl group on the benzene ring. 4-Nitrophenol shows two polymorphs in the crystalline state. The alpha-form is colorless pillars, unstable at room temperature, and stable toward sunlight. The beta-form is yellow pillars, stable at room temperature, and gradually turns red upon irradiation of sunlight. Usually 4-nitrophenol exists as a mixture of these two forms.

Properties

Chemical formula	Xxxxxx
Molar mass	Xxxxxx g·mol ⁻¹

Appearance Colorless or yellow pillars

Melting point	xxx to xxx °C
Boiling point	xxx °C
Solubility in water	xx g/L (xx °C) xx.x g/L (xx °C) xx g/L (xx °C)
Acidity (pKa)	x.xx (in water)

ACETIC ACID

Acetic acid is a colourless liquid organic compound with the chemical formula CH₃COOH. When undiluted, it is sometimes called glacial acetic acid. Vinegar is no less than 4% acetic acid by volume, making acetic acid the main component of vinegar apart from water. Acetic acid has a distinctive sour taste and pungent smell.

In addition to household vinegar, it is mainly produced as a precursor to polyvinyl acetate and cellulose acetate. It is classified as a weak acid since it only partially dissociates in solution, but concentrated acetic acid is corrosive and can attack the skin.

Properties

Chemical formula	X _x X _x X _x
Molar mass	Xxxxxx g·mol ⁻¹
Appearance	Xxxxxxxxxx xxxxxxxx
Odor	Xxxxxxxxxx xxxxxxxx-xxxx
Density	Xxxxx xxxxxxxx
Melting point	16 to 17 °C
Boiling point	Xxxxx xxxxxxxx
Solubility in water	Miscible
Refractive index (nD)	Xxxxxxxxxx (xxxxxxx)
Viscosity	1.22 mPa s

METHANOL

Methanol, also known as methyl alcohol amongst other names, is a chemical with the formula X_xX_xX_x (a methyl group linked to a hydroxyl group, often abbreviated X_xX_xX_x). A polar solvent, methanol acquired the name wood alcohol because it was once produced chiefly by the destructive distillation of wood. Today, methanol is mainly produced industrially by hydrogenation of carbon monoxide.

Xxxxxxxxx xx xxxxxxxxxxx xxxxxxxxxxx xx xxxxx, xxx xxxx xxxxxxx xx xxxx xxxxxxx
 xxxxxxx xxx xxxxxxx xxxxxxx, xxxxxxx xxxxxxxxxxx xx xxxxx, xxx xxxx xxxxxxx xx xxxx
 xxxxxxx xxxxxxxxxxx xxx xxxxxxx xxxxxxx, xxxxxxx.

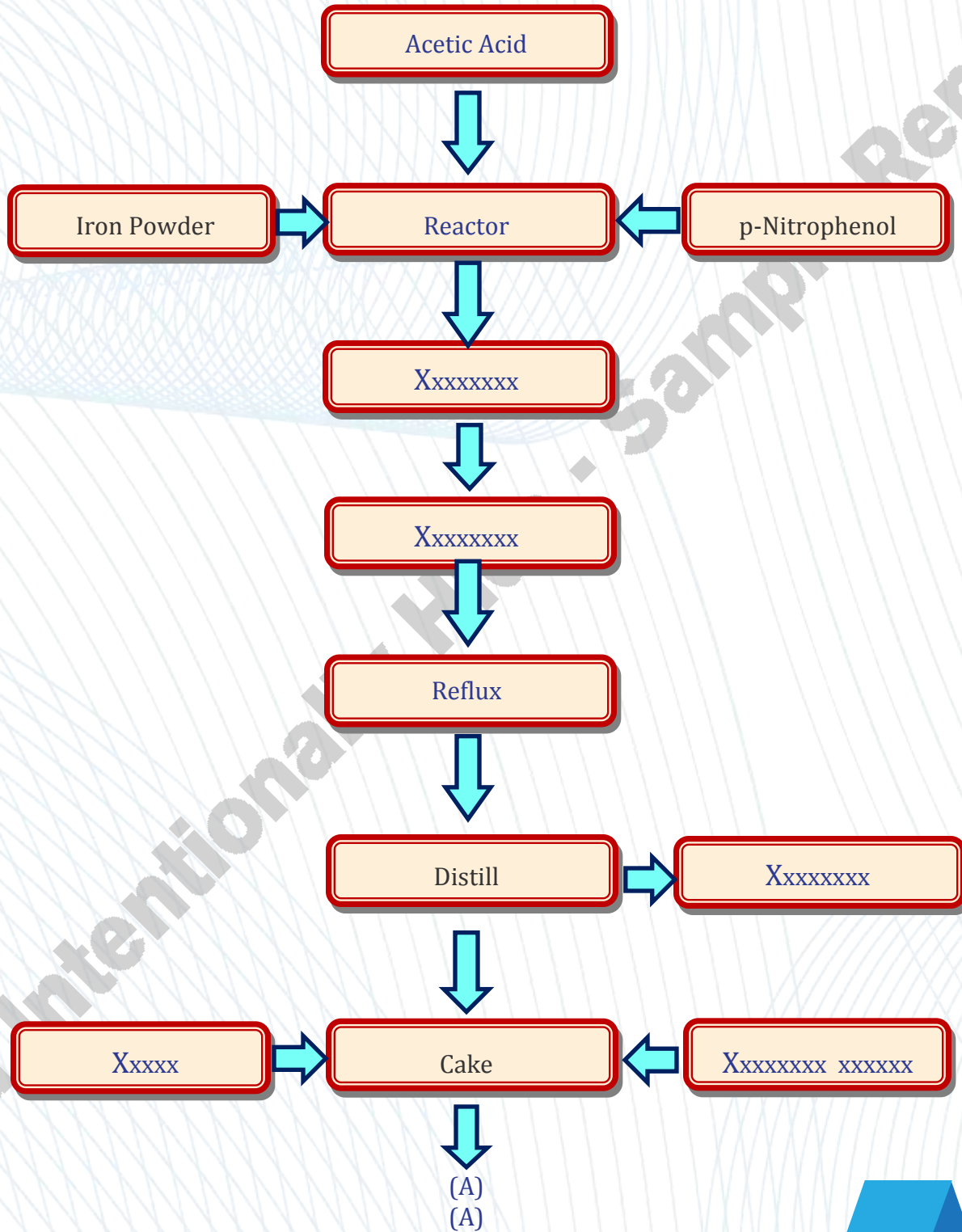
Properties

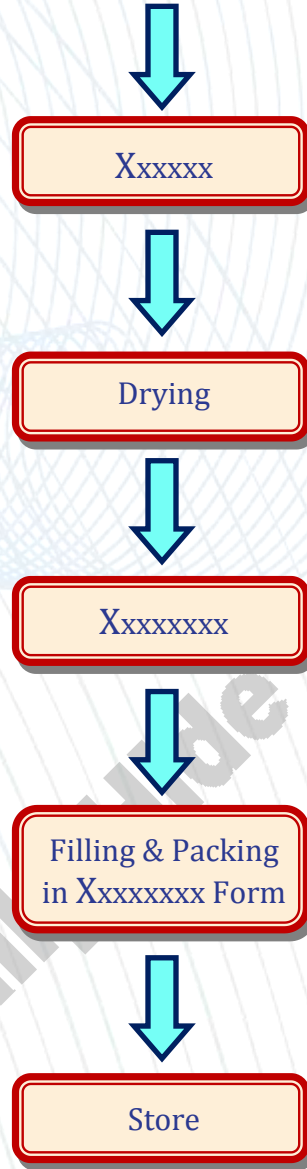
Chemical Formula	X _x X _x X _x
Molar Mass	xxxxxxx
Appearance	Colorless Liquid
Odor	xxxxxxx
Density	xxxxxxx
Melting Point	-97.6 °C
Boiling Point	xxxxxxx
Solubility in Water	miscible
Vapor Pressure	xxxxxxx (xx xx °C)
Refractive Index (nD)	xxxxxxx
Viscosity	xxxxxxx xxx (xx xx °C)

Brief Description of Manufacturing Process of Paracetamol

- The manufacturing process of paracetamol is summarized in the following steps.
- Charge acetic acid to the reactor.
- Add p-nitrophenol as a starting material and iron powder as catalyst.
- Heat to temp 80-90°C.
- xxxxxxxxxxx xx xxxxx, xxx xxxx xxxxxxxx xx xxxxx.
- After slight cooling.
- Xxxxx xx xxxxx, xxx xxxx xxxxxxxx xx xxxxx.
- Cool to 60°C.
- Xxxxxxxxx xx xxxxx, xxx xxxx.
- Xxx xxxx xxxxxxxx xx xxxxx.
- Xxxxxxxxx xx xxxxx, xxx xxxx.
- Xxxxxxxxx xx xxxxx, xxx xxxx.
- And make a solution.
- Xxx xxxx xxxxxxxx.
- Filter.
- Xxx xxxx xxxxxxxx. Xxxxxxxxx xx xxxxx, xxx xxxx xxxxxxxx xx xxxxx.

Process Flow Diagram





Tablet Making Process

Detailed description of the tablet making process along with the estimated consumption rates of raw materials:

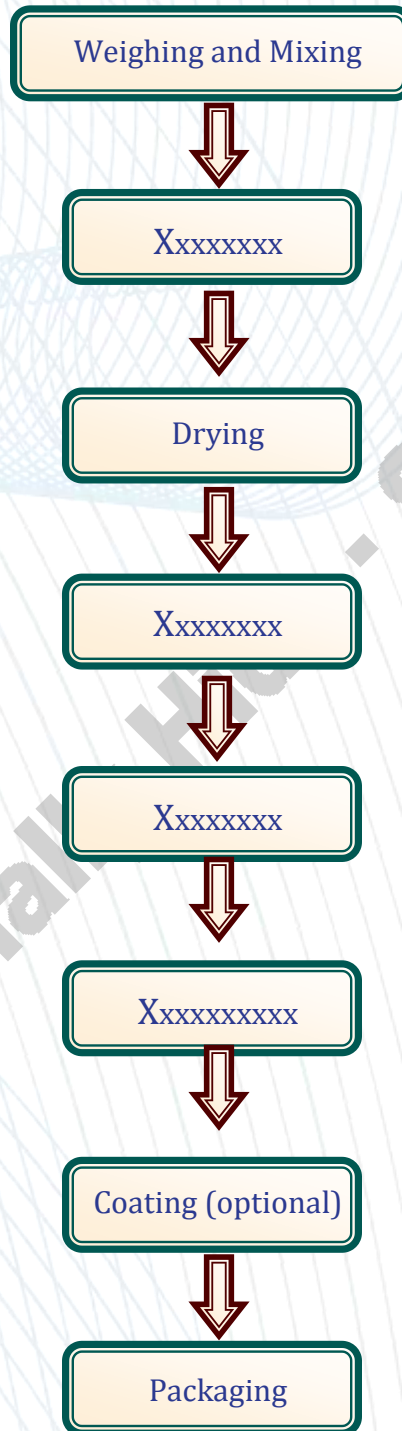
- **Weighing and Mixing:** The raw materials required for this step include the active pharmaceutical ingredient (API), binders (such as PVP or starch), disintegrants (such as croscarmellose sodium), lubricants (such as magnesium stearate), and fillers (such as microcrystalline cellulose). The estimated consumption rate for the API will depend on the specific drug and dosage of the tablets. The consumption rates for the other excipients will also depend on the specific formulation and dosage of the tablets.
- **XXXXXXXX:** Xxx xxx xxxxxxxx xxxxxxxx xxx xxxx xxxx xxxxxxxx x xxxxxxx xxxxxx (xxxx xx xxxxx xx xxxxxxx). Xxx xxxxxxxxxxxxxxx xxx xxx xxx xxxxxxx xxxxxxx xxx xxxxxxx xx xxx xxxxxxx xx xxxxxxx xx xx xxxxxxxxxxx xxx xxx xxxxxxxx xxxxxxx xxx.
- **Drying:** No additional raw materials are required for this step.
- **Milling:** No additional raw materials are required for this step.
- **XXXXXXXX:** Xxx xxx xxxxxxxx xxxxxxxx xxx xxxx xxxx xxxxxxxx x xxxxxxx xxxxxx (xxxx xx xxxxx xx xxxxxxx). Xxx xxxxxxxxxxxxxxx xxx xxx xxx xxxxxxx xxxxxxx xxx xxxxxxx xx xxx xxxxxxx xx xxxxxxx xx xx xxxxxxxxxxx xxx xxx xxxxxxxx xxxxxxx xxx.
- **Compression:** No additional raw materials are required for this step.
- **XXXXXXXX:** Xxx xxx xxxxxxxx xxxxxxxx xxx xxxx xxxx xxxxxxxx x xxxxxxx xxxxxx (xxxx xx xxxxx xx xxxxxxx). Xxx xxxxxxxxxxxxxxx xxx xxx xxx xxxxxxx xxxxxxx xxx xxxxxxx xx xxx xxxxxxx xx xxxxxxx xx xx xxxxxxxxxxx xxx xxx xxxxxxxx xxxxxxx xxx.
- **Packaging:** No additional raw materials are required for this step.

Please note that the consumption rates for raw materials can vary depending on the specific formulation and dosage of the tablets, as well as the equipment used and the manufacturing process employed. The above consumption rates are only estimates and should be used as a general guideline.

TABLET STRIP PACKING PROCESS:

- **Feeding:** The tablets are fed into a hopper, which feeds them into the strip packing machine.
- **Forming:** Xxx xxxxxxxxxxxxxxx xxx xxx xxx xxxxxxx xxxxxxx xxx xxxxxxx xx xxx xxxxxxx xx xxxxxxx xx xx xxxxxxxxxxx xxx xxx xxxxxxx xxxxxxx xxx. Xxx xxxxxxxxxxxxxxx xxx xxx xxx xxxxxxx xxxxxxx xxx xxxxxxx xx xxx xxxxxxx xx xxxxxxxxxxx xxx xxx xxxxxxx xxxxxxx xxx.
- **Filling:** Xxx xxxxxxxxxxxxxxx xxx xxx xxx xxxxxxx xxxxxxx xxx xxxxxxx xx xxx xxxxxxx xx xxxxxxx xx xx xxxxxxxxxxx xxx xxx xxxxxxx xxxxxxx xxx.
- **Sealing:** The strip is sealed, typically by applying heat and pressure to the packing material. The sealing process ensures that the tablets remain protected from moisture and other environmental factors.
- **Cutting:** Xxx xxxxxxxxxxxxxxx xxx xxx xxx xxxxxxx xxxxxxx xxx.
- **Inspection:** The finished strips are inspected for quality, ensuring that they meet the required specifications.
- **Packaging:** The finished strips are packaged into boxes or other containers for shipping and distribution.

Process Flow Diagram



SWOT Analysis

API (Active Pharmaceutical Ingredient) manufacturing is a critical component of the pharmaceutical industry. A SWOT analysis provides a comprehensive view of the strengths, weaknesses, opportunities, and threats associated with the venture. Here's a SWOT analysis for an API Manufacturing Unit:

Strengths

Specialized Knowledge: Requires in-depth understanding and expertise in organic chemistry, allowing for niche market positioning.

Quality Control: Strict adherence to global standards (like Good Manufacturing Practice) ensures high product quality and minimizes recalls.

Intellectual Property: Proprietary manufacturing processes and patents can offer a competitive edge.

Supply Chain Control: Direct manufacturing can allow for better control over the supply chain, ensuring timely production and delivery.

Strategic Partnerships: Existing collaborations with pharmaceutical firms can guarantee demand and steady contracts.

Weaknesses

Capital Intensive: Significant upfront investment required in infrastructure, equipment, and R&D.

Regulatory Challenges: Stringent regulatory landscape that requires continuous compliance and can lead to potential shutdowns if not met.

Environmental Concerns: Manufacturing can lead to waste generation and environmental hazards if not managed properly.

Dependency on Raw Materials: Reliance on specific raw materials which may be sourced from specific regions, leading to supply chain vulnerabilities.

High Competition: A competitive market with established players, especially from regions with lower manufacturing costs.

Opportunities

Growing Pharmaceutical Market: With an aging global population and increased healthcare needs, demand for medicines and, consequently, APIs is on the rise.

Biosimilars & Biologics: Growing interest and demand in this segment offer new avenues for API manufacturers.

Diversification: Expanding into different types of APIs or related products can tap into new revenue streams.

Global Expansion: Exploring markets in emerging economies or regions with less API manufacturing penetration.

Sustainable and Green Manufacturing: Adopting eco-friendly processes can be a market differentiator and reduce environmental liabilities.

Threats

Regulatory Changes: Sudden policy shifts or regulatory changes in major markets can impact operations.

Price Wars: Competitive pricing from manufacturers in regions with lower production costs can erode profit margins.

Intellectual Property Violations: Risk of process imitation or patent infringements, especially in regions with lax IP enforcement.

Supply Chain Disruptions: Natural disasters, geopolitical tensions, or global crises (like pandemics) can disrupt raw material availability or transportation.

Technological Advancements: New production methods or breakthroughs can render current manufacturing processes obsolete.

While the API manufacturing industry is lucrative, it's also fraught with challenges, particularly from a regulatory and competition perspective. Strategic planning, continuous innovation, and strict adherence to quality and regulatory norms are critical for success in this field.

Risk Assessments

Risk assessment in API (Active Pharmaceutical Ingredient) manufacturing involves evaluating potential hazards and implementing measures to prevent or mitigate their impact. The complex nature of the pharmaceutical industry, combined with stringent regulatory requirements, makes risk assessment vital. Here's a comprehensive risk assessment for an API Manufacturing Unit:

1. Chemical and Biological Exposure:
2. Environmental Contamination:
3. Quality Control Failures:
4. Supply Chain Disruptions:
5. Regulatory Non-compliance:
6. Intellectual Property Breaches:
7. Equipment Failure:
8. Accidents and Fires:
9. Market Dynamics:

Chemical and Biological Exposure

Chemical and Biological Exposure is a major concern in API (Active Pharmaceutical Ingredient) manufacturing units due to the nature of materials and processes involved. Let's delve deeper into this specific risk:

Chemical and Biological Exposure Risk in API Manufacturing:

Nature of the Risk

Chemical Exposure: Employees in an API manufacturing unit are at risk of exposure to various chemicals, solvents, and reagents, some of which may be toxic, carcinogenic, or harmful in other ways. Prolonged or high-level exposure can lead to acute and chronic health conditions.

Biological Exposure: While chemical exposure is more common, there are instances, especially in biopharmaceuticals, where employees can be exposed to harmful microorganisms or biological toxins.

Potential Outcomes

Immediate Health Effects: Inhalation, ingestion, or skin contact with certain chemicals can cause immediate reactions such as burns, respiratory issues, or poisoning.

Long-term Health Effects: Chronic exposure can lead to diseases like cancer, organ damage, respiratory diseases, or neurological disorders.

Contamination: Accidental exposure can also lead to product contamination, impacting product quality and patient safety.

Contributing Factors

Inadequate Safety Protocols: Lack of proper guidelines or their enforcement can lead to accidents.

Lack of Training: Employees unaware of the hazards associated with specific chemicals or processes are at a higher risk.

Equipment Failure: Breakdown or malfunctioning of safety equipment can lead to exposure.

Operational Errors: Accidental spills, incorrect handling, or procedural errors can result in unwanted exposure.

Mitigation Strategies

Safety Protocols: Establish and enforce strict safety guidelines tailored to the specific chemicals and biological agents in use. This includes safe storage, handling, and disposal methods.

Training: Regularly train employees on the hazards associated with their work, safe handling procedures, and emergency response actions.

Personal Protective Equipment (PPE): Provide and mandate the use of appropriate PPE like gloves, masks, protective clothing, and eyewear.

Containment: Utilize closed systems, fume hoods, and biosafety cabinets to minimize exposure risks, especially during processes that release vapors or aerosols.

Monitoring: Install chemical and biological exposure monitors in high-risk areas to detect and alert of any accidental releases or elevated exposure levels.

Emergency Response Plans: Ensure that there are protocols in place to handle accidental exposures, including first aid measures, antidotes, and decontamination procedures.

Health Surveillance: Regularly monitor the health of employees to detect early signs of chemical or biological exposure effects.

Regular Review and Audits

Given the dynamic nature of API manufacturing and the ever-evolving list of substances and processes, it's crucial to regularly review and update safety measures. Regular audits can ensure adherence to protocols and identify areas of potential improvement.

In conclusion, while chemical and biological exposure risks are inherent to API manufacturing, a proactive and thorough approach to safety can minimize these risks, ensuring the wellbeing of the workforce and the integrity of the product.

Environmental Contamination

Environmental contamination risk in API (Active Pharmaceutical Ingredient) manufacturing pertains to the potential release of chemicals, waste products, and other substances into the environment, which can harm ecosystems, human health, and the reputation of the manufacturing entity. Here's a detailed assessment:

Environmental Contamination Risk in API Manufacturing:

Nature of the Risk

Water Contamination: Discharge of untreated or inadequately treated effluents can lead to water pollution, affecting aquatic life and entering the human water supply.

Air Pollution: Release of volatile organic compounds (VOCs), particulate matter, and other pollutants can affect air quality and contribute to global environmental issues like climate change.

Soil Contamination: Spills, improper waste disposal, and leakage can lead to soil pollution, impacting agriculture and local ecosystems.

Biodiversity Impact: The introduction of foreign chemicals into ecosystems can reduce biodiversity by harming specific species.

Potential Outcomes

Regulatory Penalties: Violation of environmental regulations can lead to hefty fines, legal actions, and even cessation of operations.

Cleanup Costs: Companies might be obligated to finance cleanup operations for contamination they've caused.

Reputation Damage: Environmental harm can tarnish a company's image, impacting its relationships with stakeholders, customers, and investors.

Ecological Damage: Long-term harm to local ecosystems which might be irreversible.

Human Health Concerns: Contaminated water or crops can lead to health issues in local communities.

Contributing Factors

Lack of Treatment Facilities: Inadequate or outdated wastewater treatment plants.

Operational Negligence: Spills or accidents due to operational errors or equipment malfunctions.

Inadequate Waste Management: Lack of proper protocols for waste storage, treatment, and disposal.

Lack of Monitoring: Absence of regular monitoring of emissions and effluents.

Mitigation Strategies

Effluent Treatment: Install advanced wastewater treatment facilities to ensure that all effluents meet regulatory standards before discharge.

Air Emission Control: Use technologies like scrubbers, filters, and catalysts to minimize airborne emissions from operations.

Waste Management: Implement stringent waste segregation, treatment, and disposal protocols. Consider waste reduction and recycling methods.

Spill Prevention: Invest in spill containment infrastructure, such as secondary containment systems and leak detection systems.

Continuous Monitoring: Regularly monitor and analyze emissions, effluents, and waste to ensure they meet regulatory and internal standards.

Employee Training: Educate employees about the importance of environmental responsibility and train them in best practices.

Community Engagement: Engage with local communities to address their concerns and ensure that the manufacturing unit's operations are not adversely affecting their environment and health.

Regular Review and Audits

Environmental standards and best practices evolve over time. It's essential to stay updated with the latest regulations and technologies and regularly audit environmental practices to identify potential areas of improvement.

Environmental contamination is a significant risk for API manufacturing units, not just due to potential regulatory penalties but also because of the ethical implications of causing harm to the environment and communities. Proactive environmental management and a commitment to sustainability can substantially reduce these risks, benefiting both the company and society at large.

Quality Control Failure

Quality control (QC) is a critical function in the production of Active Pharmaceutical Ingredients (APIs). Any failure in QC processes can result in severe consequences for both the manufacturer and the end-users (patients). Let's assess the risk associated with Quality Control failures in an API manufacturing unit:

Quality Control Failure Risk in API Manufacturing:

Nature of the Risk

Substandard Products: A lapse in QC can result in the release of APIs that don't meet the required specifications, compromising drug efficacy and safety.

Recalls: APIs failing to meet quality standards can lead to extensive product recalls, which are costly and damaging to the manufacturer's reputation.

Regulatory Sanctions: Regulatory bodies may levy fines, enforce shutdowns, or take other punitive actions if substandard APIs are discovered in the market.

Patient Harm: Perhaps the gravest risk is the potential harm to patients consuming drugs made from substandard APIs. This can range from lack of therapeutic effect to serious adverse reactions.

Potential Outcomes

Financial Impact: The cost associated with product recalls, regulatory fines, and potential lawsuits can be substantial.

Reputation Damage: Once the trust is broken, it may take years to rebuild a brand's reputation, leading to a potential loss of market share.

Operational Disruptions: QC failures might warrant a full-scale review of manufacturing processes, causing disruptions in production.

Legal Liability: If substandard APIs result in harm to patients, manufacturers might face lawsuits.

Contributing Factors

Human Error: Mistakes during testing, oversight in following protocols, or misinterpretation of results.

Equipment Malfunctions: Failure of instruments used in QC can lead to inaccurate results.

Inadequate Training: If staff aren't properly trained, they may miss critical QC steps or fail to recognize anomalies.

Sampling Errors: Not selecting representative samples or not sampling frequently enough.

External Factors: Contamination from external sources or variability in raw materials.

Mitigation Strategies

Robust QC Protocols: Establish stringent and comprehensive QC processes that are well-documented and regularly updated.

Regular Training: Ensure QC staff receive regular training to stay updated on the latest standards, tools, and best practices.

Equipment Maintenance: Schedule regular maintenance and calibration for all QC equipment.

Audit and Review: Periodically audit the QC processes and results. Third-party audits can offer unbiased insights.

Data Management: Invest in reliable data management systems to accurately track and analyze QC data, ensuring traceability.

Feedback Loop: Establish a system where issues detected post-production can be traced back to QC processes to identify and rectify gaps.

Quality Assurance Integration: Integrate QC with the wider Quality Assurance (QA) framework, ensuring that quality is embedded throughout the production process.

Preparedness for Failures

Despite best efforts, QC failures can still occur. Preparedness can help in swift response:

Rapid Response Protocols: Develop protocols to quickly address and rectify QC failures when detected.

Communication Strategy: Establish a strategy to communicate QC failures to stakeholders, regulatory bodies, and the public if necessary, emphasizing transparency and accountability.

Insurance: Consider insurance coverages that can help mitigate financial impacts of QC failures, such as product recall insurance.

Quality Control is of paramount importance in API manufacturing. A proactive, thorough, and continually improving approach to QC can substantially reduce the risk of failures, ensuring the safety and efficacy of the end pharmaceutical product. It's not just about compliance but also the ethical responsibility of manufacturers to deliver quality products to patients.

Supply chain Disruptions

Supply chain disruptions can have significant implications for the continuity and profitability of any manufacturing operation, including the production of Active Pharmaceutical Ingredients (APIs). Given the global nature of pharmaceutical supply chains and the critical importance of APIs, these disruptions can be especially consequential. Here's a breakdown of the risk associated with supply chain disruptions in an API manufacturing unit:

Supply Chain Disruptions Risk in API Manufacturing:

Nature of the Risk

Raw Material Shortages: Unavailability or delay in obtaining essential raw materials can halt production.

Transportation Delays: Disruptions in transportation can delay the arrival of raw materials or the shipment of finished APIs.

Supplier Insolvency: A key supplier going bankrupt or facing financial difficulties can interrupt the supply chain.

Geopolitical Issues: Trade wars, sanctions, or other geopolitical tensions can block or delay the import or export of essential materials.

Natural Disasters: Events such as earthquakes, floods, and hurricanes can disrupt production or the transportation of materials.

Pandemics or Epidemics: As seen with COVID-19, pandemics can significantly strain and disrupt global supply chains.

Potential Outcomes

Production Halt: Without necessary materials, API production can come to a standstill.

Financial Impact: Delays and disruptions can lead to increased costs and lost revenue.

Contractual Penalties: Failure to deliver APIs on time might result in penalties or legal actions based on contractual obligations.

Loss of Market Share: Consistent supply chain issues can lead customers to switch to more reliable competitors.

Increased Prices: Shortages in the supply chain can drive up prices of raw materials, affecting profit margins.

Contributing Factors

Over-reliance on Single Supplier: Depending heavily on one supplier for crucial materials can be risky.

Lack of Visibility: Not having clear visibility into the entire supply chain can prevent early detection of potential disruptions.

Complex Supply Chain: A multi-tiered global supply chain can have more potential points of failure.

Lack of Contingency Planning: Without a backup plan, even minor disruptions can have outsized effects.

Mitigation Strategies

Diversify Suppliers: Rely on multiple suppliers, ideally from different regions, for crucial materials.

Stockpile Essential Materials: Maintain a strategic reserve of essential raw materials to buffer against short-term disruptions.

Supply Chain Visibility: Invest in supply chain monitoring tools and systems to gain real-time insights.

Regular Risk Assessment: Continuously assess suppliers and logistics partners for potential risks.

Contingency Planning: Develop robust contingency plans for various scenarios, from supplier issues to transportation disruptions.

Supplier Relationships: Build strong relationships with key suppliers, fostering communication and collaboration.

Local Sourcing: Where feasible, source materials locally or regionally to reduce the complexity and vulnerability of the supply chain.

Regular Review

Given the dynamic nature of global supply chains, regularly review and update risk assessments and mitigation strategies. New suppliers, routes, or methods may emerge that offer lower risk or more reliability.

While the pharmaceutical industry and API manufacturers, in particular, can't predict or prevent all potential supply chain disruptions, they can significantly reduce their risk and impact through careful planning, diversification, and continuous monitoring. Given the critical nature of APIs in the healthcare sector, ensuring a robust and resilient supply chain is paramount.

Regulatory Non-compliance

Regulatory compliance is a critical element in the API (Active Pharmaceutical Ingredient) manufacturing industry. Given the potential consequences for public health and safety, regulatory agencies worldwide set strict standards and requirements. Non-compliance with these regulations can have severe repercussions for API manufacturers. Let's dive deep into the regulatory non-compliance risks for an API manufacturing unit:

Regulatory Non-compliance Risks in API Manufacturing:

Nature of the Risk

Product Seizures: Non-compliant products may be seized and destroyed by authorities, leading to a direct financial loss.

Production Halts: Regulatory agencies can order the suspension of manufacturing activities until compliance is restored.

License Revocation: In severe cases, authorities might revoke manufacturing licenses, effectively shutting down operations.

Fines and Penalties: Regulatory bodies can levy significant financial penalties for non-compliance.

Criminal Liability: In extreme cases, company executives and decision-makers can face criminal charges.

Loss of Market Access: Non-compliant products might be banned from certain markets or countries.

Audits and Inspections: Increased frequency of regulatory audits and inspections, adding to operational overhead.

Potential Outcomes

Financial Impact: Direct costs from fines and indirect costs from halted production or lost sales.

Reputation Damage: The public, clients, and stakeholders may lose trust in a company that fails to meet regulatory standards.

Operational Disruptions: Regular disruptions due to increased inspections and audits.

Reduced Competitive Edge: Losing access to key markets or facing restrictions can provide competitors an advantage.

Contributing Factors

Lack of Knowledge: Not being aware of all relevant regulations or updates to existing regulations.

Negligence: Overlooking or underestimating the importance of regulatory compliance.

Inadequate Systems: Absence of robust systems to track, monitor, and ensure compliance.

Poor Training: Employees unaware of compliance requirements or not trained adequately to meet them.

Mitigation Strategies

Stay Informed: Regularly review and stay updated with regulations in all jurisdictions where the company operates or sells.

Invest in Compliance: Allocate resources (both human and financial) specifically for regulatory compliance.

Training Programs: Regularly train staff on regulatory requirements and updates.

Internal Audits: Conduct periodic internal audits to identify areas of non-compliance and address them proactively.

Engage Experts: Consider hiring or consulting with regulatory experts or legal counsel specialized in the pharmaceutical industry.

Feedback Mechanisms: Establish mechanisms for employees to report potential compliance issues or concerns without fear of retaliation.

Collaborate with Authorities: Foster a cooperative and transparent relationship with regulatory bodies. Engage in industry forums and associations to understand best practices.

Preparedness for Non-compliance Issues

Despite best efforts, instances of non-compliance can occur. Being prepared can help address them swiftly:

Crisis Management Plan: Develop a plan detailing the steps to take in case of non-compliance issues, including communication strategies.

Insurance Coverage: Evaluate insurance options that cover regulatory fines or related liabilities.

Transparency: If non-compliance is identified, proactively communicate with regulatory bodies, showcasing efforts to rectify and ensure it doesn't recur.

Regulatory compliance is non-negotiable in the API manufacturing sector. The risks associated with non-compliance are substantial, both in terms of financial and reputational impact. Proactive measures, continuous training, and a culture that prioritizes compliance can help mitigate these risks, ensuring the company's longevity and trustworthiness in the market.

Intellectual Property Breaches

Intellectual property (IP) is a critical asset in the pharmaceutical and API (Active Pharmaceutical Ingredient) manufacturing industry. It can pertain to proprietary formulations, processes, methods, and various other facets of the production. Protecting IP ensures competitive advantage, brand reputation, and long-term profitability. Let's explore the risks associated with intellectual property breaches for an API manufacturing unit:

Intellectual Property Breaches Risk in API Manufacturing:

Nature of the Risk

Industrial Espionage: Deliberate acts by competitors or other entities to steal trade secrets, processes, or formulations.

Inadvertent Disclosure: Accidental leak or exposure of IP due to negligence or lack of proper controls.

Infringement: Other entities using or producing similar APIs without authorization, potentially infringing on patents or other IP rights.

Counterfeiting: Unauthorized production of duplicate APIs that can flood the market and impact original sales.

Reverse Engineering: Competitors developing a similar or identical product by analyzing and replicating the original API.

Potential Outcomes

Financial Losses: Loss of revenue due to unauthorized sales or competition from counterfeit products.

Decreased Competitive Advantage: If the unique processes or formulations become public or are copied, the company might lose its edge in the market.

Litigation Costs: Engaging in legal battles to protect IP rights or sue infringing parties can be expensive and time-consuming.

Reputation Damage: Counterfeit or substandard products in the market can damage the brand's reputation.

Loss of Exclusivity: If patent rights are infringed upon or trade secrets are exposed, the company may lose exclusive rights to produce certain APIs.

Contributing Factors

Weak IP Protection Mechanisms: Inadequate measures to protect and secure IP can make it vulnerable.

Lack of Employee Training: Employees unaware of the importance of IP and how to safeguard it.

Insufficient Legal Protections: Operating in jurisdictions with weak IP laws or enforcement.

Complex Supply Chains: The more complex and global the supply chain, the more points of potential IP exposure.

Poor Contractual Agreements: Contracts with suppliers, partners, or employees that don't adequately address IP protection.

Mitigation Strategies

Strong IP Portfolio: Regularly review and strengthen IP rights through patents, trademarks, copyrights, and trade secrets.

Confidentiality Agreements: Ensure that employees, contractors, and partners sign NDAs (Non-Disclosure Agreements) or other relevant confidentiality agreements.

Employee Training: Regularly train staff on the importance of IP and the methods to protect it.

Access Controls: Implement strict access controls to sensitive information. Use digital security measures for digital assets.

Regular Audits: Conduct periodic IP audits to identify vulnerabilities and address them.

Legal Vigilance: Stay updated on IP laws in all operating jurisdictions and be prepared to enforce rights when needed.

Collaboration with Stakeholders: Engage with suppliers and other partners to ensure they also prioritize IP protection.

Preparedness for IP Breaches

Response Strategy: Develop a well-defined strategy to address any potential IP breaches, including legal and PR responses.

Insurance: Consider intellectual property insurance to help mitigate potential financial losses from IP breaches.

Continuous Monitoring: Invest in tools and services that monitor the market for potential unauthorized products or IP infringements.

Intellectual property is among the most valuable assets for an API manufacturing unit. Given the significant investment in research, development, and production, safeguarding this asset is paramount. While risks can't be entirely eliminated, a proactive and comprehensive approach to IP protection can significantly mitigate potential damages and ensure the company remains competitive and profitable.

Equipment Failure

Equipment failure in an API (Active Pharmaceutical Ingredient) manufacturing unit is a significant concern, not just due to the potential financial implications but also because of the potential impact on product quality, safety, and delivery timelines. Let's delve into the risks associated with equipment failure in such a setting:

Equipment Failure Risks in API Manufacturing:

Nature of the Risk

Mechanical Breakdown: Wear and tear, or the inherent failure of mechanical parts.

Electrical Failure: Issues related to power supply, electrical circuits, or electronic components.

Software Glitches: Malfunctions in the software controlling the equipment, leading to errors or shutdowns.

Calibration Errors: Equipment not calibrated correctly can lead to deviations in production standards.

Overheating: Inadequate cooling or prolonged usage can lead to overheating and subsequent failure.

Human Error: Misuse or mishandling of equipment by operators.

Potential Outcomes

Production Delays: Manufacturing processes could be halted until equipment is repaired or replaced.

Increased Costs: Costs associated with repair, replacement, and potential wasted raw materials.

Compromised Quality: Malfunctioning equipment can lead to subpar products that don't meet quality standards.

Safety Hazards: Equipment failures can pose direct safety risks to workers, especially if it leads to explosions, leaks, or the release of toxic substances.

Regulatory Implications: Producing substandard APIs due to equipment failure can attract regulatory scrutiny, penalties, or recalls.

Contractual Penalties: Delays in production might result in breaches of delivery contracts, leading to penalties or loss of business.

Reduced Capacity: Until the equipment is fixed or replaced, the manufacturing unit may operate below its optimal capacity.

Contributing Factors

Inadequate Maintenance: Failing to perform regular maintenance checks and services.

Old Equipment: Aging machinery is more prone to breakdowns.

Lack of Spare Parts: Not having essential spare parts on hand for quick replacements.

Operator Unfamiliarity: Using equipment without proper training or not following SOPs (Standard Operating Procedures).

Environmental Factors: Exposure to extreme conditions like humidity, temperature, or corrosive materials.

Mitigation Strategies

Preventive Maintenance: Implement a rigorous preventive maintenance schedule based on the manufacturer's recommendations.

Operator Training: Ensure operators are well-trained on the equipment they handle and are aware of potential signs of malfunction.

Inventory Management: Maintain an inventory of essential spare parts for quick replacements.

Equipment Modernization: Periodically assess the age and performance of equipment and consider upgrading or replacing outdated machines.

Monitoring Systems: Implement real-time monitoring systems that can detect and alert for any anomalies in equipment performance.

Redundancy: For critical equipment, consider having backup systems in place to ensure continuous production.

Safety Protocols: Establish safety protocols to handle equipment failures, especially when there's a risk of hazardous occurrences.

Vendor Relationships: Foster good relationships with equipment vendors for faster service, repairs, or replacements.

Response Plan for Equipment Failures

Emergency Response: Have an immediate action plan for equipment failures, especially if there's a safety concern.

Root Cause Analysis: After addressing the immediate concern, conduct an analysis to understand the cause of the failure to prevent future occurrences.

Documentation: Document all equipment failures, actions taken, and changes implemented. This not only aids in continuous improvement but can also be essential for regulatory compliance.

While equipment failures in an API manufacturing unit can have substantial repercussions, with proactive planning, regular maintenance, and proper training, these risks can be significantly reduced. Investing in high-quality equipment, modern monitoring systems, and continuous staff training are vital to ensuring smooth and uninterrupted operations.

Accidents and Fires

The API (Active Pharmaceutical Ingredient) manufacturing environment, like many industrial settings, is vulnerable to accidents and fires due to the handling and storage of volatile chemicals, complex equipment, and various processes. Understanding the risks associated with accidents and fires is crucial to establishing prevention and response strategies.

Accidents and Fires Risks in API Manufacturing:

Nature of the Risk

Chemical Spills or Leaks: Accidental release of hazardous chemicals can lead to contamination and expose employees to health risks.

Equipment Malfunctions: Mechanical or electrical equipment failures might cause sparks or excessive heat, leading to fires.

Explosions: Some chemicals, under specific conditions, can be explosive, especially if stored or handled incorrectly.

Human Error: Mismanagement or mishandling of chemicals, equipment, or processes can initiate accidents or fires.

Structural Failures: Poor facility design or maintenance can lead to accidents, including collapses.

Potential Outcomes

Injury or Fatality: Workers or staff might get injured or, in extreme cases, lose their lives.

Production Delays: Manufacturing processes could be halted until the facility is restored or deemed safe.

Property Damage: Fires or explosions can cause substantial damage to the facility and equipment.

Environmental Contamination: Chemical spills or fires might release toxic substances into the environment, affecting surrounding communities or ecosystems.

Regulatory Penalties: Accidents can result in violations of safety and environmental regulations, leading to financial penalties and increased scrutiny.

Increased Insurance Premiums: Recurrent accidents or fires can lead to higher insurance premiums.

Reputation Damage: Accidents, especially those that harm the environment or community, can severely damage the company's reputation.

Contributing Factors

Inadequate Training: Lack of proper training on equipment use and emergency procedures.

Poor Maintenance: Neglecting regular maintenance of equipment and facilities.

Ineffective Safety Protocols: Absence of or not adhering to established safety protocols.

Aging Infrastructure: Old equipment or facilities that don't meet current safety standards.

Lack of Monitoring: Absence of alarms or monitoring systems that could detect and alert for potential hazards.

Mitigation Strategies

Safety Training: Regular and comprehensive training sessions for all employees, focusing on both prevention and response.

Emergency Drills: Routine fire and emergency evacuation drills to ensure preparedness.

Equipment Maintenance: Rigorous schedules for inspecting and maintaining all equipment and infrastructure.

Safety Equipment: Adequate provision of safety equipment like fire extinguishers, sprinkler systems, safety goggles, chemical-resistant suits, etc.

Safety Audits: Periodic safety audits to identify vulnerabilities and potential hazards.

Monitoring Systems: Implement real-time monitoring systems for detecting gas leaks, chemical imbalances, or other anomalies.

Proper Storage: Ensure chemicals are stored in appropriate containers, in designated areas, and under suitable conditions.

Safety Signage: Clear signage indicating potential hazards, emergency exits, and safety equipment locations.

Response Plan for Accidents and Fires

Immediate Evacuation: Prioritize human safety. Ensure all personnel know evacuation routes.

Emergency Response Team: A dedicated team trained to handle emergencies, including first aid, firefighting, and containment of chemical spills.

Communication Plan: A strategy for communicating with employees, stakeholders, authorities, and, if necessary, the media.

Incident Reporting: Document the incident, actions taken, and outcomes. This is crucial for regulatory compliance, insurance claims, and future risk assessments.

Review and Revise: After managing the incident, review the causes and the response. Adjust protocols, training, and infrastructure as needed to prevent recurrence.

While the risks associated with accidents and fires in an API manufacturing unit can be severe, proactive risk management can substantially mitigate potential damages. A combination of prevention strategies, continuous training, and a robust emergency response plan is essential to safeguard both human and material assets.

Market Dynamics Risks

Market dynamics refer to the forces and factors that influence the behavior of buyers and sellers in a market. In the context of an API (Active Pharmaceutical Ingredient) manufacturing unit, understanding market dynamics is crucial to ensuring the unit's profitability, sustainability, and growth. Let's delve into the risks associated with market dynamics for an API manufacturing unit:

Market Dynamics Risks in API Manufacturing:

Nature of the Risk

Demand Fluctuations: Sudden changes in the demand for specific APIs can impact production and sales.

Price Volatility: Prices of APIs can be volatile due to competition, regulatory changes, or market demand.

New Competitors: Entry of new players in the market can reduce market share and pricing power.

Shifts in Regulatory Landscape: Changes in regulations can influence production methods, quality control, and export-import policies.

Technological Advancements: New technologies or production methods can render existing processes obsolete.

Dependence on Few Buyers: Reliance on a small number of large buyers can be risky if they change suppliers or alter their requirements.

Global Market Influences: Global economic conditions, pandemics, or geopolitical events can affect the international demand and supply for APIs.

Potential Outcomes

Reduced Profit Margins: Intense competition or price wars can squeeze profit margins.

Inventory Surpluses or Shortages: Misreading demand can result in excessive inventory or stockouts.

Stranded Investments: Heavy investments in now obsolete technologies can result in financial losses.

Loss of Market Share: Inability to compete effectively can lead to a reduced market presence.

Regulatory Penalties: Non-compliance with new regulations can lead to fines and penalties.

Reduced Demand: Global influences can significantly reduce the demand for certain APIs.

Contributing Factors

Inadequate Market Research: Not staying updated with market trends, demands, and competitive landscapes.

Slow Adaptability: Inability to swiftly adapt to changing market or technological conditions.

Fixed Long-term Contracts: Locked-in contracts that don't allow flexibility in changing market dynamics.

Lack of Diversification: Over-reliance on a specific market segment or geography.

Mitigation Strategies

Continuous Market Research: Regularly assess and predict market trends, demands, and potential threats.

Diversification: Diversify product offerings and explore new markets to reduce dependency on a single segment.

Flexible Production Capabilities: Ensure the manufacturing unit can adapt to produce different APIs based on changing demands.

Adaptive Pricing Strategies: Implement pricing strategies that can adjust based on market conditions while ensuring profitability.

Invest in R&D: Invest in research and development to stay ahead in technological advancements and develop innovative products.

Build Strong Relationships: Foster good relationships with key buyers and suppliers to ensure stability and insights into market shifts.

Regulatory Compliance: Stay updated with global regulatory trends and ensure continuous compliance.

Risk Management Planning: Incorporate market dynamics risks in the company's broader risk management strategy.

Preparedness for Market Dynamics Shifts

Scenario Planning: Engage in "what-if" analyses to foresee potential market shifts and plan responses accordingly.

Financial Resilience: Maintain a robust financial position to withstand short-term market disruptions.

Agile Supply Chain: Ensure the supply chain can adapt swiftly to changing market dynamics, allowing for sourcing flexibility and responsive distribution.

Continuous Training: Train the workforce to be adaptive and skilled in new technologies or processes as market demands evolve.

While market dynamics present significant risks to an API manufacturing unit, they also offer opportunities for those companies agile and prepared enough to capitalize on them. Being proactive in understanding, predicting, and responding to market changes can turn these risks into competitive advantages. An adaptive, well-informed, and resilient approach is key to navigating the intricate landscape of market dynamics in the API manufacturing industry.

Social Impact and Justification for API Manufacturing Unit

Active Pharmaceutical Ingredients (API) are the core components of medicines, responsible for their therapeutic effects. Setting up an API manufacturing unit has a variety of implications for society. Here's a breakdown of the potential social impacts and justifications for starting such a venture:

Social Impact

Access to Medicines:

Producing APIs locally can lead to increased availability of essential drugs in the region, ensuring timely access to medicines for the populace.

Employment Opportunities:

An API manufacturing unit can provide direct employment to a range of professionals, from skilled workers and technicians to scientists and administrators.

Skill Development:

The pharmaceutical industry requires specialized skills. By providing training and development, such units can uplift the skill set of the local workforce.

Research and Development:

API manufacturing units often tie up with academic institutions or research centers. This promotes scientific research and innovation in the region.

Healthcare Cost Regulation:

Local production of APIs can potentially reduce the cost of importing them, leading to more affordable medicines.

Strengthening Healthcare Systems:

A reliable supply of APIs ensures that the healthcare system can respond effectively to health crises, be it chronic diseases or pandemics.

Environmental Concerns:

API manufacturing can sometimes lead to environmental pollution if not managed properly. This can affect the health and well-being of local communities.

Dependency Reduction:

By producing APIs domestically, a country can reduce its dependence on foreign suppliers, ensuring a stable supply even in geopolitical or global economic crises.

Justification for an API Manufacturing Unit

Market Demand:

With the global demand for medicines on the rise, starting an API manufacturing unit can be a lucrative venture if there's a market gap.

Strategic Advantage:

If the region has a strategic advantage, like availability of raw materials, skilled labor, or supportive infrastructure, it can be a compelling reason to start the unit.

Policy and Incentives:

Governments often provide incentives for sectors that are crucial for public health. If such incentives are available, they can justify the establishment of the unit.

Export Potential:

If the domestic production exceeds local demand, there's potential for export, opening up additional revenue streams.

Integration with Existing Pharma Business:

For those already in the pharmaceutical business, producing APIs can be a backward integration strategy, giving better control over quality and costs.

Innovation and Patenting:

Developing new or improved APIs can lead to patenting opportunities, providing a competitive edge and higher profitability.

Responding to Global Crises:

As seen during situations like the COVID-19 pandemic, having domestic API production capabilities allows for a swift response in ramping up the production of essential drugs.

Sustainability and Green Manufacturing:

With increasing demand for sustainable practices, setting up a green API manufacturing unit can cater to this niche, offering environmental benefits and potentially attracting specific markets or partnerships.

Diversification:

For investors or businesses in related sectors, API manufacturing can be a means to diversify the portfolio, spreading risks and tapping into the lucrative pharmaceutical sector.

Establishing an API manufacturing unit is a significant venture that requires rigorous planning, adherence to stringent regulatory standards, and a long-term vision. While the social impacts and justifications are compelling, potential entrepreneurs should also be aware of the challenges, including competition, regulatory hurdles, quality control, and environmental concerns. Properly managed, however, such a unit can be both economically rewarding and socially beneficial.

Economic Impact and Justification for API Manufacturing Unit

Active Pharmaceutical Ingredients (API) manufacturing plays a crucial role in the global healthcare value chain. Establishing an API manufacturing unit can offer significant economic benefits to both the local community and the broader pharmaceutical industry. Here's a breakdown of the potential economic impacts and justifications for such an endeavor:

Economic Impact

Direct Employment:

An API manufacturing unit requires a diverse workforce, from R&D scientists and quality control experts to technicians, laborers, and administrative staff, creating substantial direct employment opportunities.

Supply Chain Development:

The establishment of such a unit can spur the growth of related businesses, from raw material suppliers to packaging and logistics providers.

Export Revenues:

If the unit produces APIs at competitive prices and quality, there's potential to tap into the global market, earning valuable foreign exchange for the country.

Local Pharmaceutical Industry Boost:

A domestic API production unit can lead to a reduction in medicine prices, as the dependency on imported APIs decreases. This can bolster the growth of local generic medicine manufacturers.

Investment Attraction:

A thriving API unit can attract further investments in the region, from both local and foreign investors, leading to broader economic development.

Infrastructure Development:

To support the API unit, there might be enhancements in local infrastructure, including roads, utilities, and possibly even research institutions.

Tax Revenues:

A profitable manufacturing unit will contribute to local and national tax coffers, supporting public expenditures.

Skills and Knowledge Spillover:

The technical know-how and expertise developed within the API unit can spill over to other sectors, elevating the overall industrial competence of the region.

R&D Investments:

A portion of the profits from API manufacturing can be reinvested into research and development, leading to the discovery of new APIs or more efficient production methods.

Justification for an API Manufacturing Unit

Growing Global Demand:

With an aging global population and increasing healthcare needs, the demand for medicines, and by extension APIs, is on the rise.

Cost Competitiveness:

If the region has advantages like low labor costs, affordable raw materials, or supportive infrastructure, manufacturing APIs can be economically viable.

Policy Incentives:

Many governments provide incentives, subsidies, or favorable policies to promote the pharmaceutical sector, given its strategic importance.

Vertical Integration:

For pharmaceutical companies, producing their own APIs offers better control over quality, costs, and supply chain reliability.

Diversification:

Investors or companies in related sectors might see API manufacturing as a strategic diversification, tapping into the lucrative pharmaceutical market.

Supply Chain Resilience:

The COVID-19 pandemic underscored the risks of over-relying on a few regions for API supply. Diversifying the API production landscape can offer more resilience to global supply chains.

Geopolitical Advantage:

In a world with changing geopolitical dynamics, having domestic API capabilities can be a strategic advantage, ensuring medicine security for a nation.

Innovation Potential:

The pharmaceutical sector is driven by innovation. If there's potential to develop novel APIs or improve existing ones, it can justify the establishment of a specialized unit.

While the economic incentives for starting an API manufacturing unit are substantial, potential entrepreneurs should be mindful of challenges such as stringent regulatory requirements, international competition, technological advancements, and environmental concerns. A rigorous feasibility analysis, coupled with a clear understanding of the market dynamics, will be crucial for the venture's success.

Future Challenges for API Manufacturing Unit

The Active Pharmaceutical Ingredients (API) manufacturing sector is dynamic and influenced by a range of factors, from technological advancements to geopolitical shifts. As companies contemplate venturing into or expanding within this domain, they should be mindful of the potential future challenges:

Regulatory Compliance:

Governments and international bodies are continually updating regulations to ensure drug safety and efficacy. Staying compliant can be costly and complex, especially when operating in multiple markets with differing regulatory requirements.

Environmental Concerns:

API manufacturing can be resource-intensive and potentially polluting. Stricter environmental regulations, combined with increased societal pressure for sustainable operations, could necessitate significant investments in cleaner production processes.

Price Pressures:

With the growth of the generic drug market, there's consistent downward pressure on prices. Manufacturers will need to continually optimize processes to maintain profitability.

Intellectual Property Issues:

Patent disputes and intellectual property challenges can arise, especially when dealing with innovative drugs. Navigating this landscape requires legal expertise and can be costly.

Geopolitical Risks:

Reliance on specific regions for raw materials or key ingredients exposes manufacturers to geopolitical uncertainties, which can disrupt supply chains.

Supply Chain Disruptions:

From pandemics to natural disasters, unforeseen events can disrupt supply chains, causing delays and potential revenue losses.

Quality Control:

Ensuring consistent quality is paramount in the pharmaceutical industry. Failures can lead to product recalls, legal challenges, and significant reputational damage.

Technological Advancements:

The sector is constantly evolving, with new manufacturing techniques, digitization, and automation. Keeping up with these changes necessitates continual investment in technology and training.

Competition:

With the lucrative nature of the pharmaceutical industry, more players are entering the market, leading to increased competition and potentially reducing market share for existing manufacturers.

Antimicrobial Resistance (AMR):

As resistance to existing drugs grows, there's pressure on the pharmaceutical industry to innovate and find new solutions. For API manufacturers, this can mean shifts in demand patterns and the need for R&D investments.

Shift in Demand:

With changing global health demographics and emerging diseases, the demand for specific APIs may decrease, while others may see a surge. Adapting to these shifts in real-time is crucial.

Trade Barriers:

Tariffs, trade wars, and protectionist policies can impact the import and export of APIs, affecting profitability and market access.

Increasing Clinical Trials Complexity:

As regulatory bodies demand more comprehensive data on drug safety and efficacy, the complexity and duration of clinical trials can increase, impacting the time-to-market for new APIs.

Consumer Awareness:

An increasingly informed consumer base is demanding transparency in drug sourcing and manufacturing. Meeting these expectations while protecting proprietary information can be a delicate balance.

To thrive in the future, API manufacturers need to adopt a proactive approach, investing in research, technology, and sustainable practices. Building resilient and adaptable business models, while fostering partnerships and collaborations, can also aid in navigating these challenges.

Market Survey

Report Overview

The global active pharmaceutical ingredients market size was valued at USD XXX billion in 2022 and is expected to expand at a compound annual growth rate (CAGR) of 5.90% from 2023 to 2030. The growth can be attributed to the advancements in active pharmaceutical ingredient (API) manufacturing and the rising prevalence of chronic diseases, such as cardiovascular diseases and cancer. Favorable government policies for API production, along with changes in geopolitical situations, are boosting market growth. The API market is undergoing immense changes due to supply chain disruption by COVID-19. Countries such as India are being preferred over China for the export of API owing to geopolitical situations and the demand to reduce dependence on China for API products. Furthermore, governments of many countries have formulated plans and granted incentives to promote the production of API.

The COVID-19 pandemic had a positive impact on the global APIs market. The pharmaceutical industry was an epicenter in treating symptoms related to COVID-19, including high fever, cough, and cold. Due to the increased popularity of the pharma industry during the pandemic, the active pharmaceutical ingredients market also witnessed growth during the period. Following the World Health Organization's declaration of the COVID-19 outbreak as a pandemic, a diverse group of renowned pharmaceutical and biopharmaceutical companies, as well as new startups, stepped forward to create therapies to combat the virus.

Scientists discovered a list of compounds that target COVID-19. Currently, there are approximately 155 compounds in clinical trials and 45 molecules in preclinical development to combat COVID-19. Four vaccines have been repurposed for treatment against COVID-19, including Chloroquine, Hydroxychloroquine, Lopinavir & Ritonavir, and Remdesivir. In March 2020, WHO started a worldwide trial of the four COVID-19 medicines. Increased investment and research and development in pharmaceutical products will propel the growth of the market further. However, the coronavirus outbreak has caused global business and economic disruption.

It is expected to have a short-term impact on the active pharmaceutical ingredients industry in the first quarter of 2020.

The global geriatric population is rising. According to the UN, in 2018, the population aged 65 and above is anticipated to increase from 962 million in 2018 to 2.1 billion by 2050. Aging weakens the immune system and increases a patient's susceptibility to acquiring infectious diseases. Moreover, impairment in body functions enhances the chances of getting other diseases, such as CVD and diabetes.

The requirement of high capital for the production of APIs is because the process needs extremely systematic protocols, which results in the outsourcing of various APIs. In addition, pharmaceutical companies benefit from API production outsourcing as it eradicates the need for expensive manufacturing unit installation and labor force. Thus, the need for cost savings boosts outsourcing. Strategic outsourcing by companies allows them to focus on core competencies, which results in increased productivity.

HPAPIs (highly potent active pharmaceutical ingredients) indicate a dramatic shift in how pharmaceutical companies use small molecules to offer new medicines. As a result of the change to HPAPIs, a pipeline of more effective drugs with lower doses has emerged. HPAPIs' advantages, including the requirement for a lower therapeutic dose, capacity to bind to specific receptors, and high efficiency, can be attributed to their rising demand among producers and customers. The API market has always been dominated by small molecules. API manufacturers are adopting HPAPIs to differentiate themselves from the competition as the generic API industry becomes increasingly competitive.

In addition, APIs are used as Antibody Drug Conjugates (ADCs). ADCs are important and effective treatment modalities used in combination with biologically active drugs and monoclonal antibodies for cancer. APIs effectively target cancer cells while causing minimum exposure of drugs to healthy tissues. Thus, the development of cancer-specific APIs is expected to boost the API market growth.

Type of Manufacturer Insights

The captive API segment accounted for the largest revenue share of 51.5% in 2022. It is anticipated to grow at a significant rate in the upcoming years owing to the easy availability of raw materials and extensive investments by major players to develop high-end manufacturing facilities. Furthermore, recent developments and initiatives by key players suggest that they are highly focused on in-house manufacturing over outsourcing.

For instance, in November 2019, Novartis announced the acquisition of CellforCure- a France-based CDMO-for producing molecules in-house, which was earlier contracted to CellforCure. These initiatives undertaken by key players are anticipated to boost segment growth.

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Type Insights

Innovative APIs held the largest share of 47.07% in 2022. This growth is attributed to increasing R&D initiatives for novel drug development and favorable government regulations. As a result of extensive research in this field, several innovative products are now in development and are expected to launch in the forecast period. New entrants in this segment are expected to drive market growth.

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The patent expiry of branded molecules is a key factor that can be attributed to the lucrative growth of generic API drugs. The generic drug market is anticipated to exhibit a high growth rate in countries such as Brazil and India, owing to high unmet clinical needs and acceptance of OTC drugs.

Application Insights

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xx xxxxxxxx xx xx xxxxxxxxxx xxx xxx xxxxxxxx xxxxxxx xxx. Awareness related to lipid and cholesterol-related diseases. High prevalence and increasing awareness about cardiovascular diseases are anticipated to drive the segment during the forecast period, thus driving demand for APIs for cardiology drugs.

The oncology segment is anticipated to witness significant growth of 7.6% during the forecast period. Factors such as changing lifestyles and the growing prevalence of cancer are driving the market. The increasing adoption of a sedentary lifestyle is driving the prevalence of various metabolic disorders. Hormonal imbalance is a growing concern in most countries. These disorders include thyroid and sex hormone imbalance. Levothyroxine is a popular API used to treat hypothyroidism. Hormonal therapy is of various types: for postmenopausal women, for men on cancer treatment, and for children to enable proper growth. A rise in hormone-dependent aging problems is also expected to drive the market.

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Type of Synthesis Insights

The synthetic API segment accounted for the largest revenue share of 72.6% in 2021. This is attributed to the higher availability of raw materials and easier protocols for the synthesis of these molecules. Many synthetic molecules are also expected to go off-patent in the coming years, which is anticipated to boost growth.

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This allows the innovation of new molecules that aid in the treatment of diseases, such as cancer. The high revenue of biotech-related API makes the market highly profitable, attracting major players. For instance, Proleukin (aldesleukin) by Clinigen, Inc. is a biological therapy for metastatic renal cell carcinoma.

Recombinant proteins are extensively used in gene sequencing, especially to create antibody probes within cells. Thus, recombinant proteins find extensive applications in targeted therapies. These proteins play a crucial role in the development of novel treatments, such as cell therapy. Players are investing in protein manufacturing plants. For instance, in November 2019, Bio-Techne announced an investment of over USD 40 million to upgrade its protein manufacturing facility and meet cell therapy demands. However, there are a limited number of players in the field, leading to insufficient supply for current and future demands.

xx xxxxxxxx xx xx xxxxxxxxxx xxx xxx xxxxxxxxxx xxxxxxxx xxxx. For instance, in 2020, Dr. Reddy's Laboratories and Eli Lilly and Company faced problems with the U.S. FDA for their API plants.

The presence of prominent players in this market space significantly diminishes the opportunities for a new entry into the market, as it is difficult to match the high capital requirements. Some prominent players in the global active pharmaceutical ingredients market include:

- Merck & Co., Inc.
- AbbVie, Inc.
- XXXXXXXX XXX XXXXXXXXXXXX XXXX XX
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- Cipla, Inc.
- Teva Pharmaceutical Industries Ltd.
- XXXXXXXX XXX XXXXXXXXXXXX XXXX XX Viatriis Inc.
- XXXXXXXX XXX XXXXXXXXXXXX XXXX XX
- Dr. Reddy's Laboratories Ltd.

Active Pharmaceutical Ingredients Market Scope

Report Attribute	Details
Market size value in 2023	USD XXXXX billion
Revenue forecast in 2030	USD XXXXX billion
Growth Rate	CAGR of 5.90% from 2023 to 2030
Base year for estimation	2022
Historical data	2019 - 2021
Forecast period	2023 - 2030

Key Players in the Global APIs Market

The global APIs market is competitive in nature, with several big as well as emerging players. The prominent players in the market are Pfizer, Inc. (US), Novartis AG (Switzerland), Sanofi (France), Boehringer Ingelheim XXXX XXXXXX XXXX X XX XXXXXX XXXXXXXXXXX XXXXXX XXXX XXXXX XXXXXXXXXXXX XXXXXX XXXX X XXXX XXXX XX XXXXX XXXXXXXXXXX XXXXX(Xxxxx)x xxxx xxxxxxxxxxx xxxxxXXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX XXXXXXX.

Pfizer is one of the leading players in the global API industry. The leading position of the company is majorly attributed to its exhaustive product portfolio. The company has a strong brand image, which gives it a competitive edge over other players. In order to remain competitive and strengthen its market position, the company primarily focuses on adopting both organic and inorganic growth strategies such as agreements, partnerships, collaborations, product approvals, and acquisitions. In accordance with this, in June 2016, Pfizer acquired Anacor Pharmaceuticals, Inc. (US), a leading biopharmaceutical company developing small molecule therapeutics.

Pfizer, Inc. (US), XXXX XXXXXX XXXX X XX XXXXXX XXXXXXXXXXX XXXXXX XXXX XXXXX XXXXXXXXXXX XXXXXX XXXX X XXXX XXXX XX XXXXX XXXXXXXXXXX XXXXX(Xxxxx)x xxxx xxxxxxxxxxx xxxxxXXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX XXXXXXX AstraZeneca plc (UK)

Active Pharmaceutical Ingredients are chemically and biologically active components of drugs with direct effect in cure, mitigation, treatment and prevention of diseases. The global API market has witnessed tremendous growth over the last few decades owing to the increased use of drugs and biologics in the treatment of diseases. The increasing adoption of quality standards in API manufacturing such as Good Manufacturing Practices (GMP), current GMP (cGMP), and the global adoption of International Conference on Harmonisation (ICH) guidelines, have helped improve the safety standards.

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diseases, rising number of hospitals and diagnostic centers, rising geriatric population in
developing countries, increasing healthcare expenditure, increasing disease awareness and
education.

However, a lack of skilled workforce and limited accessibility of drugs in the
developing countries are likely to restrict the market growth.

The Active Pharmaceutical Ingredients (API) Market is segmented on the basis of
API type, drug type, manufacturers, therapy area and geography. On the basis of type of
API, the market is segmented into, Chemical API XXXX XXXXXX XXXX X XX XXXXXX
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XXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX XXXXXXX Laboratories, Actavis plc, Lonza Group
AG, Hospira Inc. and BASF SE.

The spending on healthcare has grown at a rapid pace in recent years and it
increased at a CAGR of 6. XXXX XXXXXX XXXX X XX XXXXXX XXXXXXX XXXXXX XXXX
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XXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX XXXXXXX phenomenon and this directly benefited
the active pharmaceutical ingredients market.

Specialty medicines a trend in the active pharmaceutical ingredients market

A higher generic adoption rate in developed countries that ranges from 27% to 32% is driving global medicine spending and aiding greater access to improved, lifesaving healthcare services. The adoption of branded generic drugs is predicted to be higher in emerging economies such as China and India and generic drugs accounted for nearly 80% of the total drugs sold by value in these fast-growing nations in 2016. Rising use of specialty medicines is anticipated to grow the pharmaceutical spending worldwide with quicker growth in richer, developed nations as compared to their emerging counterparts. This is primarily because the former have adequate manufacturing units, a higher spending power, and greater emphasis on transparent pricing by assessing measuring effects on the population.

Product offering expansion and cost reduction to help immeasurably

An intense focus on commercializing drugs and reducing operating costs by outsourcing R&D activities can improve the organizational efficiency substantially. Outsourcing at later stages of development through the appointment of strategic partners can potentially improve operational efficiencies throughout the value chain. A balanced portfolio approach goes a long way in expanding sales and simultaneously reducing risk. This could be by possessing branded generic drugs, branded drugs, and unbranded drugs within the same portfolio. In addition, clearly defined forward linkages in the supply chain can garner greater market share in different regions over the course of the forecast period.

Asian countries hold a large chunk of the active pharmaceutical ingredients market

The vast majority of anti-inflammatory and antibiotic drugs are manufactured in Asian nations such as China and India. Roughly 4/5th of the total antibiotic APIs are made in the two countries and then outsourced to developed countries in Europe and North America.

The XXXX XXXXXX XXXX X XX XXXXXX XXXXXXXX XXXXXX XXXX XXXXX XXXXXXXXXXXX XXXXXX XXXX X XXXX XXXX XX XXXXX XXXXXXXX XXXXXX(Xxxxx)x xxxx xxxxxxxxxxx xxxxxxXXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX XXXXXXX. XXXX XXXXXX XXXX X XX XXXXXX XXXXXXXX XXXXXX XXXX XXXXX XXXXXXXXXXX XXXXXX XXXX X XXXX XXXX XX XXXXX XXXXXXXX XXXXXX(Xxxxx)x xxxx -controlled drugs over the counter is also a key factor leading to the boom in APAC in-house API consumption.

Higher growth in the APAC active pharmaceutical ingredients market

Healthcare spending has witnessed continued growth for some time now. Even though the proportion of healthcare spending in the APAC region is comparatively low, the growth rate in this strategic region has outpaced that of mature markets in North America and Europe. Rising healthcare spending has led to quality healthcare becoming accessible along with a higher demand for pharmaceutical products across APAC. The pharmaceuticals consumed here are mostly produced in onshore manufacturing units. Furthermore, contract manufacturing organizations are key outsourcing allies for pharmaceutical companies that supply their wares to North America and Europe.

Non-controlled substances have a high CAGR and can be targeted

Non-controlled substances accounted for a value of more than US\$ 43 Bn in the APAC active pharmaceutical ingredients market in 2016 and are forecast to be worth almost US\$ 46 Bn by 2017 end with a growth rate of 4.5% year on year. By the end of 2025, non-controlled substances should be worth US\$ 66 Bn on account of a CAGR of 4.9%, representing a potential goldmine in the active pharmaceutical ingredients market that can scarcely be ignored.

Active Pharmaceutical Ingredient Market: Global Size, Trends, Competitive, Historical & Forecast Analysis, 2019-2025. Rising prevalence of chronic and infectious diseases such as diabetes, cancer, arthritis, asthma chronic obstructive pulmonary disease (COPD) bone & joint infections, pneumonia etc. with increased geriatric population and surge in development of new drugs using Active Pharmaceutical Ingredient for fighting against such diseases are some important factor driving the growth of this market.

Active Pharmaceutical Ingredient Market is valued at USD 172.69 Billion in 2018 and expected to reach USD 263.80 Billion by 2025 with the CAGR of 6.24% over the forecast period.

Active XXXX XXXXXX XXXX X XX XXXXXX XXXXXXXX XXXXXX XXXX XXXXX XXXXXXXXXXXX XXXXXX XXXX X XXXX XXXX XX XXXXX XXXXXXXX XXXXXX(Xxxxx)x xxxx xxxxxxxxxxx xxxxxXXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX XXXXXXX. XXXX XXXXXX XXXX X XX XXXXXX XXXXXXXXXXX XXXXXX XXXX XXXXX XXXXXXXXXXX XXXXXX XXXX X XXXX XXXX XX XXXXX XXXXXXXX XXXXXX(Xxxxx)x xxxx xxxxxxxxxxx xxxxxXXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX, pneumonia, otitis, streptococcal pharyngitis, cellulites, and urinary tract infections. However, the standard can vary widely from one brand to another.

Drugs are chosen primarily from active ingredients in the liquid or solid form like tablet or other during formulation and development, the excipients are chosen can reach the target site in the body at the desired rate and extent according to the requirement.

Active Pharmaceutical Ingredient market is segmented on the type of manufacturer, type of synthesis, type of drug, therapeutic application, and region. Active Pharmaceutical Ingredient market is classified on the basis of type of manufacturer are In-house, and contract base manufacturing. On the basis of type of synthesis, the market is segmented as synthetic chemical, classical fermentation, biotech/biological, plant extracts, and others.

On the basis of type of drugs, global Active Pharmaceutical Ingredient market is divided into innovative prescription drugs, generic prescription drugs and others. On the basis of therapeutic application cardiovascular drugs, metabolic disorders drugs, oncology drugs, central nervous system drugs, anti-infective drugs, respiratory diseases drugs and others.

Bayer and Curadev signed research collaboration and license agreement to develop novel STING antagonists across indications

News: 23 March 2020, Bayer and Curadev Pvt. Ltd., a drug discovery company based in India, has been announced a research collaboration and license agreement for Stimulator of Interferon Genes (STING) antagonist program. The collaboration made to discover new drug for the treatment of various lung, cardiovascular diseases and other inflammatory diseases. STING antagonists will be able to offer tremendous potential for new treatments in activating the innate immune system for auto-inflammatory diseases. With this agreement, the Bayer will continue to deepen research activities on mechanisms with broader potential, rather than individual indications with understanding of pathology in disease areas with high unmet medical need and further strengthening its focus on healthcare of human being.

Market Key Players

The prominent players in the global active pharmaceutical ingredients market are Sanofi SA (France), XXXX XXXXXX XXXX X XX XXXXXX XXXXXXXXXXX XXXXXX XXXX XXXXX XXXXXXXXXXX XXXXXX XXXX X XXXX XXXX XX XXXXX XXXXXXXXXXX XXXXXX(Xxxxx)x xxxx xxxxxxxxxxx xxxxxXXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX XXXXXXX. XXXX XXXXXX XXXX X XX XXXXXX XXXXXXXXXXX XXXXXX XXXX XXXXX XXXXXXXXXXX XXXXXX XXXX X XXXX XXXX XX XXXXX XXXXXXXXXXX XXXXXX(Xxxxx)x xxxx xxxxxxxxxxx xxxxxXXXXXXXX XXXXX XXXXXXXXXXXXXXXXXXX XXXXX XXXXXXXXXXX XXXXXXX and Teva Pharmaceutical Industries Ltd (Israel).

Major Five Active Pharmaceutical Ingredients Companies

Amneal Pharmaceuticals Inc.

Amneal Pharmaceuticals Inc. operates the business across segments such as Generics and Specialty. The company performs captive manufacturing of APIs for its own finished pharmaceutical products.

Cadila Healthcare Ltd.

Cadila Healthcare Ltd. operates the business in the Pharmaceuticals segment. The company offers 38 APIs and intermediates across various therapeutic categories.

Jazz Pharmaceuticals Plc

Jazz Pharmaceuticals Plc operates its business through a unified business segment. The company offers a wide range of APIs used for the manufacture of various finished pharmaceutical products.

Lupin Ltd.

Lupin Ltd. operates the business through the Pharmaceuticals segment. The segment focuses on the discovery, development, manufacture, and commercialization of finished pharmaceutical products and APIs. The company offers a wide range of APIs used for the manufacture of various finished pharmaceutical products.

Mylan NV

Mylan NV operates the business across segments such as Gx, Rx/Bx, and OTC. The company offers a wide range of APIs used for the manufacture of various finished pharmaceutical products across various therapeutic areas, such as HIV/AIDS, antibacterials, central nervous system agents, antihistamines/anti-asthmatics, cardiovascular, antivirals, antidiabetics, antifungals, and proton pump inhibitors.

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The Global Active Pharmaceutical Ingredients Market is expected to register 4.96% CAGR and reach USD 215,125.4 million by 2023. Active pharmaceutical ingredients are an active ingredient of any drug or tablet, which possesses medicinal properties. Some drugs with combined therapy have many active ingredients to treat different disorders.

The increasing occurrences of chronic diseases, growth in abbreviated new drug applications (ANDA), rising acceptance and uptake of biopharmaceuticals, and the growing importance of generics across the globe is expected to enhance the Active Pharmaceutical Ingredients Market growth. However, the stringent regulatory policies and adverse drug price control policies across numerous countries are likely to curb the growth of the market.

Export & Import: All Countries

Export: All Countries

Ampicilline and Its Salts

Unit: KGS

S. No.	Country	Values in Rs. Lacs			Quantity in Thousands		
		2019-2020	2020-2021 (Apr-May(F))	% Growth	2019-2020	2020-2021 (Apr-May(F))	% Growth
1.	AFGHANISTAN TIS	15.64			0.90		
2.	ARGENTINA	259.55	53.65		4.42	1.30	
3.	AUSTRIA	0.00					
4.	BANGLADESH PR	35.46	40.82		0.89	0.70	
5.	BRAZIL	275.10	554.66		1.20	2.44	
6.	BULGARIA		0.00				
7.	BURUNDI	4.61	11.16		0.20	0.50	
8.	BELARUS	193.75			8.45		
9.	TAIWAN	56.32	30.51		3.13	1.60	
10.	COLOMBIA	114.42			4.26		
11.	CYPRUS	115.76	39.85		2.30	0.80	
12.	DOMINIC REP	2.21			0.05		
13.	EGYPT A RP	767.48	188.40		32.71	7.39	
14.	ETHIOPIA	361.72	0.00		20.00	0.01	
15.	FRANCE	101.75			0.98		
16.	GEORGIA	3.23			0.08		
17.	GERMANY	7.06			0.17		
18.	GHANA	502.75	192.23		32.40	11.00	

19.	HUNGARY	11.15			0.60		
20.	INDONESIA	352.68	0.00		20.27		
21.	IRAN	312.10			10.50		
22.	ISRAEL	8.02			0.30		
23.	ITALY	12.74			0.52		
24.	COTE D'IVOIRE	53.40			2.55		
25.	JAPAN	58.14			1.60		
26.	KENYA	1,415.12	81.27		87.82	5.10	
27.	KOREA RP	377.86	126.55		6.61	2.14	
28.	LEBANON	26.30			0.75		
29.	MALAYSIA	38.58	18.47		2.20	0.80	
30.	MYANMAR	0.99			0.04		
31.	MEXICO	915.90	202.33		9.00	2.00	
32.	NEPAL	131.46	3.80		7.63	0.20	
33.	NETHERLAND	400.63	209.74		20.18	9.30	
34.	NIGERIA	3,511.61	505.50		219.90	31.00	
35.	PAKISTAN IR	116.73	20.34		2.99	0.50	
36.	PARAGUAY	2.03	2.10		0.04	0.03	
37.	PERU	0.03					
38.	PHILIPPINES	28.34			0.60		
39.	POLAND	91.80			0.82		
40.	PORTUGAL	21.59	11.34		0.20	0.10	
41.	ROMANIA	428.06	155.82		4.55	1.50	
42.	RUSSIA	367.60	64.12		7.65	1.50	
43.	SERBIA	0.01					
44.	SINGAPORE	3.73	6.03		0.20	0.30	

45.	SOUTH AFRICA	0.08			0.00		
46.	SPAIN	461.35	207.06		4.66	2.00	
47.	SRI LANKA DSR	9.98			0.26		
48.	SUDAN	338.15			19.73		
49.	SYRIA	53.48	149.58		3.50	8.20	
50.	TANZANIA REP	43.95			2.60		
51.	THAILAND	2,834.46	1,179.35		136.65	54.50	
52.	TUNISIA	0.00					
53.	TURKEY	486.99	42.24		14.01	1.00	
54.	UGANDA	60.36			3.50		
55.	U ARAB EMTS	52.40			2.70		
56.	UKRAINE	81.70	40.90		1.00	0.45	
57.	U S A	2.39			0.04		
58.	UZBEKISTAN	48.15			1.30		
59.	VIETNAM SOC REP	422.15	32.86		21.85	1.10	
60.	YEMEN REPUBLIC		8.48			0.40	
61.	ZAMBIA		2.31			0.08	
	Total	16,399.00	4,181.46				
	India's Total	221,985,418.10	22,345,384.17				
	%Share	0.0074	0.0187				

Source: Govt. of India, Ministry of Commerce and Industry, Department of Commerce.

Cephalexin and Its Salts

Unit: KGS

S. No.	Country	Values in Rs. Lacs			Quantity in Thousands		
		2019-2020	2020-2021 (Apr-May(F))	% Growth	2019-2020	2020-2021 (Apr-May(F))	% Growth
1.	ALGERIA	1,896.09	193.67		52.75	5.00	
2.	ARGENTINA	299.14	23.31		8.57	0.60	
3.	AUSTRALIA	3.26			0.05		
4.	BANGLADESH PR	6.03			0.15		
5.	BRAZIL	4,599.65	1,077.86		133.93	28.77	
6.	CAMBODIA	68.86			2.00		
7.	CANADA	113.28	230.85		2.10	5.70	
8.	TAIWAN	810.61	105.69		24.81	3.05	
9.	ECUADOR	4.33			0.10		
10.	EGYPT A RP	353.98	13.50		10.30	0.30	
11.	GERMANY	2.84			0.05		
12.	IRAN	2,775.77			73.00		
13.	JAPAN	318.36			3.64		
14.	JORDAN	607.47	36.79		18.50	1.00	
15.	KENYA	148.47			4.30		
16.	KOREA RP	192.03			4.10		
17.	LEBANON	57.34	24.72		1.60	0.60	
18.	MACEDONIA	6.84			0.15		
19.	MALAYSIA	519.63	351.76		15.50	9.40	

20.	MEXICO	275.52			8.00		
21.	NEPAL	6.54			0.17		
22.	NIGERIA	116.20			3.20		
23.	PERU	5.22			0.13		
24.	PHILIPPINES	592.35			17.70		
25.	SERBIA	68.09			1.83		
26.	SPAIN	835.87	242.27		19.05	6.00	
27.	SRI LANKA DSR	818.30	221.01		21.65	5.50	
28.	SUDAN	855.42	218.02		24.05	5.00	
29.	SYRIA	19.98			0.50		
30.	THAILAND	857.14	559.82		25.30	14.00	
31.	TURKEY	0.23			0.00		
32.	U ARAB EMTS	1,168.52			34.15		
33.	U K	88.63			2.00		
34.	VIETNAM SOC REP	2,096.79	153.33		63.23	4.00	
35.	YEMEN REPUBLIC	4.52			0.10		
	Total	20,593.27	3,452.59				
	India's Total	221,985,418.10	22,345,384.17				
	%Share	0.0093	0.0155				

Source: Govt. of India, Ministry of Commerce and Industry, Department of Commerce.

Ibuprofen with or without Paracetamol or other Compounds

Unit: KGS

S. No.	Country	Values in Rs. Lacs			Quantity in Thousands		
		2019-2020	2020-2021 (Apr-May(F))	% Growth	2019-2020	2020-2021 (Apr-May(F))	% Growth
1.	AFGHANISTAN TIS	375.10	20.01		54.49	1.79	
2.	ANGOLA	639.89	48.53		133.31	4.86	
3.	ARMENIA	2.66			0.02		
4.	AUSTRALIA	4,844.22	1,111.70		209.27	22.11	
5.	BAHAMAS	14.74	0.11		0.39	0.01	
6.	BANGLADESH PR	23.01			1.00		
7.	BELIZE	39.06	23.88		1.14	0.74	
8.	BELGIUM	341.57	80.55		20.16	6.22	
9.	BENIN	430.55	1.07		30.48	0.04	
10.	BHUTAN	10.97	11.90		0.39	0.54	
11.	BOLIVIA	222.38	124.80		23.88	8.72	
12.	BOTSWANA	85.78			2.62		
13.	BULGARIA	0.02			0.00		
14.	BURKINA FASO	311.41	72.64		10.73	3.83	
15.	BURUNDI	136.66	20.72		10.28	1.51	
16.	BELARUS	248.65	44.48		3.59	0.39	
17.	CAMBODIA	134.74	26.61		10.48	1.88	
18.	CAMEROON	651.21	48.09		75.90	3.12	
19.	CANADA	5,570.12	990.72		133.43	7.33	
20.	CAPE VERDE IS	11.20			0.26		

21.	CAYMAN IS	0.11	0.10		0.00	0.01
22.	C AFRI REP	25.11	1.87		1.58	0.16
23.	CHAD	21.99			2.49	
24.	CHILE	2,299.79	419.28		135.80	23.43
25.	CHINA P RP	0.23			0.01	
26.	COMOROS	3.11			0.92	
27.	CONGO P REP	500.66			24.99	
28.	COSTA RICA	715.97	177.54		37.43	1.31
29.	CROATIA	5.57			0.25	
30.	CZECH REPUBLIC	5,302.29	1,345.84		225.27	15.04
31.	DENMARK	815.63	446.76		40.65	6.02
32.	DJIBOUTI	8.13			1.13	
33.	DOMINIC REP	766.90	48.79		25.43	4.09
34.	ECUADOR	571.48	48.76		25.07	2.57
35.	EGYPT A RP	47.48			1.37	
36.	EL SALVADOR	656.71	137.04		15.44	1.92
37.	ETHIOPIA	386.55	47.46		43.20	3.00
38.	EQU TL GUINEA	3.00	20.77		0.06	1.66
39.	FIJI IS	4.94	21.43		0.16	0.26
40.	FRANCE	4,016.55	820.08		352.84	44.39
41.	GABON	0.01			0.00	
42.	GAMBIA	83.74	1.74		3.94	0.30
43.	GEORGIA	150.31	77.16		3.28	1.97
44.	GERMANY	1,773.21	480.75		63.11	9.55
45.	GHANA	610.88	22.84		43.38	4.20
46.	GUATEMALA	4,285.89	69.30		106.40	0.48

47.	GUINEA	456.53	7.70		60.31	1.60	
48.	GUINEA BISSAU	6.92			1.73		
49.	GUYANA	19.72	2.67		2.86	0.38	
50.	HAITI	93.97	93.31		6.44	3.84	
51.	HONDURAS	1,717.94	32.84		59.01	2.71	
52.	HONG KONG	6.08	0.04		0.20	0.00	
53.	HUNGARY	4,343.31	799.89		89.44	6.50	
54.	ICELAND	17.65	17.69		0.20	0.16	
55.	IRAN	0.06			0.00		
56.	IRAQ	404.36	41.98		51.25	1.81	
57.	IRELAND	136.10			16.44		
58.	ISRAEL	31.84			2.00		
59.	ITALY	19.31			1.54		
60.	COTE D'IVOIRE	0.22	0.36		0.01	0.03	
61.	JAMAICA	31.04	2.60		1.52	0.09	
62.	JORDAN	787.83	56.33		40.90	3.06	
63.	KAZAKHSTAN	163.05			6.51		
64.	KENYA	865.20	130.79		49.97	7.73	
65.	KIRIBATI REP		4.31			0.06	
66.	KYRGHZSTAN	41.62	9.09		2.25	0.40	
67.	KOREA RP	2.67			2.46		
68.	LAO PD RP	3.37			1.53		
69.	LATVIA	36.00	51.77		1.03	0.40	
70.	LEBANON	73.82			3.60		
71.	LESOTHO	70.02	2.28		2.39	0.19	
72.	LIBERIA	242.95	52.27		14.59	3.50	

73.	LIBYA	2.99			0.11	
74.	MADAGASCAR	542.87	58.12		49.08	4.97
75.	MALAWI	258.76	9.27		13.96	0.77
76.	MALAYSIA	0.39	4.21		0.01	0.01
77.	MALDIVES	2.46	1.15		0.19	0.09
78.	MALI	265.08	40.88		33.97	2.49
79.	MALTA	481.20	47.63		27.76	2.90
80.	MAURITANIA	35.07			4.47	
81.	MAURITIUS	40.33	7.36		2.87	0.42
82.	MYANMAR	500.94	107.58		30.38	3.82
83.	MOLDOVA	2.02			0.01	
84.	MONGOLIA	6.37			0.56	
85.	MOROCCO	0.07			0.00	
86.	MOZAMBIQUE	206.89	30.51		16.09	1.55
87.	NAMIBIA	130.92			6.31	
88.	NEPAL	1,365.44	203.52		139.37	16.01
89.	NETHERLAND	1,741.69	204.86		64.41	3.66
90.	NETHERLANDANTIL	43.65			2.63	
91.	NEW ZEALAND	1,016.53	248.63		40.37	3.73
92.	NICARAGUA	2,445.08	33.47		82.43	1.75
93.	NIGER	33.98	94.84		2.50	3.07
94.	NIGERIA	2,835.73	648.65		308.61	28.11
95.	OMAN	1.79			0.23	
96.	PANAMA REPUBLIC	1.83			0.00	
97.	PAPUA N GNA	80.64	27.20		3.89	0.95
98.	PERU	88.72	10.41		6.22	0.24

99.	PHILIPPINES	60.84	4.64		4.81	0.26
100.	POLAND	145.36			3.62	
101.	PORTUGAL	31.70			1.50	
102.	QATAR	12.37			0.22	
103.	RUSSIA	13,098.71	1,999.82		624.72	11.73
104.	RWANDA	552.64	1.77		29.51	0.26
105.	SAUDI ARAB	1.79			0.13	
106.	SERBIA	16.48			0.04	
107.	SENEGAL	340.52	64.84		35.10	5.18
108.	SEYCHELLES	0.40	0.09		0.03	0.01
109.	SIERRA LEONE	226.01	81.92		22.60	7.83
110.	SINGAPORE	48.51	20.42		7.14	0.26
111.	SOMALIA	207.59	11.51		32.84	0.73
112.	SOUTH AFRICA	5,326.25	883.49		209.01	29.18
113.	SPAIN	1,089.71	287.22		44.96	3.54
114.	SRI LANKA DSR	240.36	17.71		24.22	1.06
115.	ST KITT N A	0.30			0.01	
116.	ST LUCIA	0.97			0.05	
117.	SUDAN	34.29	9.94		1.60	0.75
118.	SURINAME	7.11			1.00	
119.	SWAZILAND	15.05	0.66		0.66	0.05
120.	SYRIA	14.37	0.50		0.20	0.02
121.	TAJKISTAN	124.89	13.94		22.81	0.60
122.	TANZANIA REP	722.57	118.14		78.59	5.14
123.	THAILAND	192.18	59.46		9.41	0.45
124.	TOGO	152.24	0.87		9.45	0.07

125.	TONGA	5.51			0.25	
126.	TRINIDAD	21.52	16.14		1.46	0.86
127.	TURKEY	143.39	29.65		15.17	12.62
128.	TURKMENISTAN	358.34	27.87		31.80	2.30
129.	UGANDA	554.86	27.60		67.79	3.27
130.	U ARAB EMTS	351.67	76.01		28.44	1.78
131.	U K	8,271.63	1,825.43		444.32	35.70
132.	UKRAINE	961.82			6.31	
133.	U S A	59,005.97	13,361.14		1,841.77	173.84
134.	UZBEKISTAN	1,787.30	164.20		115.99	2.78
135.	VANUATU REP	13.80			0.40	
136.	VENEZUELA	62.54	14.18		2.20	1.46
137.	VIETNAM SOC REP	53.01	26.18		5.59	0.31
138.	SAMOA	1.46			0.06	
139.	YEMEN REPUBLC	465.75	49.50		77.68	2.39
140.	CONGO D. REP.	1,265.99	502.20		101.50	21.03
141.	ZAMBIA	283.92	97.58		17.69	4.86
	Total	155,124.89	29,692.14			
	India's Total	221,985,418.10	22,345,384.17			
	%Share	0.0699	0.1329			

Source: Govt. of India, Ministry of Commerce and Industry, Department of Commerce.

Other Cyclic Amides and Thr Drvts And Salts

Unit: KGS

S. No.	Country/Region	Values in US\$ Million			Quantity in Thousands		
		2021-2022	2022-2023(Apr-Jan)	%Growth	2021-2022	2022-2023(Apr-Jan)	%Growth
1.	AFGHANISTAN	0.00	0.00		0.13	0.13	
2.	ALBANIA	0.00			0.03		
3.	ALGERIA	0.61	0.46		5.44	0.88	
4.	ANGOLA		0.02			1.45	
5.	ARGENTINA	2.56	2.05		23.44	13.50	
6.	AUSTRALIA	0.07	0.03		10.16	2.26	
7.	AUSTRIA	4.50	3.62		38.10	25.00	
8.	BANGLADESH PR	1.06	1.75		15.57	23.36	
9.	BELGIUM	3.82	7.17		403.69	616.26	
10.	BHUTAN	0.01	0.01		0.50	0.25	
11.	BOLIVIA	0.02	0.02		0.23	0.14	
12.	BOSNIA-HRZGOVIN	0.00	0.09			0.03	
13.	BRAZIL	9.91	9.62		51.38	49.31	
14.	BULGARIA	8.00	3.14		5.78	2.96	
15.	BURKINA FASO						
16.	BELARUS	0.05	0.28		0.03	0.43	
17.	CAMBODIA	0.00			0.03		
18.	CAMEROON		0.00			0.01	
19.	CANADA	3.50	1.69		44.26	12.30	
20.	CHILE	0.04	0.03		1.51	1.70	
21.	TAIWAN	9.37	4.09		422.52	228.46	
22.	CHINA P RP	16.08	10.57		866.03	391.43	

23.	COLOMBIA	0.71	0.19		22.53	8.54
24.	COSTA RICA	0.02	0.02		0.33	0.17
25.	CROATIA	0.37	0.44		0.42	0.68
26.	CUBA	0.27			1.10	
27.	CYPRUS	0.65	1.03		3.14	8.82
28.	CZECH REPUBLIC	0.14	0.44		1.34	2.68
29.	DENMARK	0.00	0.00			0.00
30.	DJIBOUTI	0.00	0.00		0.25	0.00
31.	DOMINIC REP	0.02	0.05		0.31	0.65
32.	DOMINICA	0.03			0.01	
33.	ECUADOR	0.02	0.03		0.43	0.63
34.	EGYPT A RP	2.48	2.18		47.55	43.59
35.	EL SALVADOR	0.02			0.10	
36.	ESTONIA		0.02			0.00
37.	ETHIOPIA	0.03	0.04		0.26	0.77
38.	ERITREA	0.00				
39.	FINLAND	0.04	0.08		0.01	0.33
40.	FRANCE	1.95	1.46		61.15	56.88
41.	GABON					0.01
42.	GERMANY	6.24	12.26		415.65	312.62
43.	GHANA	0.13	0.10		2.43	1.35
44.	GREECE	1.74	3.61		21.01	56.73
45.	GUATEMALA	0.02	0.04		0.12	0.24
46.	HONDURAS	0.00				
47.	HONG KONG	0.05	0.01		0.52	0.06
48.	HUNGARY	0.46	0.55		1.78	2.41
49.	INDONESIA	8.43	1.13		305.27	92.83

50.	IRAN	0.03	0.00	0.08	0.04
51.	IRAQ	0.07	0.09	0.12	0.26
52.	IRELAND	12.00	5.80	16.00	7.14
53.	ISRAEL	1.26	0.78	14.18	11.34
54.	ITALY	1.90	0.90	43.28	19.03
55.	COTE D' IVOIRE	0.09	0.20	3.51	8.00
56.	JAPAN	10.82	14.27	179.35	192.15
57.	JORDAN	0.28	0.44	2.54	4.18
58.	KAZAKHSTAN	0.01	0.02	0.40	0.57
59.	KENYA	0.17	0.08	20.02	8.13
60.	KOREA RP	11.49	6.64	182.43	91.14
61.	LATVIA	0.04	0.01	0.55	0.10
62.	LEBANON	0.13	0.15	1.57	2.33
63.	LIBYA		0.13		9.00
64.	LITHUANIA		0.00		0.03
65.	MACEDONIA	0.29	0.36	0.87	1.05
66.	MADAGASCAR	0.00	0.01	0.03	0.32
67.	MALAWI	0.00	0.00	0.03	0.13
68.	MALAYSIA	0.07	0.73	0.78	1.76
69.	MALTA	1.12	0.62	11.08	0.19
70.	MYANMAR		0.00		0.03
71.	MEXICO	5.54	5.21	96.77	108.64
72.	MOLDOVA	0.00		0.01	
73.	MOROCCO	0.33	0.06	1.87	0.49
74.	MOZAMBIQUE	0.04	0.01	0.09	0.03
75.	NEPAL	0.11	0.10	3.00	6.21
76.	NETHERLAND	7.17	13.04	451.54	362.06

77.	NEW ZEALAND		0.00			0.12	
78.	NICARAGUA	0.01			0.05		
79.	NIGERIA	0.37	0.11		14.90	6.15	
80.	NORWAY	58.62	57.27		3,905.13	3,770.32	
81.	OMAN	2.27	0.68		46.27	15.96	
82.	PAKISTAN IR	1.38	0.82		27.73	17.70	
83.	PANAMA REPUBLIC	0.02			0.42		
84.	PARAGUAY	0.09	0.08		0.78	0.83	
85.	PERU	0.38	0.83		4.88	6.49	
86.	PHILIPPINES	0.08	0.09		10.08	1.86	
87.	POLAND	1.34	0.88		13.62	11.50	
88.	PORTUGAL	0.16	0.28		1.86	2.22	
89.	PUERTO RICO		0.08			0.35	
90.	QATAR	0.00			0.02		
91.	ROMANIA	0.05	0.06		0.70	0.52	
92.	RUSSIA	2.25	3.52		75.04	40.13	
93.	RWANDA	0.01			0.50		
94.	SAUDI ARAB	2.76	1.11		37.72	8.92	
95.	SERBIA	0.02	0.02		0.12	0.10	
96.	SIERRA LEONE	0.01			1.00		
97.	SLOVAK REP	0.00					
98.	SINGAPORE	0.18	0.06		41.66	16.52	
99.	SLOVENIA	0.44	0.46		6.16	7.05	
100.	SOMALIA		0.01			0.71	
101.	SOUTH AFRICA	0.32	0.01		19.29	0.23	
102.	SPAIN	3.55	2.29		177.03	77.35	
103.	SRI LANKA DSR	0.06	0.02		13.31	0.34	

104.	SUDAN	0.00	0.01		0.03	0.22	
105.	SWEDEN	0.18			12.10		
106.	SWITZERLAND	22.68	14.84		821.24	464.10	
107.	TANZANIA REP	0.29	0.19		40.33	30.13	
108.	THAILAND	0.78	0.67		22.29	22.19	
109.	TRINIDAD		0.00			0.02	
110.	TUNISIA	0.13	0.02		2.30	0.30	
111.	TURKEY	1.96	1.68		91.03	13.59	
112.	UGANDA		0.00			0.00	
113.	U ARAB EMTS	2.89	3.43		34.05	54.69	
114.	U K	2.59	2.33		102.96	83.67	
115.	UKRAINE	0.01	0.00		0.05	0.01	
116.	U S A	40.98	27.06		2,571.48	1,981.22	
117.	URUGUAY	0.21	0.17		3.08	2.30	
118.	UZBEKISTAN	0.03	0.03		0.26	0.15	
119.	VENEZUELA	0.02	0.01		2.42	0.17	
120.	VIETNAM SOC REP	0.37	0.41		5.01	3.64	
121.	YEMEN REPUBLC	0.01	0.05		0.25	0.79	
122.	CONGO D. REP.	0.02	0.04		1.50	2.83	
123.	ZAMBIA	0.02	0.01		0.82	0.65	
124.	ZIMBABWE	0.01	0.01		0.01	0.03	
	Total	283.90	237.62				
	India's Total	422,004.40	372,117.75				
	%Share	0.0673	0.0639				

Source: Govt. of India, Ministry of Commerce and Industry, Department of Commerce.

Import: All Countries

Ampicilline and Its Salts

Unit: KGS

S. No.	Country	Values in Rs. Lacs			Quantity in Thousands		
		2019-2020	2020-2021 (Apr-May(F))	% Growth	2019-2020	2020-2021 (Apr-May (F))	% Growth
1.	CHINA P RP	327.69			12.77		
2.	HONG KONG	308.85			3.00		
3.	RUSSIA		66.99		1.00		
4.	TURKEY	32.33			0.50		
5.	U S A	0.75			0.00		
	Total	669.62	66.99				
India's Total		336,095,445.61	29,848,219.32				
%Share		0.0002	0.0002				

Source: Govt. of India, Ministry of Commerce and Industry, Department of Commerce.

Cephalexin and Its Salts

Unit: KGS

S. No.	Country	Values in Rs. Lacs			Quantity in Thousands		
		2019-2020	2020-2021 (Apr-May(F))	% Growth	2019-2020	2020-2021 (Apr-May(F))	% Growth
1.	BELGIUM	269.55			6.60		
2.	CHINA P RP	1,002.75			27.40		
3.	ITALY	0.03					
4.	NETHERLAND	1,948.78	179.79		48.00	4.40	
5.	SPAIN	10,603.89	3,209.00		290.31	78.90	
	Total	13,825.01	3,388.79				
India's Total		336,095,445.61	29,848,219.32				
%Share		0.0041	0.0114				

Source: Govt. of India, Ministry of Commerce and Industry, Department of Commerce.

Ibuprofen with or without Paracetamol or other Compounds

Unit: KGS

S. No.	Country	Values in Rs. Lacs			Quantity in Thousands		
		2019-2020	2020-2021 (Apr-May(F))	% Growth	2019-2020	2020-2021 (Apr-May(F))	% Growth
1.	FRANCE	0.52			0.00		
2.	GAMBIA	3.39			0.03		
3.	GERMANY	185.49			0.86		
4.	NAMIBIA	0.07			0.00		
5.	SPAIN	0.03			0.00		
6.	TURKEY	49.74			0.40		
7.	U K	102.81			0.31		
8.	U S A	0.38			0.01		
	Total	342.44					
India's Total		336,095,445.61	29,848,219.32				
%Share		0.0001					

Source: Govt. of India, Ministry of Commerce and Industry, Department of Commerce.

Other Cyclic Amides and Thru Drvts and Salts

Unit: KGS

S. No.	Country/Region	Values in US\$ Million			Quantity in Thousands		
		2021-2022	2022-2023(Apr-Jan)	%Growth	2021-2022	2022-2023(Apr-Jan)	%Growth
1.	ARGENTINA	0.23			0.39		
2.	AUSTRALIA	0.00					
3.	AUSTRIA	0.03			0.44		
4.	BELGIUM	0.01	0.08		1.94	7.14	
5.	BRAZIL	0.03			0.69		
6.	BRUNEI	0.41	0.20		81.98	31.10	
7.	CANADA	0.00	0.00		0.00	0.01	
8.	TAIWAN	0.00	0.00		0.06	0.00	
9.	CHINA P RP	137.42	132.36		15,592.43	10,963.91	
10.	DENMARK						
11.	FINLAND		0.15			1.67	
12.	FRANCE	0.93	0.71		52.80	31.40	
13.	GERMANY	3.55	2.64		697.27	336.04	
14.	GREECE	0.67	0.44		1.49	1.02	
15.	HONG KONG	4.43	2.09		31.02	7.24	
16.	INDONESIA	0.00			0.03		
17.	IRELAND	0.16	0.03		1.42	0.01	
18.	ISRAEL	0.22	0.21		34.00	8.44	
19.	ITALY	11.45	10.84		45.99	40.25	
20.	JAPAN	1.17	2.60		102.77	265.18	
21.	KOREA RP	0.14	0.04		13.86	3.70	
22.	LATVIA	0.02	0.01			0.00	
23.	LUXEMBOURG	0.00			0.26		

24.	MACEDONIA	0.06			0.20		
25.	MALTA	1.25	0.67		0.07	0.03	
26.	MEXICO	0.08			0.50		
27.	NETHERLAND	0.00	0.10		0.01	9.68	
28.	NORWAY	4.30	0.81		53.02	9.91	
29.	POLAND	0.44	0.31		3.33	2.62	
30.	PORTUGAL	0.00					
31.	SAUDI ARAB	0.06			44.00		
32.	SINGAPORE	1.84	0.05		12.39	1.05	
33.	SLOVENIA		0.00			0.00	
34.	SPAIN	0.88	1.69		12.60	13.31	
35.	SWITZERLAND	2.32	0.40		3.84	1.40	
36.	THAILAND		0.31			0.11	
37.	TURKEY	0.03	0.00		16.00		
38.	U K	0.69	0.51		0.46	4.38	
39.	UKRAINE	0.00			0.00		
40.	U S A	5.66	7.78		69.80	70.92	
	Total	178.49	165.01				
	India's Total	613,052.05	602,430.49				
	%Share	0.0291	0.0274				

Source: Govt. of India, Ministry of Commerce and Industry, Department of Commerce.

Financials & Comparison of Major Indian Players/Companies

Source: CMIE

About Financial Statements of CMIE Database

A reasonably comprehensive list of all the information is listed in this flattened structure. The list reflects the usual disclosures made by companies. It is long as it tries to capture as much of granular information as possible.

Separately, CMIE database captures the disclosures made by companies in their Annual Reports according to the various Accounting Standards specified by the Institute of Chartered Accountants of India and according to the stipulations of the Reserve Bank of India.

There is an overlap of information presented and the disclosures as per the Accounting Standards and RBI stipulations. The data is normalised as per the CMIE database methodology and the rest is captured without normalisation since these presentations are highly standardised.

Profits & Appropriations

Description:

There are various measures of profits of companies. These are either gross or net of depreciation, amortisation, interest payments, direct taxes, prior-period and extra-ordinary transactions, etc. All measures of profits are essentially derived from the entries made under income and expenses in the CMIE database. Since all sources of income and all heads of expenses are captured comprehensively in CMIE database, it is possible to derive the various measures of profits from these.

Profit after tax is an atomic indicator in CMIE database. The rest of the profit measures are all derived indicators. The profits after tax and all other measures of profits as derived from the database may differ from the profits as presented by the company. The most likely cause for this difference is the treatment of transactions pertaining to prior periods or because of extra-ordinary transactions during a year.

As mentioned earlier, profit after tax is an atomic Indicator in CMIE database. All other measures of profits are derived Indicators and these are presented in Measures of Profits under Derived Indicators of Profits. Some of these are applicable only to finance companies. These are PBPDTA and PBPT and their variants. PBDITA and its variants are applicable only to non-finance companies. The other two derived measures of profits used in CMIE database are PBT and Cash profits. These are applicable to all kinds of companies like PAT and its variants.

The term "variants" used earlier refers to the various income and expense items that are netted out to derive measures of profits that are often more useful than the profit measures gross of these.

For example, one of the variants is the suffix "net of P&E". "P&E" is prior period and extra-ordinary transactions. Profits are reduced by the net income from prior period and extra-ordinary transactions to ensure that the profits reflect transactions of the current year. Other variant suffixes are "net of P&E&OI", which is net of prior period and extra-ordinary transactions and net of other income; and, "net of P&E&OI&FI", which is net of prior period and extra-ordinary transactions, net of other income and net of financial services incomes.

All these variants for the various profit measures are presented under Measures of Profits.

Derived Indicators of Profits includes one set of measures under Distribution of Profits. There are distributions of four measures of profits. These are - PBDITA, PBPDTA, PBPT and PAT. While the distribution of PAT shows the share of dividends and retained profits, the rest show the share of PAT and other components of the measures of profits. For example, PBDITA consists of provisions, write-offs, depreciation, amortisation, interest and PAT.

Profitability ratios are derived Indicators based on measures of profits, income and assets and liabilities. Over 35 such measures are provided in the CMIE database. These are divided into two parts - profit margins of income and returns over investments.

A number of Indicators that are used in the derivation of the sources of growth in profits are presented under the sub-part Sources of growth in profits. There are three measures of profits for which these Indicators are provided - PBDITA, PBT and PAT. Growth itself is computed at run-time and is not stored in CMIE database. However, these Indicators are used to understand the sources of growth in the three measures of profits. This understanding is based on a simple but useful arithmetical construct.

Total Liabilities

Description:

Total liabilities of a company are the sum of all the resources deployed by it. It includes all sums it owes to the shareholders in the form of share capital and reserves and surpluses, all sums it owes its lenders in the form of secured and unsecured loans and all current liabilities and provisions. It includes deferred tax liability.

In the CMIE database, total liabilities balance total assets and, total liabilities is the sum of the following:

1. Paid up shares and similar capital such as, forfeited equity capital, paid up preference capital, capital contribution, convertible warrants and minority interest reserves.
2. Reserves and funds, net of accumulated losses, if any. These include premium reserves, capital redemption reserves, revaluation reserves, employee stock option reserves, general reserves and balance as per profit and loss statement. While revaluation reserves is included here, in most presentations of CMIE database, it is netted out.
3. Borrowings
4. Current liabilities & Provisions
5. Deferred tax liability

The Annual Report provides a lot of information besides a structured presentation as outlined above. For example, it provides details of the authorised capital, issued and subscribed capital, number of shares issued, details of buy-backs, etc. All of this is covered under the Addendum information of Liabilities.

CMIE database makes fine distinctions in defining share holders funds and net worth. It defines free and specific reserves and capital employed clearly so that the same definitions apply to all companies. All of this some more Indicators are presented in Derived Indicators of Liabilities.

Derived Indicators also include an entire section "Secured & unsecured borrowings". This section helps in the selection of Indicators relating to borrowings directly. The presentation in the main listing of all Indicators has one list of secured borrowings with its detailed break-up and another list of unsecured borrowings with its detailed break-up.

As a result, the selection of total bank borrowings implied always adding secured bank borrowings and unsecured bank borrowings. To avoid the tedium, the Derived Indicators of Liabilities includes this section that provides the secured and unsecured borrowings for most of the frequently used borrowing items.

Total Assets

Description:

Total assets is a sum total of all the assets held by a company as on the last day of an accounting period. An asset is recognised in the balance sheet when it is probable that the future economic benefits associated with it will flow to the enterprise. As per Part I of Schedule VI of Companies Act 1956, assets are required to be disclosed under the heads Fixed Assets, Investments, Current Assets, Loans and Advances and Miscellaneous Expenditure no written off. This data field is broadly the sum of the amounts disclosed under each of these assets. Computationally and more precisely, this is the sum of the following data fields:

- Net fixed assets
- Capital work in progress and net pre-operative expenses pending allocation, if any
- Investments
- Inventories
- Receivables
- Loans & advances
- Cash & bank balances
- Deferred tax assets
- Miscellaneous expenses not written off

Net Cash Flow from Operating Activities

Description:

Cash flow from operating activities is the cash generated from the main or primary business activities of the company. A company can present the cash flow statement under the direct or indirect method of presentation. This data field provides the amount of cash flow generated from operating activities, which is calculated, under the indirect method.

Under indirect method, the net profit or loss before tax and extraordinary income is used to calculate the amount of net cash flow generated from operating activities. In other words, the indirect method adjusts net income for items that affected reported net income but did not affect cash. Since income statement is prepared on an accrual basis, in which revenue is recognized when earned and not when received, net income does not represent the net cash flow from operating activities and it is necessary to adjust it for those items which affect net income although no actual cash has been paid or received against them.

To compute net cash flows from operating activities, non cash charges in the income statement are added back to net income, and non cash incomes deducted. Further, cash flows on account of changes in the working capital of the company are included.

When accounts receivable increase during the year, revenues on an accrual basis are higher than on a cash basis because goods sold on account are reported as revenues. In other words, operations for the period led to increased revenues, but not all of these revenues resulted in an increase in cash. Some of the increase in revenues resulted in an increase in accounts receivable. To convert net income to net cash flow from operating activities, the increase in accounts receivable must be deducted from net income.

When accounts payable increase during the period, expenses on an accrual basis are higher than they are on a cash basis because expenses are incurred for which payment has not taken place. To convert net income to net cash flow from operating activities, the increase in accounts payable must be added back to net income.

Cash flows from operating activities are obtained, broadly, by the following method:

Add: Net Profit before tax and extraordinary incomes
Add: Non-cash Expenses (Depreciation, Amortization, Provisions made, write offs)
Less: Non-cash Incomes (provisions written back)
Add: Non-operating Expenses (Interest paid)
Less: Non-operating Incomes (Interest, dividend income)
Add: Non-operating Losses (Loss on Sale of Non-Current Assets, Foreign exchange losses)
Less: Non-operating Gains (Gain on Sale of Non-Current Assets, Foreign exchange gains)

Section – I

This section comprises of selected companies with their contact details. These companies have major market share in their respective field.

Name of Company with Contact Details

Company Name	Address 1	Address 2	City	Pin code	State	Telephone Number	Fax Number	Email	Web Address
Alpha Remedies Ltd.	65, Dharampeth Extn.,	Shandinagar,	Nagpur	440010	Maharashtra	2249574		atulsbarhate@gmail.com	
Ankur Drugs & Pharma Ltd.	C-306, Crystal Plaza, Andheri	Link Road, Andheri (West),	Mumbai	400053	Maharashtra	40682300	40682323	srane@ankurdrugs.com	www.ankurdrugs.com
Aurobindo Pharma Ltd.	Plot No.2, Maitrivihar	Ameerpet,	Hyderabad	500038	Telangana	23736370	23747340	info@aurobindo.com	www.aurobindo.com
Cian Healthcare Ltd.	Milkat No,3339, Block No.1, From South Side,	C S No.227/2+3 A Harpale Park, Opp. Bergerpaint,	Pune	412308	Maharashtra	26982792	26982792	cianhealthcare@yahoo.co.in	www.cian.co.in
Cipla Ltd.	Cipla House, Peninsula Business Park,	Ganpatrao Kadam Marg, Lower Parel,	Mumbai	400013	Maharashtra	24826000	24826120	contactus@cipla.com	www.cipla.com
Dr. Reddy'S Laboratories Ltd.	8-2-337, Road No.3,	Banjara Hills,	Hyderabad	500034	Telangana	49002900	49002999	shares@drreddys.com	www.drreddys.com
Farmson Pharmaceutical Gujarat Pvt. Ltd.	Plot No. 14, GIDC Industrial Estate,	Nandesari,	Vadodara	391340	Gujarat	2840612	2841377	finance@farmson.com	www.farmson.com
Glaxosmithkline Pharmaceuticals Ltd.	Dr. Annie Besant Road, Worli,		Mumbai	400030	Maharashtra	24959595	24959494	askus@gsk.com	www.gsk-india.com
Indoco Remedies Ltd.	Indoco House, 166, C S T Road,	Kalina, Santacruz (East),	Mumbai	400098	Maharashtra	26541851	26520787	sunil.joshi@indoco.com	www.indoco.com
Pan Drugs Ltd.	167-168 GIDC Industrial Estate,	Nandesari,	Vadodara	391340	Gujarat	3062020	3062500	info@pandrugsltd.com	www.pandrugsltd.com
Piramal Enterprises Ltd.	Piramal Ananta, Agastya Corp. Park, Opp. Fire Brigade,	Kamini Junction, LBS Marg, Kurla (West),	Mumbai	400070	Maharashtra	38023000	38023084		
Sanofi India Ltd.	Sanofi House, CTS No.117-B,	L & T Business Park, Saki Vihar Road,	Mumbai	400072	Maharashtra	28032000	28032939	igrc.sii@sanofi.com	www.sanofiindia.com

		Powai,							
Sri Krishna Pharmaceuticals Ltd.	C-4, Industrial Area, Uppal,		Hyderabad	500039	Telangan	27201101	27204470	nsk@srikri shnaphar ma.com	www.srikri shnaphar ma.com
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	12th Floor, Commerz II, International Business Park,	Oberoi Garden City, Western Highway,	Mumbai	400063	Maharas htra				
Triton Laboratories Ltd.	8-3-1066, Plot No. 11,	Srinagar Colony,	Hyderabad	500073	Telangan		3748834		

Data Intentionally Hide - Sample Report

Name of Director(S)

Company Name	Date	Director Name
Alpha Remedies Ltd.	3/31/2018	ANIL DIVAKARAN NAIR
		ATUL S BARHATE
		MANJIT SINGH SAWHNEY
		PREETIINDER SINGH B SETHI
		RAJESH GOVINDRAM BHATIA
Ankur Drugs & Pharma Ltd.	3/31/2012	ANIL KUMAR KHADKE
		DILEEP H SHINDE
		GIRRAJ VIJAYVARGIYA
		PURNANDU JAIN
		RAMESH BATHAM
		S C RANE
Aurobindo Pharma Ltd.	3/31/2019	AVNIT BIMAL SINGH
		B ADI REDDY
		K NITYANANDA REDDY
		K RAGUNATHAN
		M MADAN MOHAN REDDY
		M SITARAMA MURTHY
		M SIVAKUMARAN (DR.)
		N GOVINDARAJAN
		P SARATH CHANDRA REDDY
		P V RAMAPRASAD REDDY
		SANTHANAM SUBRAMANIAN
		SAVITA MAHAJAN
		Cian Healthcare Ltd.
JAYANT V TILLOO		
PADMANABHAN BALASUBRAMANIAM		
PANKAJ SHRINIWAS ZANWAR		
RIYAZ B KHAN		
SMITA KHANNA		
SURAJ SHRINIWAS ZANWAR		
Cipla Ltd.	3/31/2019	USHA JASWANI
		ADIL ZAINULBHAI
		ASHOK SINHA
		IREENA VITTAL (MS.)

		KEDAR UPADHYE
		M K HAMIED
		NAINA LAL KIDWAI (MS.)
		PETER LANKAU
		PETER MUGYENYI (DR.)
		PUNITA LAL (MS.)
		RAJENDRA CHOPRA
		S RADHAKRISHNAN
		SAMINA VAZIRALLI (MS.)
		UMANG VOHRA
		Y K HAMIED (DR.)
Dr. Reddy'S Laboratories Ltd.	3/31/2019	ALLAN OBERMAN
		ANUPAM PURI
		BHARAT N DOSHI
		BRUCE L A CARTER
		G V PRASAD
		HANS PETER HASLER
		K SATISH REDDY
		KALPANA MORPARIA
		LEO PURI
		OMKAR GOSWAMI (DR.)
		PRASAD R MENON
		SANDEEP PODDAR
		SAUMEN CHAKRABORTY
		SHIKHA SHARMA
		SRIDAR IYENGAR
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	ANJU SINGH
		ANNIE RATHOD
		HARISHCHANDRA NAGJIBHAI PATEL (DR.)
		KAVITA SHUKLA
		KOMAL SAMIR PATEL (MRS.)
		N K PATEL
		SAMIR K PATEL
		SHEELA G NAIR
		SHUBHANGINI MAHATRE
		SUCHI BHATT
		SUDHESH A MISHRA
		VINIT S MENON

Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	A A NADKARNI		
		A BANSAL		
		A N ROY		
		A VAIDHEESH		
		D S PAREKH		
		D SUNDARM		
		MARC JONES		
		NIHAL KAVIRATNE		
		P THAKUR		
		P V BHIDE		
		R C SEQUEIRA		
		R KRISHNASWAMY		
		R R BAJAJ		
		R S KARNAD		
Indoco Remedies Ltd.	3/31/2019	SUBESH WILLAMS		
		ADITI KARE PANANDIKAR		
		ANAND NADKARNI		
		ANIL M NAIK		
		D M GAVASKAR		
		JAYSHANKAR MENON		
		MANDAR BORKAR		
		RAJIV KAKODKAR		
		SHARAD P UPASANI		
		SUNDEEP V BAMBOLKAR		
		SURESH KARE		
		Pan Drugs Ltd.	3/31/2013	ATUL PANDYA
				HEMANT UPADHYAY
				KAMAL N PANDYA
PARAG VAMANRAY RAVAL				
Piramal Enterprises Ltd.	3/31/2019	AJAY G PIRAMAL		
		ANAND PIRAMAL		
		ARUNDHATI BHATTACHARYA (MRS.)		
		DEEPAK SATAWALEKAR		
		GAUTAM BANERJEE		
		GOVERDHAN MEHTA (PROF.)		
		KEKI DADISETH		
		LEONARD D'SOUZA		
N VAGHUL				

		NANDINI PIRAMAL
		R A MASHELKAR
		S RAMADORAI
		SIDDHARTH METHA
		SWATI A PIRAMAL (DR.)
		VIJAY SHAH
		VIVEK VALSARAJ
Sanofi India Ltd.	12/31/2019	A SOOD
		ADITYA NARAYAN
		CHARLES BILLARD
		CHERIAN MATHEW
		CYRIL GRANDCHAMP
		GIRISH TEKCHANDANI
		N RAJARAM
		RANGASWAMY R LYER
		SHAILESH AYYANGAR (DR.)
		THOMAS ROUCKOUT
		USHA THORAT
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	C GOPALA KRISHNAN MURTY
		PRANESH RAJ MATHUR
		SHILPA BUNG
		V SATYAVATHI
		V V SUBBA REDDY
		VEMPALLI VENKATA KRISHNA REDDY
		VENKATESWAR RAO SARVEPALLI
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	GAURAV MATHUR
		PRAMOD GHORPADE
		RAGHUNATHAN ANANTHANARAYANAN
Triton Laboratories Ltd.	3/31/2000	C KRISHNA PRASAD
		C UMA DEVI (SMT.)

Plant Capacity

Company Name	Product/Raw Material name	Year ended	Capacity	Capacity - Unit	Production	Production - Unit	Sales quantity	Sales quantity - Unit	Sales value
		Date	units		units		units		Rs. Million
Alpha Remedies Ltd.	INTEREST	200903							0.1
	PARACETAMOL	200903							185.5
Ankur Drugs & Pharma Ltd.	BULK DRUGS	201203							22.8
	CAPSULES FORMULATION	201203							64.9
	DRY POWDER INJECTABLE	201203							0.7
	DRY SYRUPS FORMULATION	201203							200.2
	EFFERVESCENT TABLETS	201203							77.5
	FORM FILL & SEAL	201203							16.5
	INTEREST	201203							1.6
	JOB WORK	201203							112.1
	LIQUID FORMULATION	201203							384.7
	LIQUID INJECTABLE	201203							5.9
	OINTMENTS	201203							27.4
	ORAL POWDER	201203							2.1
	ORAL STRIP/PATCHES	201203							2
	TABLETS FORMULATION	201203							706.4
Aurobindo Pharma Ltd.	BULK DRUGS & INTERMEDIATES	201903							
	CAPSULES & TABLETS	201903							119226.3
	DIVIDEND	201903							790.8
	INJECTABLES	201903							
	INTEREST	201903							114.4
	OTHERS	201903							
	SCRAP	201903							154.7
	SERVICES	201903							160.7
	SYRUPS	201903							

	TRADING GOODS	201903							
Cian Healthcare Ltd.	PHARMACEUTICALS MEDICINAL CHEM & BOTANICAL PROD	201903							693.1
Cipla Ltd.	AEROSOLS	201903							
	AEROSOLS/INHALATI ON DEVICES	201903							
	ANDA & OTHER PRODUCT LICENCE	201903							720
	BULK DRUGS	201903							
	BULK DRUGS (TRADED)	201903							
	CORPORATE GUARANTEE COMMISSION	201903							199.2
	CREAMS	201903							
	CREAMS (TRADED)	201903							
	DIVIDEND	201903							2415
	INJECTIONS	201903							
	INJECTIONS/STERILE SOLUTIONS	201903							
	INTEREST	201903							596.3
	LIQUIDS	201903							
	LIQUIDS (TRADED)	201903							
	OTHERS	201903							
	OTHERS (TRADED)	201903							
	PROFIT ON SALE OF INVESTMENTS	201903							1074.1
	RENT	201903							53.5
	ROYALTY	201903							506.8
	SCRAP	201903							319
	SERVICES	201903							64.8
	TABLETS & CAPSULES	201903							119684.4
	TABLETS & CAPSULES (TRADED)	201903							
	TECHNOLOGY KNOW-HOW/FEES	201903							410.2
Dr. Reddy'S Laboratories Ltd.	BIOTECHNOLOGY (GRAMS)	201903							
	BULK DRUGS	201903							
	COSTOM PHARMACEUTICAL SERVICES(KILOGRA	201903							

	MS)								
	FORMULATIONS	201903							104667
	INTEREST	201903							812
	LICENSE FEES	201903							559
	PROFIT ON SALE OF MUTUAL FUNDS	201903							448
	SALE OF SPENT CHEMICALS	201903							356
	SCRAP	201903							161
	SERVICE INCOME	201903							503
Farmson Pharmaceutical Gujarat Pvt. Ltd.	DILUTE ACETIC ACID	201903				46304.9	Tonnes		289
	GLACIAL ACETIC ACID	201903				6443.09	Tonnes		39.5
	INTEREST	201903							15.4
	PARACETAMOL	201903				20246.52	Tonnes		6755.8
	RENT	201903							0.4
Glaxosmithkline Pharmaceuticals Ltd.	INTEREST	201903							764.4
	LIQUIDS: ORALS, TOPICALS, PARENTALS & MALT	201903							30894.8
	OTHER SERVICES	201903							
	OTHERS	201903							
	RENTAL INCOME	201903							4.8
	SERVICE INCOME	201903							256.2
	SOLIDS INCL. POWDERS & OINTMENTS	201903							
	TABLETS & CAPSULES	201903							
	VACCINES	201903							
Indoco Remedies Ltd.	ANALYTICAL & TESTING INCOME	201903							486.5
	BULK DRUGS	201903							
	CAPSULES	201903							
	INJECTIBLES & EYE PREPARATION	201903							
	INTEREST	201903							15.6
	LIQUID ORALS	201903							8927.2
	OINTMENTS &	201903							

	LOTIONS								
	OTHERS	201903							
	POWDERS	201903							
	SCRAP	201903							3.5
	TABLETS	201903							
	TOOTHPASTE & MOUTH GEL	201903							
Pan Drugs Ltd.	DICLOFANIC SODIUM	201303			1.5 Tonnes		1.43 Tonnes		0.7
	DILUTED ACETIC ACID	201303			460.94 Tonnes		460.94 Tonnes		0.1
	GUAIACOL	201303					0.6 Tonnes		0.2
	GUAIPHENESIN	201303			141.6 Tonnes		145.45 Tonnes		39.3
	GUAIPHENESIN DC 95	201303			66.05 Tonnes		66.05 Tonnes		37.3
	METHACARBAMOL	201303			0.28 Tonnes		0.28 Tonnes		0.2
	PAMABROM	201303			0.62 Tonnes		0.62 Tonnes		1.5
	PARA AMINO PHENOL	201303					0.54 Tonnes		0.1
	PARACETAMOL	201303					10 Tonnes		2
	PARACETAMOL POWDER	201303			491.26 Tonnes		494.71 Tonnes		112
	PNPNA	201303					3.68 Tonnes		0.3
Piramal Enterprises Ltd.	BULK DRUGS INTERMEDIATES	201903							18182.4
	DIVIDEND	201903							1298
	FACILITY FEES	201903							189.2
	INCOME ON INSTRUMENTS MANDATORILY MEASURED	201903							940.7
	INTEREST	201903							15724.1
	LIQUIDS	201903							
	LIQUIDS, DROPS & SOLUTIONS	201903							
	OTHER FINANCING ACTIVITIES	201903							9
	OTHERS	201903							
	PERSONAL CARE PRODUCTS - TRADED	201903							
	PROCESSING CHARGES	201903							2.1
	PROFIT ON SALE OF INVESTMENTS	201903							1.3

	SERVICES	201903							2921.5
	TABLETS	201903							
	TRADE IN TABLETS & CAPSULES	201903							
	VITAMIN A IN VARIOUS FORM	201903							
Sanofi India Ltd.	BULK DRUGS	201912							
	FORMULATIONS	201912							28427
	INCOME FROM SERVICES	201912							1676
	INTEREST	201912							910
	RENT	201912							3
	SCRAP	201912							15
Sri Krishna Pharmaceuticals Ltd.	D C GRANULES	201903							
	DOMPERIDONE	201903							
	FOLIC ACID	201903							
	FRUSEMIDE	201903							
	GLIBENCLAMIDE	201903							
	INTEREST	201903							6.2
	OTHERS	201903							
	PARACETAMOL IP	201903							5288.6
	TIE MONIUM SULPHATE	201903							
	TRADED GOODS	201903							
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	DRUGS								
	INTERMEDIATES	201903							1990
	INTEREST	201903							33.7
	MARKETING SERVICES	201903							37.3
Triton Laboratories Ltd.	ACTIVATED CARBON	200003				0.51	Tonnes		
	PARACETAMOL	200003	2500	Tonnes	1892.12	Tonnes	1860.63	Tonnes	282.6
	SODIUM BI SULPHATE	200003					0.69	Tonnes	
	SPENT ACID	200003		Tonnes	34.5	Tonnes	34.5	Tonnes	
	SULPHURIC ACID	200003					0.45	Tonnes	

Location of Plant

Company Name	State	District	Location	Product
Ankur Drugs & Pharma Ltd.	Daman & Diu	Daman	Daman	Capsules Formulation
				Dry Powder Injectable
				Dry Syrups Formulation
				Effervescent Tablets
				Form Fill & Seal
				Liquid Formulation
				Liquid Injectable
				Ointments
				Oral Powder
				Oral Strip/Patches
	Himachal Pradesh	Solani	Solani	Tablets Formulation
				Capsules Formulation
				Dry Powder Injectable
				Dry Syrups Formulation
				Effervescent Tablets
				Form Fill & Seal
				Liquid Formulation
				Liquid Injectable
				Ointments
				Oral Powder
Aurobindo Pharma Ltd.	Andhra Pradesh	Srikakulam	Pydibheemavar am	Capsules & Tablets
	Andhra Pradesh	Visakhapatnam	Parwada	Capsules & Tablets
	Rajasthan	Alwar	Bhiwadi	Capsules & Tablets
	Telangana	Medak	Bollaram	Capsules & Tablets
	Telangana	Medak	Borapatla	Capsules & Tablets
	Telangana	Medak	Chitkul	Capsules & Tablets
	Telangana	Medak	Goddapotharam Village	Capsules & Tablets
	Telangana	Medak	Medak	Capsules & Tablets
	Telangana	Medak	Pashamylaram	Capsules & Tablets
	Telangana	Rangareddi	Bachupalli	Capsules & Tablets
Cian Healthcare Ltd.	Uttarakhand	Hardwar	Bhagwanpur	Pharmaceuticals Medicinal

				Chem & Botanical Prod
Cipla Ltd.	Goa	South Goa	Verna	Tablets & Capsules
	Himachal Pradesh	Solan	Baddi	Tablets & Capsules
	Madhya Pradesh	Dhar	Pithampur	Tablets & Capsules
	Sikkim	East Sikkim	Rangpoo	Tablets & Capsules
	Sikkim	East Sikkim	Rorathang	Tablets & Capsules
Dr. Reddy'S Laboratories Ltd.	Andhra Pradesh	Srikakulam	Srikakulam	Formulations
	Andhra Pradesh	Visakhapatnam	Vishakhapatnam	Formulations
	Himachal Pradesh	Solan	Baddi	Formulations
	Puducherry	Yanam	Yanam	Formulations
	Telangana	Medak	Bollaram	Formulations
	Telangana	Rangareddi	Bachupally	Formulations
Farmson Pharmaceutical Gujarat Pvt. Ltd.	Gujarat	Vadodara	Vadodara	Dilute Acetic Acid
				Paracetamol
Glaxosmithkline Pharmaceuticals Ltd.	Maharashtra	Nashik	Nashik	Liquids: Orals, Topicals, Parentals & Malt
Indoco Remedies Ltd.	Goa	South Goa	Verna	Liquid Orals
	Himachal Pradesh	Solan	Baddi	Liquid Orals
	Maharashtra	Aurangabad (MAH)	Aurangabad	Liquid Orals
	Maharashtra	Mumbai	Mumbai	Liquid Orals
	Maharashtra	Raigarh (MAH)	Raigarh	Liquid Orals
Pan Drugs Ltd.	Gujarat	Vadodara	GIDC Area	Diluted Acetic Acid
				Guaiphenesin
				Paracetamol Powder
Piramal Enterprises Ltd.	Gujarat	Ahmadabad	Ahmedabad	Bulk Drugs Intermediates
	Madhya Pradesh	Dhar	Pithampur	Bulk Drugs Intermediates
	Maharashtra	Mumbai	Mumbai	Bulk Drugs Intermediates
	Maharashtra	Raigarh (MAH)	Mahad	Bulk Drugs Intermediates
	Tamil Nadu	Chennai	Ennore express highway	Bulk Drugs Intermediates
	Telangana	Sangareddy	Digwal village	Bulk Drugs Intermediates
Sanofi India Ltd.	Goa	Goa	Goa	Formulations
	Gujarat	Bharuch	Ankleshwar	Formulations
Sri Krishna Pharmaceuticals Ltd.	Telangana	Rangareddi	Nacharam	D C Granules
	Telangana	Rangareddi	Uppal	D C Granules
Triton Laboratories Ltd.	Telangana	Medak	Bonthapally	Paracetamol
				Spent Acid

Credit Ratings

Company Name	Date	Agency	Instrument	Grade	Rating	Status	Amount (Rs. Million)	Company/Issuer not co-operating
Aurobindo Pharma Ltd.	10/23/2019	IND-RA	Working capital loan	High Safety	AA+(ind)	Rating Watch	50000	N
		IND-RA	Non-fund based working capital limit	Highest Safety	A1+(ind)	Rating Watch	14940	N
Cipla Ltd.	1/7/2020	CARE	Bank Guarantee	Highest Safety	A 1+	Reaffirmed	900	N
		CARE	Packing Credit	Highest Safety	A 1+	Reaffirmed	30020	N
	1/21/2020	IND-RA	Commercial paper	Highest Safety	A1+(ind)	Reaffirmed	10000	N
		IND-RA	Non-convertible unsecured debentures/bonds/notes/bills	Highest Safety	AAA(ind)	Reaffirmed	10000	N
Dr. Reddy'S Laboratories Ltd.	11/8/2019	ICRA	Non-government debt	High Safety	AA+	Reaffirmed	5000	N
		ICRA	Non-government debt	Highest Safety	A 1+	Withdrawn		N
	2/11/2020	IND-RA	Working capital loan	High Safety	AA+(ind)	Initial Rating	5000	N
		IND-RA	Working capital loan	High Safety	AA+(ind)	Reaffirmed	80	N
		IND-RA	Non-fund based working capital limit	Highest Safety	A1+(ind)	Reaffirmed	920	N
	4/30/2020	IND-RA	Working capital loan	High Safety	AA+(ind)	Reaffirmed	100	N
		IND-RA	Working capital loan	High Safety	AA+(ind)	Reaffirmed	4700	N
		IND-RA	Commercial paper	Highest Safety	A1+(ind)	Initial Rating	8000	N
		IND-RA	Non-fund based working capital limit	Highest Safety	A1+(ind)	Reaffirmed	1200	N
Farmson Pharmaceutical Gujarat Pvt. Ltd.	7/17/2019	ICRA	Cash Credit	Adequate Safety	A-	Withdrawn	100	N
		ICRA	Bank Guarantee	High Safety	A 2+	Withdrawn	150	N
Indoco	8/30/2019	ICRA	Cash Credit	Adequate	A	Downgraded	84	N

Remedies Ltd.				Safety				
		ICRA	Cash Credit	Adequate Safety	A	Downgraded	120	N
		ICRA	Cash Credit	Adequate Safety	A	Downgraded	90	N
		ICRA	Fund based financial facility/instrument	Adequate Safety	A/A2+	Downgraded	100	N
		ICRA	Fund based financial facility/instrument	Adequate Safety	A/A2+	Downgraded	150	N
		ICRA	Non-fund-based financial facility/instrument	Adequate Safety	A	Downgraded	126.6	N
		ICRA	Non-fund-based financial facility/instrument	Adequate Safety	A	Downgraded	117.1	N
		ICRA	Non-government debt	Adequate Safety	A/A2+	Downgraded	600	N
		ICRA	Term loans	Adequate Safety	A	Downgraded	550	N
		ICRA	Term loans	Adequate Safety	A	Downgraded	550	N
		ICRA	Term loans	Adequate Safety	A	Downgraded	550	N
		ICRA	Term loans	Adequate Safety	A	Downgraded	350	N
		ICRA	Term loans	Adequate Safety	A	Downgraded	500	N
		ICRA	Commercial paper	High Safety	A 2+	Withdrawn		N
		ICRA	Fund based financial facility/instrument	High Safety	A 2+	Downgraded	100	N
		ICRA	Fund based financial facility/instrument	High Safety	A 2+	Downgraded	100	N
		ICRA	Non-fund-based financial facility/instrument	High Safety	A 2+	Downgraded	52.5	N
		ICRA	Non-fund-based financial facility/instrument	High Safety	A 2+	Downgraded	30	N
		ICRA	Non-fund-based financial facility/instrument	High Safety	A 2+	Downgraded	50	N
		ICRA	Non-fund-based financial	High Safety	A 2+	Downgraded	70	N

			facility/instrument					
Piramal Enterprises Ltd.	7/9/2019	CRISIL	Commercial paper	Highest Safety	A 1+	Reaffirmed	120000	N
		CRISIL	Non-convertible unsecured debentures/bonds /notes/bills	Highest Safety	A 1+	Initial Rating	15000	N
	12/30/2019	CARE	Non-convertible unsecured debentures/bonds /notes/bills	High Safety	AA	Initial Rating	25000	N
		CARE	Non-convertible unsecured debentures/bonds /notes/bills	High Safety	AA	Reaffirmed	1000	N
		CARE	Term loans	High Safety	AA	Reaffirmed	32000	N
		CARE	Commercial paper	Highest Safety	A 1+	Reaffirmed	30000	N
		CARE	Commercial paper	Highest Safety	A 1+	Reaffirmed	90000	N
		CARE	Fixed deposits (including intercorporate deposits)	Highest Safety	A 1+	Reaffirmed	2500	N
		CARE	Fund based financial facility/instrument	Highest Safety	A 1+	Reaffirmed	26000	N
		CARE	Non-convertible unsecured debentures/bonds /notes/bills	Highest Safety	A 1+	Reaffirmed	5000	N
		CARE	Non-fund-based financial facility/instrument	Highest Safety	A 1+	Reaffirmed	2000	N
	3/30/2020	CARE	Non-convertible unsecured debentures/bonds /notes/bills	High Safety	AA	Initial Rating	10000	N
	4/24/2020	CARE	Non-convertible unsecured debentures/bonds /notes/bills	High Safety	AA	Initial Rating	30000	N
	4/28/2020	CARE	Commercial paper	Highest Safety	A 1+	Reaffirmed	60000	N
	4/29/2020	CRISIL	Commercial paper	Highest Safety	A 1+	Reaffirmed	60000	N
		CRISIL	Non-convertible unsecured debentures/bonds /notes/bills	Highest Safety	A 1+	Withdrawn	15000	N

	5/28/2020	ICRA	Debentures / Bonds / notes / bills	High Safety	AA	Reaffirmed	3300	Y
		ICRA	Debentures / Bonds / notes / bills	High Safety	AA	Reaffirmed	1700	Y
		ICRA	Non-convertible unsecured debentures/bonds /notes/bills	High Safety	AA	Reaffirmed	141000	Y
		ICRA	Non-government debt	High Safety	AA/A1+	Reaffirmed	3000	Y
		ICRA	Term loans	High Safety	AA	Reaffirmed	24950	Y
		ICRA	Commercial paper	Highest Safety	A 1+	Reaffirmed	90000	Y
		ICRA	Fund based financial facility/instrument	Highest Safety	A 1+	Reaffirmed	21200	Y
		ICRA	Non-fund-based financial facility/instrument	Highest Safety	A 1+	Reaffirmed	2000	Y
Sri Krishna Pharmaceuticals Ltd.	11/22/2019	ICRA	Term loans	Moderate Safety	BBB	Downgraded	213.3	N
		ICRA	Working capital loan	Moderate Safety	A 3+	Downgraded	710	N
		ICRA	Working capital loan	Moderate Safety	BBB	Downgraded	1280	N

Name of Raw Material(S) Consumed with Quantity & Cost

Company Name	Product/Raw Material name	Year Ended	Raw material quantity	Unit of raw material qty	Raw material value
		Date	Units		Rs. Million
Alpha Remedies Ltd.	RAW MATERIAL	200903			135.1
Ankur Drugs & Pharma Ltd.	RAW MATERIALS	201203			941.6
Aurobindo Pharma Ltd.	RAW MATERIALS	201903			57559.2
Cian Healthcare Ltd.	RAW MATERIALS	201903			405.4
Cipla Ltd.	RAW MATERIALS	201903			10237.8
Dr. Reddy'S Laboratories Ltd.	RAW MATERIALS	201903			21032
Farmson Pharmaceutical Gujarat Pvt. Ltd.	ACETIC ANHYDRIDE	201903			1329.6
	ACTIVATED CARBON	201903			89.9
	HYDRO SULPHITE OF SODA	201903			18.3
	OTHERS	201903			30.5
	PHENOL	201903			3606.4
Glaxosmithkline Pharmaceuticals Ltd.	RAW MATERIALS	201903			6820.7
Indoco Remedies Ltd.	RAW MATERIALS	201903			2400.9
Pan Drugs Ltd.	ACETIC ANHYDRIDE	201303	378060	Kgs	22.1
	ACTIVATED CARBON	201303	6170	Kgs	1
	EPICHLOROHYDRIN	201303	92475	Kgs	11.4
	GUAIACOL	201303	105900	Kgs	32.9
	OTHERS	201303			8.1
	PARA AMINO PHENOL	201303	406599	Kgs	74.1
Piramal Enterprises Ltd.	RAW MATERIALS	201903			7672.7
Sanofi India Ltd.	RAW MATERIALS	201912			8636
Sri Krishna Pharmaceuticals Ltd.	RAW MATERIALS	201903			3673.2
Triton Laboratories Ltd.	A.CARBON	200003	69133	Kgs	5.2
	ACETIC ANHYDRIDE	200003	1430044	Kgs	51.9
	C.S.FLAKES	200003	61537	Kgs	0.8
	C.S.L.Y.E.	200003	3619479	Kgs	20.9

	EDTA	200003	2334.5	Kgs	0.3
	HCL	200003	5515	Kgs	
	HYDROS	200003	49613	Kgs	3
	IRON POWDER	200003	2069311	Kgs	19
	LIQUID AMMONIA	200003			0.2
	P.N.C.B.	200003	2465641	Kgs	76.7
	SODA ASH	200003	1691	Kgs	
	SODIUM BIO SULPHATE	200003	695	Kgs	
	SULPHURIC ACID	200003	1141850	Kgs	3.3
	ZINC DUST	200003	173625	Kgs	0.1

Section - II

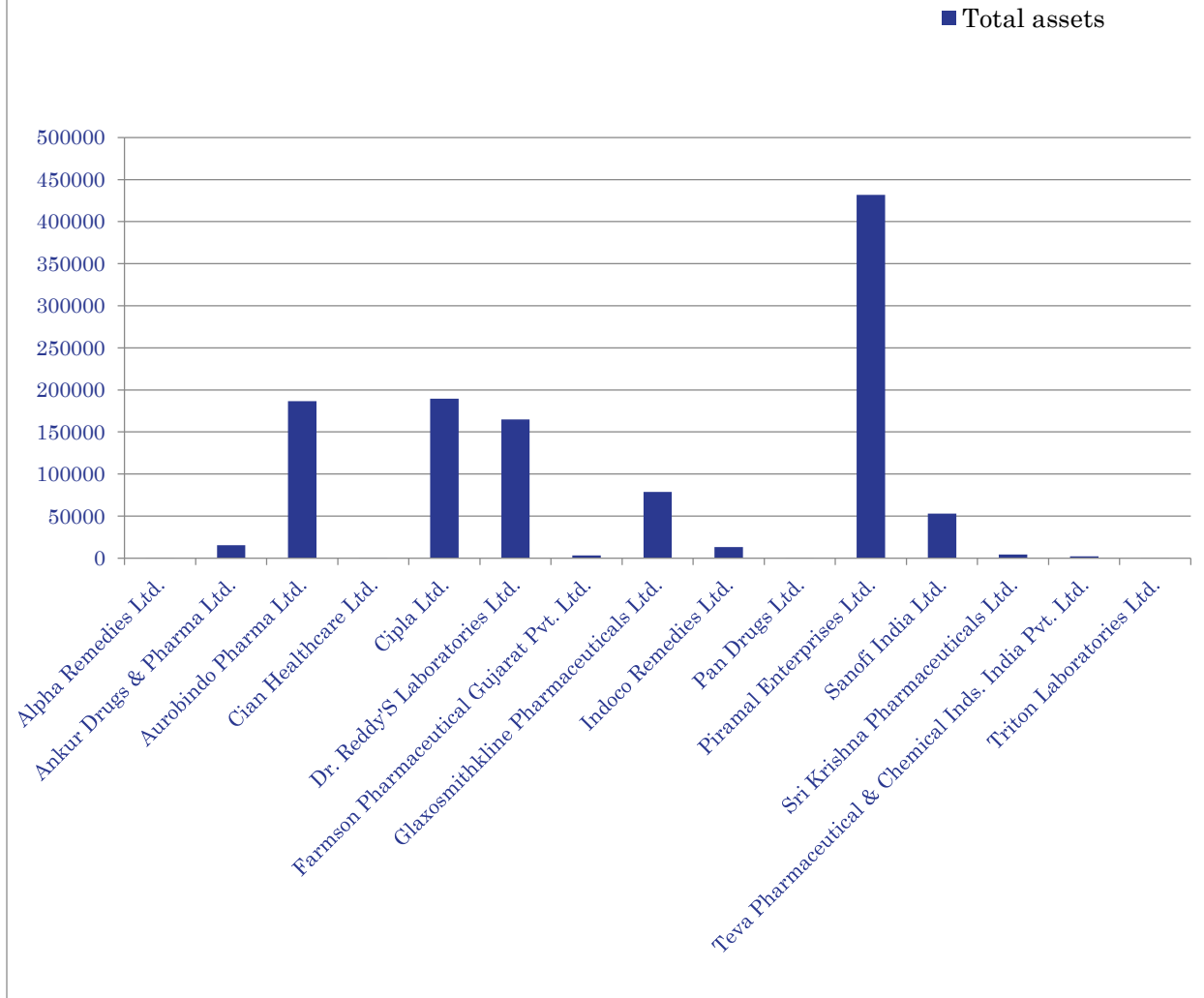
This section provides comparative financial performance of companies given in Section - I. This comparison will be helpful to analysis the companies on the basis of their financials viz... Assets, Cash Flow, Cost as % Ge of Sales, Forex Transaction, Growth in Assets & Liabilities, Growth in Income & Expenditure, Income & Expenditure, Liabilities, Liquidity Ratios, Profitability Ratio, Profits, Return Ratios, Structure of Assets & Liabilities (%), Working Capital & Turnover Ratios, etc.....

P.S: Blanks or 0 in the data in above tables is due to non-disclosure of the data by the company.

Assets

Company Name	Date	Rs. Million	Rs. Million				Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million
	Year	Gross fixed assets	Capital work-in-progress	(net fixed assets)	((cash_ba nk_bal - prevy(cas h_bank_b nvento ries)))	((inven tories- prevy(i nvento ries)))	Receivab les	Expense paid in advance	Loans & advances	Trade payables	Total assets
Alpha Remedies Ltd.	3/31/2018	164.2		114.4	0		13.3		7.8	11.6	135.7
Ankur Drugs & Pharma Ltd.	3/31/2012	13512.5	2664.8	11586.8	-8.4	-1476.7	317.6	1.6	76	1482.4	15383.7
Aurobindo Pharma Ltd.	3/31/2019	54461.5	7308.9	41497	-1701.3	5620.3	55252.2	5131.1	16930.7	19669.8	186518.2
Cian Healthcare Ltd.	3/31/2019	312.1	63.7	234.8	17.4	1.2	206.2	2	69.4	53.3	798.8
Cipla Ltd.	3/31/2019	60932.3	2973.3	41274.6	-563.4	-1695.7	33614.5	5924.6	20294.3	15286.1	189665
Dr. Reddy'S Laboratories Ltd.	3/31/2019	97741	4001	46827	438	1588	39592	5218	13102	11094	164710
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	2330.5	16.3	1460.6	337.9	17.6	780	61.5	494	899.5	3250.7
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	5590.8	10026.4	4300.1	-1206.4	-136.9	2332.6	42487.5	44511.4	4796.1	78808
Indoco Remedies Ltd.	3/31/2019	9344.9	1854.3	4675.1	130.5	-98.6	2141.2	674.8	1945.2	1707.1	13050.8
Pan Drugs Ltd.	3/31/2013	122.3	0	64.3	-0.3	-0.6	39.1		24.7	65.3	193.7
Piramal Enterprises Ltd.	3/31/2019	22330	979.5	18236.3	-4977.4	-159.1	9568.7	56780.5	166607.9	5633.6	431834.8
Sanofi India Ltd.	12/31/2019	8171	174	4987	2952	-197	2635	21390	27075	3856	52966
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	2678.2	20.5	1469.4	-13.2	53.8	2039.4		96.5	749	4427.3
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	2.3		0.8	274.6	3.8	1136.7	28.4	66.6	143.7	1959.9
Triton Laboratories Ltd.	3/31/2000	101.7	0.1	60.2	1.2	10.3	61.6	0.4	22.5	63.3	173.6

Total assets

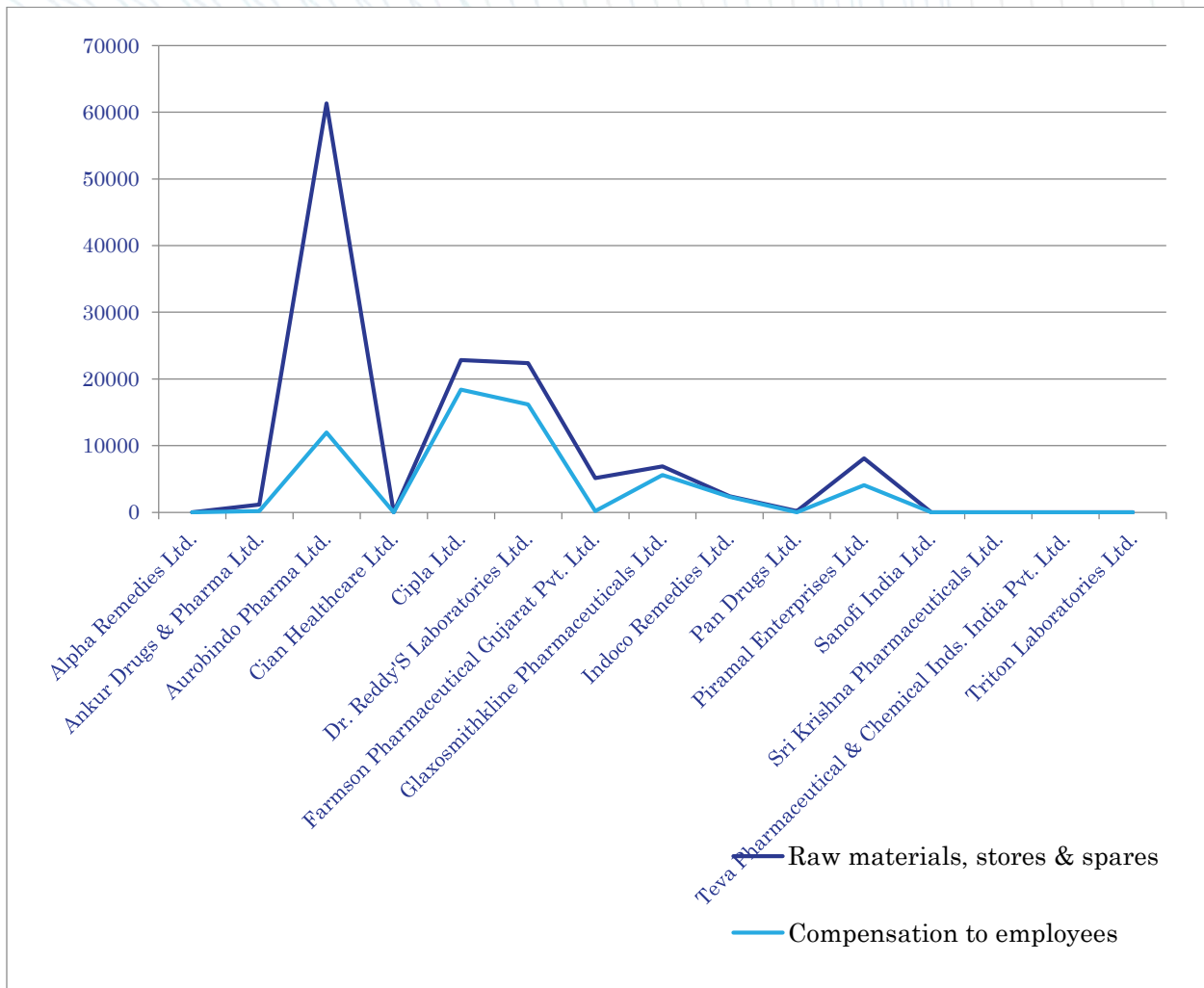


Cash Flow

Company Name	Date	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million
		Net cash flow from operating activities	Cash flow generated from operations	Cash flow before extraordinary items	Net cash inflow or (outflow) from investment activities	Net cash due to net increase or (decrease) in cash and equivalents	Cash and cash equivalents as at the beginning of the year	Cash and cash equivalents as at the end of the year	Net cash inflow or (outflow) from financing activities
Alpha Remedies Ltd.									
Ankur Drugs & Pharma Ltd.	3/31/2012	32	45	32	239.6	2.4	10.4	12.8	-269.2
Aurobindo Pharma Ltd.	3/31/2019	5267.1	10088.3	5267.1	-12973.6	-1712.5	2399.5	687	5994
Cian Healthcare Ltd.	3/31/2019	128	128	128	-83.2	17.4	5.9	23.3	-27.4
Cipla Ltd.	3/31/2019	14680.5	19194.3	14680.5	-11470.5	-1523.2	2174.5	644.7	-4733.2
Dr. Reddy'S Laboratories Ltd.	3/31/2019	27621	30009	27621	-5509	-119	1207	1132	-22231
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	952.7	1006.8	952.7	-537.8	171.9	2.5	174.4	-243
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	4010.7	6207.1	4164.5	-1443.3	-1016.2	1994	977.8	-3583.6
Indoco Remedies Ltd.	3/31/2019	1321.4	1357.6	1321.4	-1037.6	122.3	84.9	207.2	-161.5
Pan Drugs Ltd.									
Piramal Enterprises Ltd.	3/31/2019	67605.8	69393.1	67605.8	-93289.1	-4344.8	4578.7	233.9	21338.5
Sanofi India Ltd.	12/31/2019	4123	6406	4123	657	2948	8251	11199	-1832
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	-101.2	-77.3	-101.2	-81.7	-11.8	23	11.2	171.1
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	242	545.6	242	33	274.5	475.1	749.6	-0.5
Triton Laboratories Ltd.									

Cost as % Ge of Sales

Company Name	Date	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million
	Year	Raw materials, stores & spares	Stores, spares, tools consumed	Raw material expenses	Power, fuel & water charges	Compensation to employees	Excise duty	Advertising expenses	Marketing expenses	Distribution expenses
Alpha Remedies Ltd.										
Ankur Drugs & Pharma Ltd.	3/31/2012	1172.2	28.5	1143.7	152.3	188.1	8.8	1.1	26.1	2.2
Aurobindo Pharma Ltd.	3/31/2019	61327.8	4979.1	56348.7	5062.8	11981			652.6	2953.6
Cian Healthcare Ltd.										
Cipla Ltd.	3/31/2019	22819.4	1004.9	21814.5	2649.3	18400.9			6337.8	1706
Dr. Reddy'S Laboratories Ltd.	3/31/2019	22394	4242	18152	2786	16165		56	9022	2587
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	5126.4	51.8	5074.6	282	208.7			33.1	6.9
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	6903	82.3	6820.7	279.4	5591.3			1398.5	629.5
Indoco Remedies Ltd.	3/31/2019	2434.6	33.8	2400.8	284.9	2312.6		399.3	227.7	305.2
Pan Drugs Ltd.	3/31/2013	172.6		172.6	13.8	17.3	2.5		2.2	2.9
Piramal Enterprises Ltd.	3/31/2019	8097.5	424.8	7672.7	676.9	4054.5		698	309.2	388.5
Sanofi India Ltd.										
Sri Krishna Pharmaceuticals Ltd.										
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.										
Triton Laboratories Ltd.										



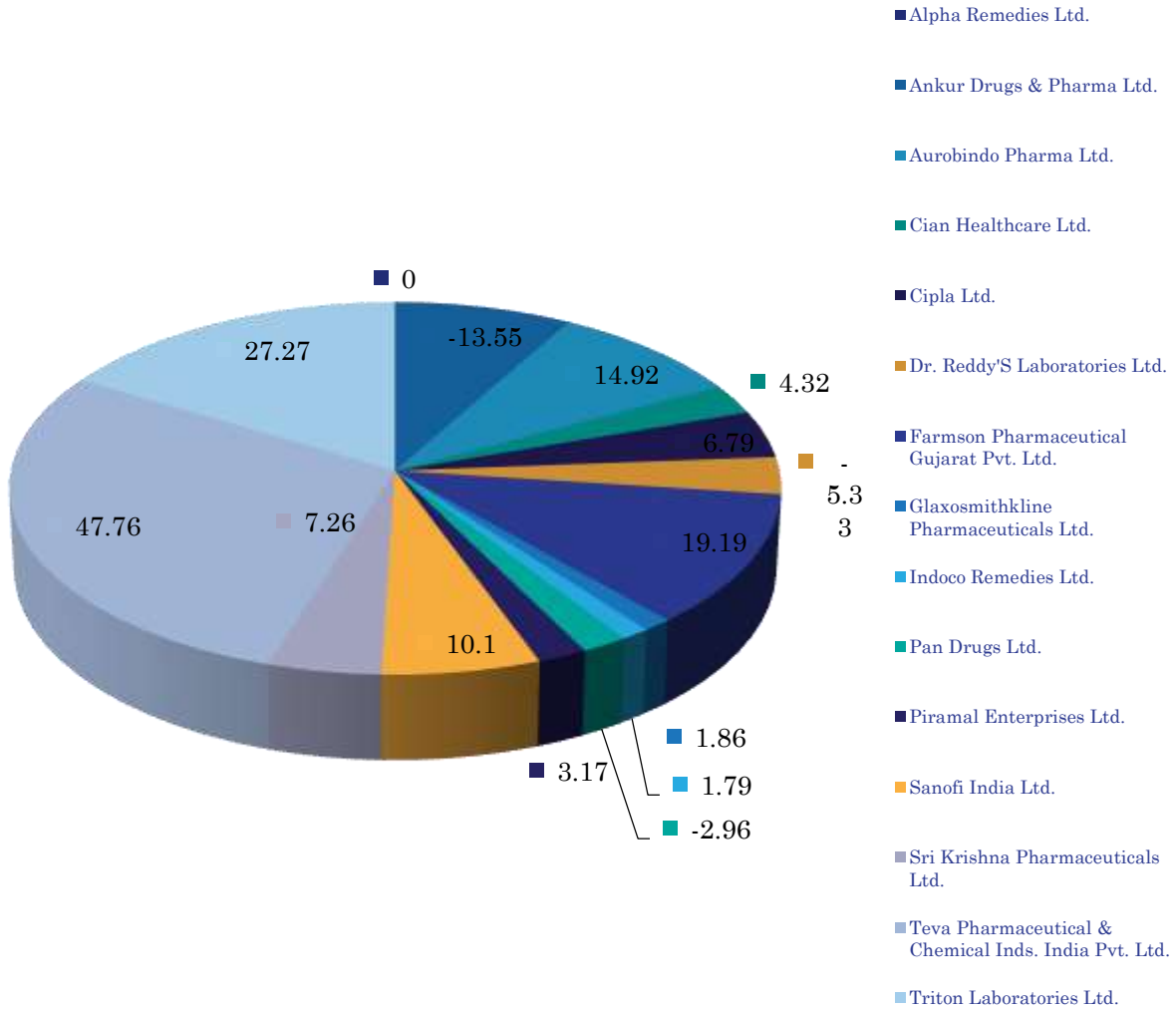
Forex Transaction

	Date	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million		
Company Name	Year	Total forex earnings	Export of goods (fob)	Export of services	Total forex spending	Import of raw materials (cif)	Import of finished goods (cif)	Import of capital goods (cif)	(100*(export_earnings/sales))	((imported_rawmaterial/purchased_rawmaterial)*100)
Alpha Remedies Ltd.										
Ankur Drugs & Pharma Ltd.	3/31/2012				8.9	7.5		0	0	18.94
Aurobindo Pharma Ltd.										
Cian Healthcare Ltd.										
Cipla Ltd.										
Dr. Reddy'S Laboratories Ltd.										
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	1926.7	1926.7		364.7	355.8			26.83	7
Glaxosmithkline Pharmaceuticals Ltd.										
Indoco Remedies Ltd.										
Pan Drugs Ltd.	3/31/2013	72.7	72.7		5.8	5.8			33.3	3.69
Piramal Enterprises Ltd.										
Sanofi India Ltd.										
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	2329.8	2329.8		2410.8	2349.2		1.6	42.81	63.87
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.										
Triton Laboratories Ltd.										

Growth in Assets & Liabilities

Company Name	Growth (gross fixed assets, prev(gross fixed assets))	Date	Growth (net fixed assets, prev(net fixed assets))	Growth (current assets, prev(current assets))	Growth (total assets, prev(total assets))	Growth (use borrowings, prev(use borrowings))	Growth (total liabilities, prev(total liabilities))	Growth (net worth, prev(net worth))	Total assets
Alpha Remedies Ltd.		03/31/2018	0	0	0	0	0		135.7
Ankur Drugs & Pharma Ltd.	-0.01	3/31/2012	-5.02	-73.07	-13.55		-13.55	-65.96	15383.7
Aurobindo Pharma Ltd.	26.89	3/31/2019	22.3	14.5	14.92		14.92	13.7	186518.2
Cian Healthcare Ltd.	22.92	3/31/2019	17.4	-7.36	4.32		4.32	27.7	798.8
Cipla Ltd.	5.88	3/31/2019	-4.46	9.68	6.79	16.41	6.79	11.82	189665
Dr. Reddy'S Laboratories Ltd.	5.97	3/31/2019	-0.73	-2.72	-5.33		-5.33	7.42	164710
Farmson Pharmaceutical Gujarat Pvt. Ltd.	47.5	3/31/2019	69.27	19.66	19.19		19.19	49.38	3250.7
Glaxosmithkline Pharmaceuticals Ltd.	37.74	3/31/2019	33.21	-6.4	1.86	-34.43	1.86	3	78808
Indoco Remedies Ltd.	5.6	3/31/2019	-4.34	0.84	1.79		1.79	-2.14	13050.8
Pan Drugs Ltd.	17.82	3/31/2013	26.33	-8.51	-2.96		-2.96		193.7
Piramal Enterprises Ltd.	7.02	3/31/2019	0.91	-13	3.17		3.17	-1.93	431834.8
Sanofi India Ltd.	-22.42	12/31/2019	-31.95	33.62	10.1		10.1	10.05	52966
Sri Krishna Pharmaceuticals Ltd.	3.91	3/31/2019	-4.13	14.9	7.26		7.26	-2.72	4427.3
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	15	3/31/2019	60	45.2	47.76		47.76	70.88	1959.9
Triton Laboratories Ltd.	4.52	3/31/2000	-0.99	53.07	27.27		27.27	95.08	173.6

growth(total_assets,prev(total_assets))



Growth in Income & Expenditure

Company Name	Date	Growth (sales,prev)	Growth (rawmat_exp,prev)	Growth (stores_spa res_consumed,prev)	Growth (employees,prev)	Growth (selling_dist ribution_exp,prev)	Growth (pbdita,prev)	Growth (pat,prev)	Total assets
Alpha Remedies Ltd.	3/31/2018								135.7
Ankur Drugs & Pharma Ltd.	3/31/2012	-81.61	-76.88	-27.11	-8.02	-22.83			15383.7
Aurobindo Pharma Ltd.	3/31/2019	18.97	31.95	34.26	21.37	6.86	-4.85	-15.61	186518.2
Cian Healthcare Ltd.	3/31/2019	2.63	5.12		29.95	33.33	-25.48	-83.5	798.8
Cipla Ltd.	3/31/2019	8.57	-9.88	-16	3.03	18.62	26.27	28.59	189665
Dr. Reddy'S Laboratories Ltd.	3/31/2019	13.53	10.89	-16.5	5.56	6.68	68.97	125.31	164710
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	46.06	44.91	30.48	34.21	-69.95	104.72	123.51	3250.7
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	8.09	33.67	34.48	3.46	31.37	22.54	20.84	78808
Indoco Remedies Ltd.	3/31/2019	-7.71	-13.68	5.96	4.96	-7.42	-39.09		13050.8
Pan Drugs Ltd.	3/31/2013	-2.89	10.01		-2.81	183.33			193.7
Piramal Enterprises Ltd.	3/31/2019	7.05	-5.24	-3.76	-8.42	8.68	-55		431834.8
Sanofi India Ltd.	12/31/2019	10.83	7.82	19.15	9.58	2.24	-3.3	8.83	52966
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	43.15	73.13	54.81	14.81	-5.76	-32.6		4427.3
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	36.95			35.66	11.11	61.98	61.16	1959.9
Triton Laboratories Ltd.	3/31/2000	16.37	18.81	10	6.67	62.16	48.25	336.36	173.6

Income & Expenditure

	Date	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million
Company Name	Year	Sales	Other income	Changes in stock	Raw material & spares	Prior period and extra- ordinary income	Power, fuel & water charges	Salaries, wages, bonus, ex gratia of & gratuitie paid	Selling & distribu- tion expenses	Interest expense	Depreci- ation (net of transfer from revaluati- on reserves)
Alpha Remedies Ltd.											
Ankur Drugs & Pharma Ltd.	3/31/2012	1523.7	0.3	-204.9	1172.2	407.3	152.3	182.4	29.4	468.3	611.9
Aurobindo Pharma Ltd.	3/31/2019	122578.9	90.9	2898	61327.8	99.9	5062.8	11732.8	3606.2	1266.5	3789
Cian Healthcare Ltd.	3/31/2019	676.3	9.5	2.4	416.2		1.5	54.7	3.2	53.8	29.2
Cipla Ltd.	3/31/2019	124472.4	253.3	-1367	22819.4	648	2649.3	17076.6	8043.8	169.7	5620.4
Dr. Reddy'S Laboratories Ltd.	3/31/2019	106255	215	-660	22394	751	2786	13536	11665	568	7128
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	7182.1	7	9.9	5126.4	2.9	282	202	40	42.4	161.4
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	31197.9	92.2	-255.6	6903	825.5	279.4	5055.2	2028	5.5	485.9
Indoco Remedies Ltd.	3/31/2019	9512.7	34.9	-133.3	2434.6	11	284.9	2131.6	932.2	199.6	715.7
Pan Drugs Ltd.	3/31/2013	218.3		1.4	172.6	15.6	13.8	17.2	5.1	0.4	5.2
Piramal Enterprises Ltd.	3/31/2019	21816.5	498.9	-97.4	8097.5	152.6	676.9	3634.2	1395.7		1311.8
Sanofi India Ltd.	12/31/2019	30709	11	-23	8692		423	4220	2004	3	999
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	5442.4		41.5	3792.4	2	281.8	623.2	57.3	64.2	166.6
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	2027.3				5.1	0.2	31.9	3	1.8	0.2
Triton Laboratories Ltd.	3/31/2000	287.9		5.7	183	0.1	19.9	9.4	6	5.9	4.9

Liabilities

	Date	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million	Rs. Million
Company Name	Year	Net worth	Reserves and fundings	Borrowings	Secured bank borrowings	Unsecured Bank borrowings	Current liabilities & provision	Total liabilities	Trade payables
Alpha Remedies Ltd.	3/31/2018	-75.2	-96.9	163.6	163.6		47.3	135.7	11.6
Ankur Drugs & Pharma Ltd.	3/31/2012	817.3	-383.6	8892.6	6483.7		6189.4	15383.7	1482.4
Aurobindo Pharma Ltd.	3/31/2019	113506.2	112920.3	45198	1797		67812.3	186518.2	19669.8
Cian Healthcare Ltd.	3/31/2019	175.2	45.7	487	321.8	20.6	334.5	798.8	53.3
Cipla Ltd.	3/31/2019	157819.1	156207.7				24629.9	189665	15286.1
Dr. Reddy'S Laboratories Ltd.	3/31/2019	126835	126011	10646			30887	164710	11094
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	1743	1714.1	460.9	381.9		1140	3250.7	899.5
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	21424.2	19730.1	5.9			28159	78808	4796.1
Indoco Remedies Ltd.	3/31/2019	6610.8	6426.5	2958.7	1350.2	470	4548	13050.8	1707.1
Pan Drugs Ltd.	3/31/2013	-84.5	-115.9	196.6	188.4		264.7	193.7	65.3
Piramal Enterprises Ltd.	3/31/2019	144439.3	161244.6	208338	20630.8	17389.5	138059.6	431834.8	5633.6
Sanofi India Ltd.	12/31/2019	24423	24193				16786	52966	3856
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	2065.9	1946.7	1374.2	993.8		1864.9	4427.3	749
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	1750.7	1750.6				202.9	1959.9	143.7
Triton Laboratories Ltd.	3/31/2000	35.7	30.2	48.2	40.3		70.2	173.6	63.3

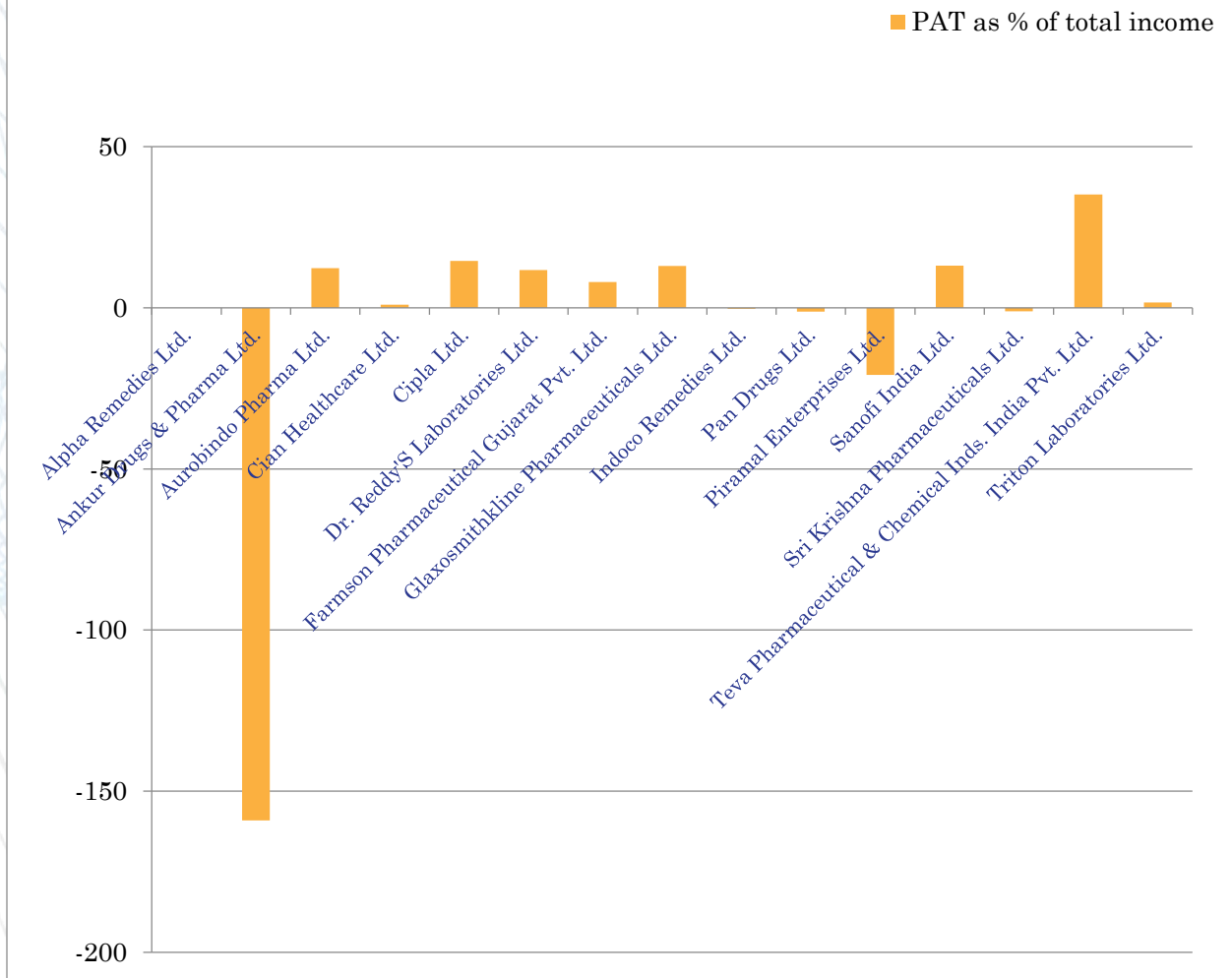
Liquidity Ratios

Company Name	Cash to current liabilities (times)	Quick ratio (times)	Current ratio (times)	Debt to equity ratio (times)	Interest cover (times)	Interest incidence (%)	Total assets
Alpha Remedies Ltd.	0	0.28	0.28			0	135.7
Ankur Drugs & Pharma Ltd.	0	0.05	0.09	12.26		6.08	15383.7
Aurobindo Pharma Ltd.	0.01	0.83	1.44	0.4	16.52	3.07	186518.2
Cian Healthcare Ltd.	0.07	0.69	1.17	2.78	1.22	10.86	798.8
Cipla Ltd.	0.95	2.42	3.73	0	146.03	19.45	189665
Dr. Reddy'S Laboratories Ltd.	0.73	2.03	2.72	0.08	26.32	3.51	164710
Farmson Pharmaceutical Gujarat Pvt. Ltd.	0.15	0.89	1.02	0.26	20.36	7.71	3250.7
Glaxosmithkline Pharmaceuticals Ltd.	0.41	0.98	1.16	0	1136.2	69.62	78808
Indoco Remedies Ltd.	0.05	0.53	0.96	0.45	0.56	8.06	13050.8
Pan Drugs Ltd.	0.07	0.22	0.31			0.2	193.7
Piramal Enterprises Ltd.	0.08	0.15	0.19	1.44	15.06	0	431834.8
Sanofi India Ltd.	0.67	1.41	1.79	0	2204.67		52966
Sri Krishna Pharmaceuticals Ltd.	0.02	1.11	1.55	0.67		5.18	4427.3
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3.72	9.49	9.62	0	567.83		1959.9
Triton Laboratories Ltd.	0.04	0.78	1.08	1.35	2.02	16.3	173.6

Profitability Ratio

Company Name	Date	(%)	(%)	(%)	(%)	(%)	(%)	(%)
	Year	PBDITA as % of total income	PBT as % of total income	PAT as % of total income	PBDITA net of P&E as % of total income net of P&E	PBPT net of P&E&OI as % of total income net of P&E	Net profit margin	Operating profit margin of non-financial companies
Alpha Remedies Ltd.								
Ankur Drugs & Pharma Ltd.	3/31/2012	-6.9	-150.7	-159.08	-26.59	-119.32	-219.28	-26.63
Aurobindo Pharma Ltd.	3/31/2019	20.8	15.77	12.28	19.3	15.86	12.29	19.6
Cian Healthcare Ltd.	3/31/2019	14.28	1.54	0.96	13.06	0.38	1.17	13.25
Cipla Ltd.	3/31/2019	24.18	19.39	14.55	20.3	19.24	14.21	21.06
Dr. Reddy'S Laboratories Ltd.	3/31/2019	23.19	15.6	11.72	20.82	15.05	11.11	21.21
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	15.81	12.91	7.95	14.95	12.8	7.92	15.07
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	21.88	20.25	12.98	18.84	19.31	12.08	19.3
Indoco Remedies Ltd.	3/31/2019	9.21	-0.95	-0.29	6.86	-0.75	-0.38	7.02
Pan Drugs Ltd.	3/31/2013	1.28	-1.15	-1.15	-6.12	-8.35	-8.35	-6.14
Piramal Enterprises Ltd.	3/31/2019	20.44	-19.11	-20.81	4.21	10.59	9.96	7.96
Sanofi India Ltd.	12/31/2019	21.85	18.64	13.09	21.14	20.91	15.34	21.78
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	3.36	-1.56	-1.06	3.22	-1.59	-1.09	3.22
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	49.95	49.63	35.15	48.19	49.52	34.99	48.99
Triton Laboratories Ltd.	3/31/2000	5.85	1.87	1.66	5.78	2.08	1.87	5.8

PAT as % of total income



Profits

Company Name	Date	Rs. Million	Rs. Million	Rs. Million	Times	Rs. Million
	Year	PBDITA	PBT	Operating profit of non-financial companies	PAT net of P&E / total income net of P&E (times)	Change in PBT net of P&E&OI because of change in financial service income
Alpha Remedies Ltd.						
Ankur Drugs & Pharma Ltd.	3/31/2012	-133.3	-2912.9	-405.7	-2.19	376.8
Aurobindo Pharma Ltd.	3/31/2019	25908.1	19646.2	24022.1	0.12	40648.61
Cian Healthcare Ltd.	3/31/2019	98	10.6	89.6	0.01	
Cipla Ltd.	3/31/2019	31373.2	25154.3	26207.9	0.14	12758.53
Dr. Reddy'S Laboratories Ltd.	3/31/2019	25274	17007	22539	0.11	-1635.46
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	1145.6	935.3	1082.5	0.08	745.26
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	7172.2	6637.1	6021.1	0.12	1493.84
Indoco Remedies Ltd.	3/31/2019	897.2	-92.4	667.6	0	226.22
Pan Drugs Ltd.	3/31/2013	3	-2.7	-13.4	-0.08	5.44
Piramal Enterprises Ltd.	3/31/2019	8466.9	-7915.8	1735.8	0.1	180.74
Sanofi India Ltd.	12/31/2019	6914	5898	6689	0.15	437.01
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	183.4	-84.8	175.5	-0.01	-52.68
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	1032	1025.4	993.2	0.35	567.22
Triton Laboratories Ltd.	3/31/2000	16.9	5.4	16.7	0.02	1.3

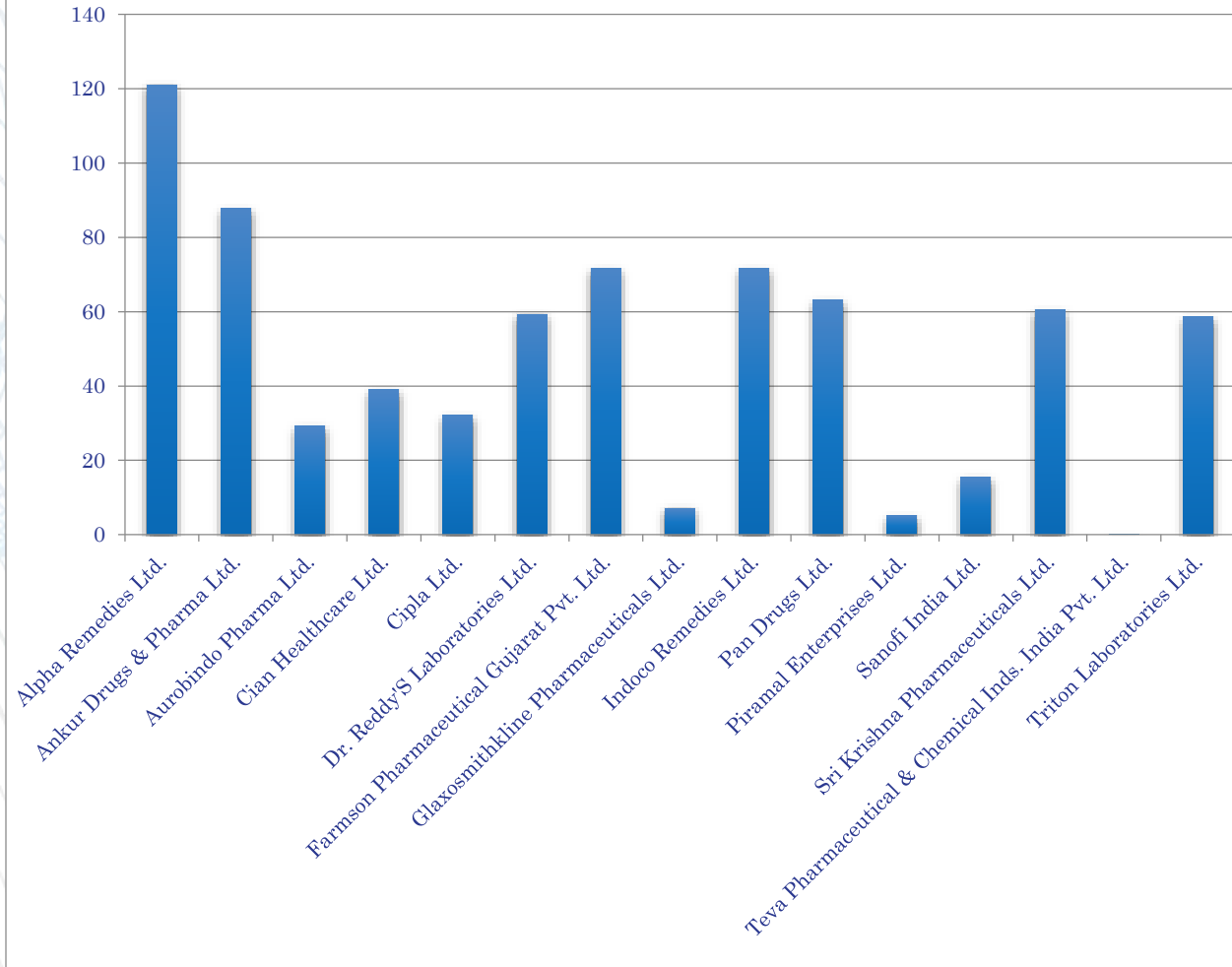
Return Ratios

Company Name	Date	(%)	(%)	(%)	(%)	(%)	(%)	(%)	(%)
	Year	Return on net worth	PAT as % of net worth	Return on capital employed	PAT as % of capital employed	Return on total assets	PAT as % of GFA excl reval	PAT as % of total assets excl reval	PAT net of P&E as % of GFA excl reval
Alpha Remedies Ltd.									
Ankur Drugs & Pharma Ltd.	3/31/2012	-207.89	-191.08	-26.75	-24.59	-20.74	-22.75	-19.06	-24.76
Aurobindo Pharma Ltd.	3/31/2019	14.35	14.34	10.35	10.35	8.77	31.42	8.77	31.43
Cian Healthcare Ltd.	3/31/2019	5.12	4.23	1.23	1.01	1.08	2.33	0.89	2.83
Cipla Ltd.	3/31/2019	12.27	12.63	12.2	12.56	9.99	31.88	10.28	30.96
Dr. Reddy'S Laboratories Ltd.	3/31/2019	9.82	10.43	8.54	9.08	7.1	13.45	7.54	12.66
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	39.45	39.6	28.63	28.74	19.2	29.47	19.28	29.35
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	18.28	20.15	18.28	20.14	4.94	88.16	5.45	80
Indoco Remedies Ltd.	3/31/2019	-0.56	-0.42	-0.39	-0.3	-0.29	-0.31	-0.22	-0.41
Pan Drugs Ltd.	3/31/2013			-16.3	-2.41	-9.31	-2.39	-1.37	-16.19
Piramal Enterprises Ltd.	3/31/2019	2.82	-5.91	1.19	-2.5	1.01	-39.91	-2.13	19.03
Sanofi India Ltd.	12/31/2019	20.83	17.77	20.83	17.77	9.61	44.29	8.2	51.91
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	-2.84	-2.76	-1.79	-1.73	-1.39	-2.2	-1.35	-2.26
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	51.97	52.33	51.97	52.33	43.89	33776.74	44.2	33539.53
Triton Laboratories Ltd.	3/31/2000	20	17.78	8.54	7.59	3.99	6	3.54	6.75

Structure of Assets & Liabilities (%)

Company Name	Date Year	gross_fixed_a ssets/ total_assets* 100	Growth (net_fixed_a ssets,prev(n et_fixed_ass ets))	Growth (current_ass ets,prev(curr ent_assets))	Growth (net_worth,p rev(net_wort h))	Growth (resv,prev(r esv))	Growth (mp_borro wings_total ,prev(mp_b orrowings_t otal))
Alpha Remedies Ltd.	3/31/2018	121	0	0			
Ankur Drugs & Pharma Ltd.	3/31/2012	87.84	-5.02	-73.07	-65.96		
Aurobindo Pharma Ltd.	3/31/2019	29.2	22.3	14.5	13.7	13.79	
Cian Healthcare Ltd.	3/31/2019	39.07	17.4	-7.36	27.7	-72.01	
Cipla Ltd.	3/31/2019	32.13	-4.46	9.68	11.82	11.96	
Dr. Reddy'S Laboratories Ltd.	3/31/2019	59.34	-0.73	-2.72	7.42	7.47	
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	71.69	69.27	19.66	49.38	50.64	
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	7.09	33.21	-6.4	3	-1.11	
Indoco Remedies Ltd.	3/31/2019	71.6	-4.34	0.84	-2.14	-2.2	
Pan Drugs Ltd.	3/31/2013	63.14	26.33	-8.51			
Piramal Enterprises Ltd.	3/31/2019	5.17	0.91	-13	-1.93	-4.83	
Sanofi India Ltd.	12/31/2019	15.43	-31.95	33.62	10.05	10.16	
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	60.49	-4.13	14.9	-2.72	-2.88	
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019	0.12	60	45.2	70.88	70.89	
Triton Laboratories Ltd.	3/31/2000	58.58	-0.99	53.07	95.08	18.9	

gross_fixed_assets/ total_assets*100



Working Capital & Turnover Ratios

Company Name	Date	Days	Days	Days	Days	Days	Days	Times	Times	Times	Times
	Year	Raw material cycle (days)	WIP cycle (days)	Finished goods cycle (days)	Debtor days (days)	Gross working capital cycle (days)	Creditor days (days)	Cash to current liabilities (times)	Raw material turnover (times)	Debtors turnover (times)	Creditors turnover (times)
Alpha Remedies Ltd.											
Ankur Drugs & Pharma Ltd.	3/31/2012	204.79	17.44	2.54	83.75	308.52	1693.87	0	1.78	4.36	0.22
Aurobindo Pharma Ltd.	3/31/2019	121.07	41.52	15.66	146.04	324.29	83.43	0.01	3.01	2.5	4.37
Cian Healthcare Ltd.	3/31/2019	54.9	30.69	37.66	124.64	247.88	43.22	0.07	6.65	2.93	8.45
Cipla Ltd.	3/31/2019	208.32	38.88	39.72	84.17	371.08	104.43	0.95	1.75	4.34	3.5
Dr. Reddy'S Laboratories Ltd.	3/31/2019	110.19	39.24	25.25	136.54	311.22	106.07	0.73	3.31	2.67	3.44
Farmson Pharmaceutical Gujarat Pvt. Ltd.	3/31/2019	3.98	1.51	3.41	43	51.9	58.58	0.15	91.62	8.49	6.23
Glaxosmithkline Pharmaceuticals Ltd.	3/31/2019	59.67	6.44	67.32	17.46	150.9	112.95	0.41	6.12	20.91	3.23
Indoco Remedies Ltd.	3/31/2019	162.34	16.95	30.38	79.76	289.43	166.44	0.05	2.25	4.58	2.19
Pan Drugs Ltd.	3/31/2013	24	9.61	8.6	72.73	114.94	102.15	0.07	15.21	5.02	3.57
Piramal Enterprises Ltd.	3/31/2019	73.76	34.07	17.57	97.59	222.99	200.63	0.08	4.95	3.74	1.82
Sanofi India Ltd.	12/31/2019	80.96	24.32	38.48	23.2	166.96	90.04	0.67	4.51	15.74	4.05
Sri Krishna Pharmaceuticals Ltd.	3/31/2019	18.7	8.91	32.24	91.6	151.45	59.67	0.02	19.52	3.98	6.12
Teva Pharmaceutical & Chemical Inds. India Pvt. Ltd.	3/31/2019			0.69	175.36	176.06	83.52	3.72		2.08	4.37
Triton Laboratories Ltd.	3/31/2000	11.67	7.24	15.71	63.52	98.14	110.44	0.04	31.28	5.75	3.3

Suppliers of Plant & Machinery

PHARMACEUTICAL MACHINE SUPPLIERS

XXXXX XXXXXXXX XXXXXXX XXXXXXXXXXX XXXXXXX

Address: Plot No: 2802, Nr. Ramol Cross Roads, G.I.D.C., Phase-IV, Vatva, Ahmedabad - 382445, (Gujarat) - INDIA

Pharma Machinery Manufacturer, India

Phone: + 91 79 xxxxxxxx

Mobile: + 91 - xxxxx xxxxx

Fax: + 91 - 79 - xxxxxxxx

E-mail:xxxxxxx@xxxxxxxxxxxxxxxx.co.in

Website: www.xxxxxxxxxxxxxxxxxxxxxxxxxx.in

XXXXXXXXXX XXXXX XXX. XXX.

Address: Kasturi, Sanghvi Estate, Govandi Station Road, Govandi (E), Mumbai 400 088, Maharashtra, India.

Tel: +91 22 6622 9900

Fax: +91 22 6622 9800

Email: xxx@xxxxxxxx.com

Website: https://www.xxxxxxxxx.com

Xxx XXXXXX XXXXXX XXXXXXXXXXX

SnehaHariNair (Proprietor)

Address: Star Industrial Estate, D-32, NaikPada,Opposite Dwarka Industrial Estate, Vasai East, Vasai - 401208, Maharashtra, India

Mob.: +91-xxxxxxxx

Ph.: +91-250-6454297

Email: xxxxxxxxxxx7@gmail.com

Website: https://www.xxxxxxxxxxxxxxxxxxxxxx.com

Bipin Pharma Equipment

Address: Gala No: H. No. 3073, Jabarpada, Opp. National Highway No. 8, Nalasopara (E), P.O. Pelhar, Ti. Vasai, Dist. Thane - 401208, Maharashtra, India.

Mob.: +(91)-8879192449, +(91)-9833865058

Email: xxxxx@xxxxxxxxxxxxxxxxxxxxx.com

Website: https://www.xxxxxxxxxxxxxxxxxxxxxx.com

XXXXXX XXXXXX XXXXXXXXXXXX

Address: Plot No: 3713, Phase-IV, GIDC, Vatva, Ahmedabad-382445, Gujarat, INDIA.

Ph.: + 91 (79) 25841623

Mob.: +91 xxxxx 29250, +91 xxxxx 44789

Email:mkt@prismpharmamachinery.com,

Email: sales@xxxxxxxxxxxxxxxxxxxxxx.com

Website: www.xxxxxxxxxxxxxxxxxxxxxxx.com

Riddhi Pharma Machinery Limited

Address: Riddhi Estate, Behind Manish Estate, Nr. Bhagirath Estate, Gulab Nagar, AEC Amraiwadi, Ahmedabad - 380 026, Gujarat, India

Phone No: +91-22-28321332, +91-22-28382479

Mobile No: +91-9969994187, +91-9821018579

Email ID: xxxxxxxxx@xxxxxxxxxxx.com

Website: <http://www.xxxxxxxx.com>

Brilliant Process Machinery

Address: Unit No. 1, 2 & 14, Modern Industrial Estate, Opp. Ipol, WalivPhata, Vasai (E),Dist - Thane - 401208, Maharashtra, India.

Phones: Support: (+91) xxx xxx 7075

Sales: (+91) xxx xxx 7075

Office: (0250) 699 3636 / 699 3838

Email: Support: xxxxxxxxxxxxxxx@rediffmail.com

Sales: kanu.brilliantprocess@gmail.com

Enquiry: info@brilliant-process.com

Website: <http://www.Xxxxxxxxxxxx-xxxxxxx.com>

JACKET REACTOR

Urjex Boilers Pvt. Ltd.

Mr. Urjeshh Rai

Address: No. 202, 203 & 204, M. J. Shopping Center, No. 3, Veer Savarkar Block, Shakarpur, New Delhi - 110092, Delhi, India

Mobile: +(91)-xxxxxx54919/xxxxxx69920/93582xxxxxx

Telephone: +(91)-(11)-42444636/ +(91)-(11)-43054636/ +(91)-(11)-32532232

Fax: +(91)-(11)-22466360

Email: info@urjexboilers.net,

Email: urjex11@yahoo.co.in,

Email: urjex@hotmail.com

Website: <http://www.xxxxxxxxxx.com>

Vinayak Industries

Mr. Shivbalak Vind

Address: D-3, Sheetal Industrial Estate, Behind Tirupti Gas Godown, Meera Bhayandar Phatak Road, Bhayandar East, Thane - 401105, Maharashtra, India

Mobile: +(91)-xxxxxx49039/98191xxxxxx

Telephone: +(91)-(22)-xxxxxx/+(91)-(22)-2818xxxx

Fax: +(91)-(22)-28184823

Email: xxxxxxxxxxxx@yahoo.in,

Email: xxxxxxxxxxxx1@vsnl.net

Website: <http://www.xxxxxxx.com>

Xxxxxx Xxxxxxxxxxxxxx Xxxxxx

Mr. Praveen Patibandla

Address: No. 316- A, 3rd Floor, Nilgiri Block, Aditya Enclave, Xxxxxxxx, xxxxxxxx - xxxxxx, Andhra Pradesh, India

Mobile: +(91)-xxxxxx3000/94408xxxxxx

Telephone: +(91)-(40)-6662xxxx

Fax: +(91)-(40)-xxxx4887

Website: <http://www.xxxxxxxxx.com>

Krish Engineering And Enterprise

Mr. Hardik B. Karadani

Address: B/59, Bileshwar Industrial Estate, Part-2, Opposite GVMM, Odhav-Kathwada Road, Odhav, Ahmedabad - 382430, Gujarat, India

Mobile: +(91)-94265xxxxxx

Email: krish_xxxxxxxxxx@yahoo.in,

Email: xxxx@krisheng.com

Website: <http://www.xxxxxxx.com>

Eminent Engineers

Address: Plot No: 5-5-35/233, Shakthipuram, Prashanthi Nagar, Near Manikanta,
Weigh Bridge, I.E Kukatpally, Hyderabad- 500 072, INDIA.

Tele: 040 xxxxx776, 0xxxx053174

Email: info@xxxxxxxxxxxxxx.com,

Email: xxxxxxxxxxxx@gmail.com

Website: www.xxxxxxxxxxxxxxx.com

Mech N Tech

Mr. Suresh Parwal

Address: No. 2-C Industrial Area, Ujjain Road, Dewas - 455001, Madhya Pradesh, India

Mobile: +(91)-xxxxx30555/99260xxxxx/94253xxxxx

Telephone: +(91)-(7272)-227776

Website: http://www.xxxxxxxxxxxxxxx.com

Proton Engineering Works

Mr. Rohan Doshi

Address: Plot No. W-28, Phase -II, M. I. D. C., Dombivli East, Kalyan - 421204, Maharashtra,
India

Mobile: +(91)-98192xxxxx/98192xxxxx/-xxxxx16756

Telephone: +(91)-(251)-2870459/ +(91)-(251)-2871060

Fax: +(91)-(251)-2871060

Email: xxxxxxxxxxxx@gmail.com,

Email: xxxxxxxxxxxx@yahoo.com

Website: http://www.xxxxxxxxxxxxxxx.com

FILTERS

Tfi Filtration (India) Private Limited

Anand Bhatt (Technical & Operation Director)

Mr. Vinay Makwana

Address: Shed No. 88-91, Gangotri Industrial Estate Near Ramol Cross Roads, Phase 4, G. I. D. C., Vatva, Vatva Industrial Estate, Ahmedabad - 382445, Gujarat, India

Mobile: +91-xxxxx33517, +91-xxxx481286

Website: <http://www.xxxxxxxxxxxxxxx.com>

Clear Aqua Technologies Private Limited

Gajeshwaran Kuppuraj (Director)

Address: No. 13/6, Sri Nagar, T. V. Koil, Tiruchirappalli - 620005, Tamil Nadu, India

Mobile: +91-9842276000, +91-9842202219

Telephone: +91-431-6501912, +91-431-4250042

Fax: +91-431-2231563

Website: <http://www.clearaqua.in>

Advance International

Promila Sharma (Marketing Coordinator)

Address: No. 501-A, Hemkunt Chambers, No. 89, Nehru Place, New Delhi - 110019, Delhi, India

Mobile: +91-93131xxxxx, +91-xxxx355720

Telephone: +91-11-xxxx4501, +91-11-xx234502

Fax: +91-11-26234503, +91-11-66066620

Website: <http://www.xxxxxxxxxxxxxxx.com>

Aircon Handling Systems Private Limited

SudhakarPai N.

Managing Director

Address: Aircon House, 18th Cross, Doddanna Industrial Estate, Peenya 2nd Stage, Bengaluru - 560091, Karnataka, India

Mobile: +91-9844030474, +91-8095674545

Telephone: +91-80-283xxxxx, +91-80-xxxx6747

Fax: +91-80-28366756

Website: <http://www.xxxxxxxxxxx.com>

Shalin Composites India Pvt. Ltd.

Parag D. Patil

Managing Director

Address: A/203, Ridhima Apartment, Somwar Bazar Malad West, Mumbai - 400064, Maharashtra, India

Mobile: +91-9867341077, +91-9819824051

Website: <http://www.frpaquatech.com>

FLUIDIZED BED DRYER

Promas Engineers Pvt. Ltd.

Address: Promas House, Plot No. R-967 / A & B, TTC Industrial Area MIDC, Rabale, Navi Mumbai – 400701, Maharashtra, India

Telephone: +91-22-27600581/ +91-22-27600582, +91-22-27600583/ +91-22-27600584/
+91-22-27600585

E-mail: sales@promasindia.com

Website: <http://www.promasengineers.com>

Chamunda Pharma Machinery Pvt. Ltd.

Address: 7602, “Chamunda Estate”, Nr. Ramol Cross Roads, G.I.D.C., Phase-IV, Vatva Ahmedabad – 382 445. (Gujarat) India.

Tel: +91 79 2584 0589 / 25840591

E-mail: info@chamunda.in

Website: <http://www.chamunda.in>

Ace Industries (India) Pvt. Ltd.

Address: J - 718 / 2, GIDC, 40 Sheds Area, Vapi, District Bulsar, Gujarat. India.

Telephone: +91-22- 42258000 / 29201763

Mobile:- +91-9377001430

Email: amit@acecentrifuges.com

Email: sales@acecentrifuges.com

Website: <http://www.acecentrifuges.com>

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Accumax India

Address: 105, First Floor, Vishal Tower, District Center, Janakpuri, New Delhi - 110058, India
Mob.: +91 9871173715, +91 9811099874,
Email: accumax101@gmail.com
Website: <https://www.accumaxindia.net>

STAR SCIENTIFIC GLASS CO.

Address: E-56, Sardar Estate, Ajwa Road, Vadodara - 390019, Gujarat. INDIA
Phone No. +91-265-2512473 / 2563474
Mob.: +91 - 98250 34494
Email Id: info@starscientificindia.com
Website: <https://www.starscientificindia.com>

Unity Glass Industry

Address: C-54, Sardar Industrial Estate, Road No. 4, Ajwa Road, Vadodara - 390 019
Contact Person: Mr. Pramod
Mobile: +91-9898007444
Phone: +91-265 -2570008 / 2517403
Email: unityglassindustry@gmail.com
Email: sales@unityglassindustry.com
Website: <http://www.unityglassindustry.com>

STORAGE TANK

Schumann Tank & Stahlbau GMBH

Address: Schumann Tank und Stahlbau GmbH, Fabrikstr. 14, 39326 Wolmirstedt

Martin Jäger (Spanish, English, German)

Phone: (+49) 39201.28.908

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Email: martin.jaeger@schumann-tanks.com

Email: martin.jaeger@tank-stahlbau.de

Phone: (+49) 39201.28.904

Fax: (+49) 39201.28.906

Email: info@schumann-tanks.com

Website: <http://schumann-tanks.com>

Sonitech India Private Limited

Address: F-6 (Back entry), Opp. 3/6 Bahai Publishing Trust, Okhla Industrial Area Phase - 1, New Delhi - 110020, India

Mobile: +91-9910036945, +91-9350225145, +91-9920206323

Phone: +91-11-26814751, +91-11-46026161

Fax: +91-11-26814753

Email: enquiry@xxxxxxxxxxxxxx.com

Website: <http://www.xxxxxxxxxxxxxxx.com>

Sri Hanuman Engineering Works

Address: No. 163/2, Rajgopal Nagar Main Road, Near Veerajaneya Temple, Peenya 2nd Stage, Bangalore-58

Mob: +91 xxxx 325399

Email: xxxxxxxxxxxxxx@gmail.com

Email: info@xxxxxxxxxxxxxaengineers.in

Website: www.xxxxxxxxxxxxxxaengineers.in

Mm DASS ENGINEERING WORKS

Address: # 49/33 1st cross mothinagarkalaisplaya new ext

Mob: +91 8079486771

Email: mmdasseng.426@gmail.com

Website: <http://mmdassengineeringworks.com>

Swastik Engineering Works,

Address: A2, Pankaj Building, Symphony IT Park, Near Megarugus Hall, Chandivali, Andheri East, Mumbai - 4000762, Maharashtra, India.

Telephone: 91 - 222847xxxx/ +91 - 222xxxxxxx

Email: jignesh.pancholi@swastiktechnopack.net,

Email: marketing@swastiktechnopack.net

Email: directors@swastiktechnopack.net

Website: www.swastiktechnopack.net

FILTER

Italian Stone Processing Machineries

Industrial manufacturing facilities – Zona Industriale Schio Vicenza - Italy

Tel: +39.333.6371.644

Email: info@stonemachineries.com

Website: <http://www.stonemachineries.com>

Suzhou Rilant Machinery Co., Ltd.

Address: Room 805-806 Business building, NO.358 Xinnan East Road, Kunshan, Jiangsu

Factory Address: NO.16 South Jinshajiang Road, Development Zone, Kunshan, Jiangsu

Phone: 86-512-5013-0240

Fax: 86-512-5013-0917

Email: info@szrilant.com

Website: <https://www.filter-makingmachine.com>

Anya Filter Media

Address: No.580 Gongnong Road, Shijiazhuang City 050000, Hebei, P.R. China

Phone: +86-311-83998613

Email: info@anyafiltermedia.com;

Email: sales@anyafiltermedia.com;

Email: anyafiltermedia@hotmail.com

Website: <https://www.anyafiltermedia.com>

TRM-Top Rank Machinery Inc.

Att.: Mr. Delevan Kao

Address: #11-1 Donghe St., Shulin Dist., New Taipei City, Taiwan, Zip Code 238

Email: service@trm-machinery.com

Tel: + 886 2 8686 3969

Fax: + 886 2 86860855

Website: <http://www.trm-machinery.com>

HOPPER

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TEL: 0086-371-66888887

FAX: 0086-371-66888887

E-MAIL: wilson@xxxxxxxxmachinery.com

Website: <http://www.xxxxxxmachinery.com>

Xinxiang Dongzhen Machinery Co., Ltd

Company Address: No.6 dongzhen road, development zone, xinxiang city, henan province, China.

ZIP/Postal code: 453000

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Contact Person: Dean lee (sales)

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Website: <http://sieving.diytrade.com>

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SPRAY DRYER

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Manish Rithe (Proprietor)

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Chamunda Pharma Machinery Pvt. Ltd.

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Tel: +91 79 2584 0589 / 2584xxxx
E-mail: info@chamunda.in
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Ace Industries (India) Pvt. Ltd.

Address: J - 718 / 2, GIDC, 40 Sheds Area, Vapi, District Bulsar, Gujrat. India.
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Mobile:- +91-9377001430
Email: amit@xxxxxxxxxxxxxxxx.com
Email: sales@xxxxxxxxxxxxxxxx.com
Website: <http://www.xxxxxxxxxxxxxxxxx.com>

Excel Plants & Equipment Pvt Ltd

Contact Person - Mr. UdayYele
Address: Gat. No 611, Mouje-Kuruli, MIDC Chakan, Tal-khed Pune - 410501, Maharashtra
Call Us: - +91-9225776611 / 02135-679717
Fax Number - 02135-679705
E-mail ID - uday@excelplants.com
Website: <http://www.sme.in>

SSP Pvt Limited

Address: 13 Milestone, Mathura Road, Faridabad, Haryana-121 003 (India)
Phone: +(91)-(129)-4183700 / 6660800
Fax: +(91)-(129)-4183777
E-mail: xxxxxxxxxxxxxxx.com,
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Website: <http://www.hydrothermengineeringservices.com>

Gatts India Co

Mr. Ghuhan.TRV

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Newgen Specialty Plastics Ltd

Mr. V.K. Singh,

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Telephone: +(91)-(120)-4143200

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Web site: <http://www.newgenpolymart.com>

Extraco India Private Limited

Address: Diamond Plaza, # 995-P, 12th Main Road, 2nd Avenue, Anna Nagar, Chennai 600 040, India

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E mail: projects@extracocomposites.com

Email: purchase@extracocomposites.com

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Web site: <http://www.extracocomposites.com>

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M Technique Co., Ltd.

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Fax +81-725-53-3332

Website: <https://www.m-technique.co.jp>

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Mobile:86-15737194722

Fax: 86-371-66238398

Email: sales16@bestongroup.com

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Informa PLC.

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Kingtiger (Shanghai) Environmental Technology Co., Ltd.

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Website: <http://www.glassdistillationassembly.com>

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Website: <http://www.superscientific.co.in>**Muez Hest India Private Limited**

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COOLING TOWERS

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Adva-Tech Engineers

Address: A-57/58, Shivshakti Industrial Estate, Plot No.59, Phase-1, Nr.Choksi Tube, GIDC, Vatva, Ahmedabad-382445

Phone No.: +91 - 79 25890689 / 40085496

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Everest Refrigeration

Address: 201 W Artesia Blvd., Compton, CA 90220

Phone: 310.323.6586/800.444.6285

Fax: 310.323.7524

Sheetal Engineering Services

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Star Cooling Tower Pvt Ltd

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One River Rock Dr.

Address: PO Box 1047, Buffalo, NY 14207

Phone Number

General - (716) 743-9000

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Fax - (716) 743-1220

Zhejiang Aoshuai Refrigeration Co.,Ltd

Address: distc Shaoxing City, Zhejiang Province, China(Mainland)

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Mobile: +8613735399597

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Website: www.cppmy.com

Zhengzhou Lanshuo Electronics co.,ltd.

Address: No.10, Hehuan Rd. Hi-tech Development Zone, Zhengzhou, China (Post code: 450001)

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Fax: +86 371-55001061

Contact: Bella Niu

Mob: +86 18317832039 (WhatsApp, WeChat)

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Fax: 86-769-81086936

Pho: 86-13826979609

Email: naser@naserland.hk

Website: www.naserland.com

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Fax: +(91)-(712)-2773746

Mobile / Cell Phone: +(91)-9371188264 / 9225237183

Website: <http://www.rajkumaragromachines.com/mini-oil-expellers.html>

The Adarsh Engineering Works

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Superior Steel Overseas

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Fax: +(91)-(22)-23898587

Aarco Stainless Inc.

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Phone: +(91)-(22)-23877079

Fax: +(91)-(22)-23877079

Website: <http://www.aarcostainlesssteel.com/stainless-steel-products.html>

SS REACTOR

Hexamide Agro Tech LLP, Navi Mumbai

Address: At Post Kutari, Near Taloja Gaon, Near Kharghar Hexcity, Kharghar, Navi Mumbai

- 410 210, Maharashtra, India

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Website: <http://www.usedchemicalreactor.com>

Ram Tech, Chennai

Address: 3/914, Kundrathur Road, Madanandapuram, Porur, Chennai - 600125, Tamil Nadu, India

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Website: <http://www.ramtech.org>

Dhopeshwar Engineering Private Limited, Hyderabad

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Birlo Engineers, Pune

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Anudeep Boilers, Hyderabad

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AIR COMPRESSOR

Shree Yantra Equipments

Mr. D. Prasanna Venkatesan

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Website: <http://www.airtechcompressors.in>

Industrial Compressors & Cryo Pumps Private Limited

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Con Air Equipments Pvt. Ltd.

Mr. Sameer Kavale

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Email: sales2@conair.co.in

Website: <http://www.congarageequipments.com>

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Phone: +886-2-2662-9292

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Website: <https://www.blowtac.com.tw>

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Website: <http://www.desran.com>

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Website: <http://www.credenceengineers.net>

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Fax: +(91)-(422)-2604035

Website: <http://www.screwumpindia.com>

National Engineering Co.

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Website: <http://www.nationalengineeringco.co.in>

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OveshSalema (Partner)

Mr. IdrisSalema

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Telephone: +(91)-(22)-28726703,+(91)-(22)-28754293

Fax: +(91)-(22)-28726703

Website: <http://www.pumpmanufacturers.in>

Hebei Xinfeng High-Pressure Flange And Pipe Fitting Co., Ltd.

Address: North Ring Industrial Zone, Mengcun Hui Autonomous County, Cangzhou, Hebei, China (Mainland)-061400
Phone: 0086-317-6019055,
M: 18903173335,
Fax: 0086-317-6853077
Website: <http://www.hbxfgj.com>

Hebei Shengtian Pipe-Fitting Group Co., Ltd

Address: Xiaolizhuang Plot, Xiwang New District, Mengcun County, Cangzhou, Hebei, China (Mainland)-061000
Phone: 0086-317-5298199,
M: 03175298199,
Fax: 0086-317-5295979
Website: <http://www.stpipefitting.com>
Website: <http://www.st-pipefittings.com>

Zhejiang TPM Pneumatic-Elements & Pipelines Co., Ltd.

Address: Wenzhou Daqiao Industrial Zone, Yueqing, Wenzhou, Zhejiang, China (Mainland)
Telephone: 0086-577-6286 5603
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Fax: 0086-577-6286 5588
Website: <http://www.tpm.cn>

Ningbo Shengzi Pipelines Technology Co., Ltd.

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Telephone: 86-574-87869880
Mobile Phone: 18968356270
Fax: 86-574-88917966
Website: <http://www.sanzee.com>

Cangzhou Wante Pipeline Manufacturing Co., Ltd.

Address: Room 604, Sanjian Office Building, Nanhuan, Yanshan County, Cangzhou, Hebei, China (Mainland)
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Mobile Phone: 13633371717
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Website: <http://www.hbwtgy.com>

Cangzhou Qixin Pipeline Co., Ltd.

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Telephone: 86-317-5139446, 15931736087
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Fax: 86-317-2200108
Website: <http://www.qxpipeline.com>

MAINTENANCE EQUIPMENTS

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Associated Pools

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Website: <http://www.associatedpoolsindia.com/swimming-pools.html>

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Website: <http://www.excellengineering.net/material-handling-equipment.html>

Crystal Pools Pune

Address: 12, Pooja Apartment, Sinhagad Road, Opposite Abhiruchi Vadgaon BK, Pune - 411 041, Maharashtra, India

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Website: <http://www.crystalpools.in>

Capital Engineering Corporation

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Website: <http://www.spindlesindia.com>

Bhagwansons

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Fax: +(91)-(161)-2490761

Website: <http://www.bhagwansons.com/grinding-machine-cg75.html>

MISC. MATERIAL HANDLING EQUIP.

Weber Construction Equipment Pvt. Ltd.

Address: J - 16, Ground Floor, Nandanvan Tower - 4, Opposite Aagan Parti Plot, Jodhpur Road, Satellite, Ahmedabad- 380 015, Gujarat, India

Phone: +(91)-(79)-65444070

Fax: +(91)-(79)-22874070

Mobile / Cell Phone: +(91)-9825024070/9879014070

Website: <http://www.constructionmachineindia.com>

Avity Agrotech & Industries

Address: No. 490 - 491, C - 1, Chandan Complex, Gidc, Makarpura, Vadodara - 390 010, Gujarat, India

Phone: +(91)-(265)-3924926/3924927

Fax: +(91)-(265)-2649151

Mobile / Cell Phone: +(91)-9924395588/9925095588

Website: <http://www.avityagrotech.com/aspirators.html>

Advance Equipment Co.

Address: Plot No. A 380, Road No. 28, Wagle Industrial Estate, Thane - 400 604, Maharashtra, India

Phone: +(91)-(22)-25820202

Fax: +(91)-(22)-25402954

Mobile / Cell Phone: +(91)-9820692230

Website: <http://www.advanceequipments.com/material-handling.html>

Padmatech Engineering Systems

Address: Plot No. 219, Sector No.10, P. C. N. T. D. A Bhosari, Pune - 411 026, Maharashtra, India

Phone: +(91)-(20)-30688584

Mobile / Cell Phone: +(91)-9822552882/9881009639

Website: <http://www.padmotech.net>

Impex Tools

Address: 415/1b, Kasarwadi, Manimangal Society Building C, Office No. 2. Mumbai Pune Road, Pune - 411 034, Maharashtra, India

Phone: +(91)-(20)-27147281

Fax: +(91)-(20)-26445762

Mobile / Cell Phone: +(91)-9371066611/9860147989

Website: <http://www.impextoolsin>

Crane Engineering Works

Address: No. 3, Guru Gobind Singh Industrial Estate, Goregaon East, Mumbai - 400 063, Maharashtra, India

Phone: +(91)-(22)-26854030

Preferred Number: 08376807113

Website: <http://www.craneengg.net>

Hgr Industrial Surplus

Address: 20001 Euclid Ave., Euclid - 44117, Ohio, United States

Phone: 1-216-4864567

Empire Machinery

Address: 1725 S. Country Club Drive, Mesa - 85210, Arizona, United States

Phone: 1-480-6334491

Fax: 1-480-6334626

Qingdao Hengjun Machinery & Electrical Co., Ltd.

Address: 6a T2, Pacific Centre, 35 West Donghai Road, Qingdao - 266071, Shandong, China

Phone: 86-532-85025772

Fax: 86-532-85025770

Xinye Packaging Machinery Factory

Address: No. 104 Main Roadside, Yongguang, Shangwang, Ruian - 325200, Zhejiang, China

Phone: 86-577-65132286

Fax: 86-577-65132727

LABORATORY EQUIPMENTS

Rands Instruments Company

Mr. Roche Daniel (CEO)

Address: C-24, SSIO Complex, Vanagaram Road, Athipet, Ambattur, Industrial Estate
Chennai - 600058, Tamil Nadu, India

Mobile: +(91)-9840550699,

Telephone: +(91)-(44)-26531492, +(91)-(44)-32550082

Email: randsinstruments@gmail.com

Website: <http://www.laboratoryequipmentmanufacturer.com>

Mech Lab Equipments India Pvt Ltd.

Mr. Ananda Subramanian (Director)

Address: No. 103/2, Subbanaicken Pudhur Road, Back Side of Karuppanarayan Koil,
Chinnavedampatti P. O. Coimbatore - 641049, Tamil Nadu, India

Mobile: +(91)-9443736743, +(91)-9443252533

Telephone: +(91)-(422)-2929042

Email: info@mechlabequipments.in,

Email: mechlab.cbe@gmail.com

Website: <http://www.mechlabequipments.in>

K- Pas Instronic Engineers India Private Limited

Mr. Annadurai Thangavel / R Punnu Samy (Director)

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Chennai - 600032, Tamil Nadu, India

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Telephone: +(91)-(44)-22252621, +(91)-(44)-22252624

Fax: +(91)-(44)-22252624

Email: kpas123@hotmail.com,

Email: kpas456@gmail.com

Website: <http://www.kpas.co.in>

Swastik Scientific Company

Mr. Nayan Thakkar (Manager)

Address: 133, Gopal Niwas, Room No. 2, 2nd Floor, Princess Street, Mumbai - 400002,
Maharashtra, India

Mobile: +(91)-9323784081, +(91)-9323702617

Telephone: +(91)-(22)-22016286, +(91)-(22)-66382558

Fax: +(91)-(22)-22016286, +(91)-(22)-25584880

Email: swastikscientificcompany@gmail.com,

Email: swastik1980@gmail.com

Website: <http://www.swastikscientificcompany.com>

Suppliers of Raw Material

SUPPLIERS ADDRESS

VasudhaPharmaChem Limited

Address: 78 / A, Vengalrao Nagar, Telangana State, Hyderabad – 500038, Telangana, India

Phone: + 91-40-4476 3666 / 2371 1717 / 2381 2046

Email-id:vasudha@vasudhapharma.com

Website: <https://www.vasudhapharma.com>

HARIKRISHNA ENTERPRISE.

Address: Plot No. 2909, Opp. MadhavBaug, G.I.D.C, Ankleshwar- 393 002, Gujarat, India

Phone: +91 9879640893

E- Mail:harikrishnaent98@gmail.com

Website: <http://harikrishnaindia.com>

Aquigen Bio Pvt. Ltd.

Hanuman Chowk, Near SamrathKrupa Healthcare, Ghotawade, Pune, Maharashtra 412115, India

Phone: +91 9766819194

Email-id:info@aquigenbio.com

Website: <https://www.aquigenbio.com>

Sarex

Address: 501, Waterford, 'C' Wing, C. D. Barfiwala Marg, Juhu Lane, Andheri (W), Mumbai - 400 058, India.

Phone: +91(22) 6128 5566; +91(22) 4218 4218

Email: fchem@sarex.com

Website: <https://www.sarex.com>

AkhilHealthcare(P)Ltd

Address: 205-206, B.B.C Tower, Opp. World Trade Centre, Sayajigunj, Vadodara-390005. Gujarat, India

Tel No: +91-265-2362982, 2363350, 2361781/82

Email: info@akhilhealthcare.com

Email: export@akhilhealthcare.com

Website: <http://www.akhilhealthcare.com>

Laksh Finechem Pvt Ltd

Address: PLOT NO:1801/02,G.I.D.C.,VITTHAL UDYOG NAGAR, DIST: ANAND-388121, GUJARAT, INDIA

Tel: +91-9979922233

Mobile: +91-9979922233

Email: lakshfinechem@yahoo.com

Website: <https://laksh.lookchem.com>

XXXXXX XXXX

Bajaj Chemicals

Address: C-275, Sector 5, DSIDC, Bawana Industrial Area, Delhi - 110 039, India

Phone: 011-27791002/3/4

Mobile: 9810038988, 9810038984, 9810751817, 9350983218

Email: info@bajajchemicals.com,

Email: bajajchemicals@hotmail.com

Website: www.bajajchemicals.com

Trishul Industries

Mr. Kamal Agarwal & Mr. Mohit Agarwal

Address: 2/1 B, Pal Link Road, Near Mudit Mansion, Behind Teej Kunj, Jodhpur 342 008, Rajasthan, India

Phone: +91-291-2705774

Fax: +91-291-2714621

Mobile: +9828242222/9829023457

Email: trisul_ti@yahoo.com,

Email: mohit@trishulindustries.com

Website: <http://www.trishulindustries.in>**Shivam Industries**

Mr. Chandan Ganguly

Address: Shop No. 11, Arihant Vrindavan Society, Kasturi Park, Navghar Road, Bhayander East, Mumbai - 401105, Maharashtra, India

Mobile: +(91)-9820823043/ +(91)-9819991694

Telephone: +(91)-(22)-28152328/ +(91)-(22)-28152309

Fax: +(91)-(22)-28152309

Website: <http://www.shivaminds.com>**Plastichem Indl Corpn**

Mr. Nikhil Mehta

Address: 503, Yogeshwar Building, 135/139, Kazi Sayed Street, Masjid, Mumbai - 400009, Maharashtra, India

Mobile: +(91)-9223432786/ +(91)-8097002786

Telephone: +(91)-(22)-65092786/65094786/ 65090786/66312787

Fax: +(91)-(22)-66312786

Website: <http://www.plastichemonline.com>**Kalpyog Chemicals Private Limited**

Address: W-213/214, T. T. C. Industrial Area, M. I. D. C, Khairne, Mumbai - 400 709, Maharashtra, India

Tel: +(91)-(22)-32984826/27782061

Email: sales@kalpyog.in,

Email: purchase@kalpyog.in,

Email: corporate@kalpyog.in

Hydrite Chemical Co.

Address: 300 N. Patrick Blvd. Brookfield, WI 53045

Phone: 262-792-1450

Email: marketing@hydrite.com

Website: <https://www.hydrite.com>

WEGOCEM

Address: Oosterhout, The Netherlands

Tel: +31 (0) 162 820300

Fax: +31 (0) 162 820366

Email: careers@wegochem.com

Website: <https://www.wegochem.com>

Parchem fine & specialty chemicals

Address: MAIN OFFICE: 415 Huguenot Street, New Rochelle, New York 10801

BY PHONE:

MAIN: (914) 654-6800

FAX: (914) 654-6899

BY EMAIL: info@parchem.com

Website: <https://www.parchem.com>

Sharjah Chemical

Address: sharjah chemical, Sharjah

Email: sharjahchemical@gmail.com

Tel: 00971 9 2242524, 00971 9 2235488

Tel: 00971 9 2242534 For UAE / OMAN

Website: <http://sharjahchemical.com>

Trice Chemicals

Address: P-314 | Al Ghail Industrial Park, Ras Al Khaimah - UAE

Tel: +971 7 258 9345

Fax: +971 7 243 5335

Email: sales@tricechemicals.com

Website: <https://www.tricechemicals.com>

METHANOL

Triveni Chemicals

K. K. Singh (Managing Director)

Address: No. 135, Pancharatna Char Rasta, G.I.D.C. Vapi - 396195, Gujarat (India)

Telephone: +(91)-260-6618618 / 6618624

Mobile No: +91 92277 XXXXX

Email: response@trivenichemicals.com

Website: www.triveniinterchem.com

Ekta International

Rajnikant Patel (Partner)

Address: 310, Shyamkamal B, Agarwal Market, Near Vile Parle Station East, Vile Parle East, Mumbai - 400057, Maharashtra, India

Mobile: +(91) - 93225XXXXX, +(91) - XXXXX07089

Phone: +(91) - (22) - 66949990, +(91) - (22) - 66949991

Website: <http://www.ekta-international.com>

Chemex Chemicals

Address: 107, Udyog Kshetra, Link Road, Mulund West, Mumbai - 400080, Maharashtra, India

Phone: +91-8369045230 / 8976563684

Phone: +91-22-25655389 / 25614989 / 25690082

Website: <http://www.chemexchemicals.com>

An S Joshi & Company

Address: 813, Topiwala Center, Opp. Railway Station, Goregaon (West), Mumbai - 400062, Maharashtra, India

Telephone: +91-22-28768362 / +91-22-28768361

For Chemicals - Solvents:

Mobile: +91 8097911779

Email: Sales.Joshichem@gmail.com

Website: <http://www.joshichem.com>

Accord Chemical Corporation

Address: B-705, Kanakia Western Edge -II, W.E. Highway, B/h Metro Store, Borivali (East), Mumbai - 400066 Maharashtra, India.

Contact No: +91 22 28707800 / 1111

Email: info@accordchemicals.com,

Email: sales@accordchemicals.com

Website: <http://www.accordchemicals.com>

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Intimate Fine India

Mr. K.S. Rathod

Address: B-10, Vihaldham Society, T.P.-13, Behind Induchacha House, Near Chhani Jakat Naka, Vadodara - 390024, Gujarat, India

Mobile: 08586967200/+(91)-8128483861

Email: activatedcarbon31@yahoo.com

Website: <http://www.intimatefineindia.com>

E Cube Water Solutions

Mrs. Anisha Gupta

Address: No. B402, Rishab Tower, Karkarduma Community Center, Opposite Karkarduma Metro Station, Delhi - 110092, India

Mobile: +(91)-9311406600/9818416662

Telephone: +(91)-(11)-43003928

Email: ecubewater@gmail.com

Website: <http://www.ecubewater.com>

SLY Enterprises

Mr. V. Yuvaraj

Address: No.16, Selvarangaraja Street, Littlemount, Saidapet, Chennai - 600015, Tamil Nadu, India

Mobile: +(91)-91xxxx4004/xxxxx55598

Telephone: +(91)-(44)-42009199

Fax: +(91)-(44)-42119089

Website: <http://www.xxxxxxxxxxxxxx.xxx.xx>

Ashi Inc (A Unit Of Acuro Organics Limited)

Ms. Anita

Address: Chamber No. 27, 4th Floor, Ashoka Chambers, Opposite Metro Pillar No. 150, Pusa Road, New Delhi - 110060, Delhi, India

Mobile: +(91)-88824xxxxx/xxxxx55999

Telephone: +(91)-(11)-47479797/+(91)-(11)-25727778

Website: <http://www.xxxxxxxx.com>

Sri Mallieswara Enterprises

Mr. R. Om Sakthi / Mr.R Patchi Raja

Address: 80 A, T.C. Main Road West, Vellakovil, Kangayam T. K., Tiruppur - 638111, Tamil Nadu, India

Mobile: +(91)-xxxxx27202/xxxx809633

Telephone: +(91)-(421)-262202

Email: www.xxxxxxxx.com

DIMETHYL AMMONIUM CHLORIDE

HETAL CHEM IMPEX

Address: 306 New AnantBhuvan, 257/65 NarshiNatha Street, Masjid Bunder (W),
Mumbai-400 009, Maharashtra, INDIA.

Tel Nos: 91 22 66282121/ 66312745/ 66312746

Fax Nos.: 91 22 66282131/ 32

Email: xxxxxxxx@rediff.com

Website: www.hetalchem.com

FILTRON ENVIROTECH (INDIA)

ED-39B, NEAR PITAMPURA METRO STATION,, Block ED, PitamPura, Delhi, 110088

Telephone: +91-11-27314564

Fax: +91-11-27314564

Mobile: +91-7827-649-429

Email: sales@ www.xxxxxxxxxxxxx.com

Email: xxxxxxxxxxxxxxxxxxxxxxx@gmail.com

Website: http://www.xxxxxxxx.com

Acuro Organics Limited

Corporate office: B-19, Sector-1, Noida - 201301, UP, INDIA

TEL: +91-120 - 4888444 (100 lines)

Email: www.xxxxxxxx.com

Website: http://www.acuro.in

Madhu Chemicals

Mr. Ashok / Nemish K. Mehta

Address : 206, 2nd Floor, Marathon Monte Plaza, Next to Nandanvan Industrial Estate, off
Madan Mohan Malavia Road, Mulund West, Mumbai 400080, Mulund West, Mumbai-
400080, Maharashtra, India

Tel: +91 22 67412824 / 67419980

Fax: +91 9323433533

Mob: +91 9323433533

Email: sales@madhuchemicals.com

Email: sales1@madhuchemicals.com

Website: https://www.madhuchemicals.com

Innova Corporate (India)

Address: 2B / BW Shalimar Bagh, Opp. BQ Market, Near DLF Mall, New Delhi - 110088,
India.

Mobile: +91-9911981992, +91- 9312871070, +91-9911130697

Phone: +91-11-27473243

Email Us : karan@innovacorporate.com

Email: sales@innovacorporate.com:

Email: vinod@innovacorporate.com

Website: http://www.innovacorporate.com

IRON POWDER

INDUSTRIAL METAL POWDERS (INDIA) PVT. LTD

Address: Gat No. 699/1, KoregaonBhima, Behind Kalyani Forge, Pune-Nagar Road,
TalukaShirur, Pune 412 216, Maharashtra INDIA.

Tel: +91 9881672810

Email: marketing@imp-india.com

Website: <https://imp-india.com>

Ganesh Industries

Address: Plot No.: C-110/2A, G.I.D.C., Opp. Sheeji Estate, Ambikanagar Road, Odhav,
Ahmedabad - 382415, Gujarat, INDIA

Contact Person: Dipak Patel - Number: +91-9909 946411

Contact Person: Jatin Patel - Number: +91-9825 093555

Email: info@ganeshind.co.in

Website: www.ganeshind.co.in

KALYAN INDUSTRIES

Address: Plot No. 216/216A, G.I.D.C. Phase - I, Bhavnagar - Rajkot Road, Sihor - 364240,
Gujarat, India

Phone: 08037301896

Fax: 91-278-2421004

Website: <http://www.kalyanindustries.co.in>

RS ALLOYS

Address: 4465/13, PahariDhiraj, Sadar Bazar, Delhi-110006, India

Contract Person Sales - Mr.RishitKhandelwal

Phone Direct: +91-9999265190

Office: +91-011-23545869

Email: rs_alloys2000@yahoo.com,

Email: rsalloys@rsalloys.in

Website: <http://www.rsalloys.in>

VisproMegatrades Ltd.

Address: 14/185-14/186, Ground Floor, Basant Kaur Marg, Malviya Nagar, Main Shivalk
Road, New Delhi-110017, India

Tele: +91-11-40504800

Website: <http://vispro.co.in>

Shree Bajrang Sales (P) Ltd.

Ashish Bhartia

Address: 19, New Cotton Market, Near Rahul Hotel, Sneha Nagar, Nagpur- 440018,
Maharashtra, India

Fax: +91-712-2721484

Mobile: +91-9422102641, +91-9422102632

Website: <http://www.shreebajrangsales.com>

PRINTED BAGS

PolyPak America

Address: 2939 East Washington Boulevard, Los Angeles, CA 90023, USA

Email: sales@polypak.com

Local: 323.264.2400

Toll Free: 800.826.4000

Fax: 323.264.2407

Website: www.polypak.com

Shields Bag and Printing

Address::1009 Rock Avenue, Yakima, Washington 98902

(800) 541-8630

(509) 248-6304 FAX

SALES OFFICE:

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(800) 541-8630

(509) 248-6304 FAX

Email: sales@shieldsbag.com

Website: <http://www.shieldsbag.com>

Yantai Evergreen Packaging Co., Ltd.

Address: Street: No.1Xishan Road, Fushan District, Yantai City, Shandong Province. China

Telephone: 86-535-6362657

Contact Person: Mr.Lee

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Fax: 86-535-6362951

Website: www.jumbobag.com.cn

LAB CHEMICALS

New Alliance Dye Chem Private Limited

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Telephone: +(91)-(22)-26171908,+(91)-(22)-26184140

Fax: +(91)-(22)-26171908

Website: <http://www.micronutrients.co.in>

Titan Biotech Limited

Mr. Umesh (Assistant Marketing Manager)

Address: A-2/3, 303-305, Lusa Tower, Azadpur Commercial Complex, Delhi - 110033, India

Mobile: +(91)-9711169451,+(91)-9711811505

Telephone: +(91)-(11)-47020108,+(91)-(11)-27677960

Fax: +(91)-(11)-47619811

Website: <http://www.titanbiotechltd.in>

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Telephone: +(91)-(422)-2594641,+(91)-(422)-2594642

Fax: +(91)-(422)-2594642

Website: <http://www.labcarescientific.in>

Naugra Export

Mr. TS Sawhney (Export Director)

Address: No. 6148/6, Guru Nanak Marg, Ambala - 133001, Haryana, India

Mobile: +(91)-9416268586,+(91)-8447264454

Telephone: +(91)-(171)-2643080,+(91)-(171)-2601773

Fax: +(91)-(171)-2607146

Website: <http://www.equipmentsinstrumentsmanufacturers.com>

Triveni Interchem Pvt. Ltd. (Group of Triveni Chemicals)

Mr. K. K. Singh / Mr. Pinakin Desai Director (Managing Director)

Address: 134, Pacharatna Char Rasta, G.I.D.C, Vapi - 396195, Gujarat, India

Mobile: +(91)-9227788115,+(91)-9227788107

Telephone: +(91)-(260)-6618618

Fax: +(91)-(260)-6618624

Website: <http://www.triveniinterchem.com>

Photographs/Images for Reference

Machinery Photographs

JACKETED REACTOR



FILTER



FLUIDISED BED DRYER



STORAGE TANK



REFRIGERATION UNIT



COOLING TOWER



DISTILLATION ASSEMBLY



BOILER



Raw Material Photographs

FOR PARACETAMOL-P-NITROPHENOL



IBUPROFEN



ACETIC ACID



METHANOL





ACTIVATED CARBON



LABORATORY, ETP & OTHER CHEMICALS



Product Photographs

PARACETAMOL



IBUPROFEN





Plant Layout



Conclusion

In conclusion, our comprehensive report on the API manufacturing business project serves as a valuable resource for stakeholders and potential investors in the pharmaceutical industry. We have meticulously covered various aspects of the project, providing detailed information and analysis.

The report begins with an exploration of the project's location, including district profiles and geotechnical site characterization. This initial phase provides a solid foundation for understanding the environmental and geographical factors that will influence the project.

Moving forward, we have conducted in-depth studies on specific pharmaceutical ingredients, such as Metformin, Amoxicillin, Ibuprofen, and Paracetamol. These sections offer insights into the medical uses, chemical properties, manufacturing processes, and safety measures associated with each API.

Our report also includes a SWOT analysis that identifies the project's strengths, weaknesses, opportunities, and threats. This strategic assessment helps stakeholders make informed decisions and plan for future development.

Furthermore, we have conducted a comprehensive risk assessment, covering various aspects, including chemical and biological exposure, environmental contamination, quality control failures, supply chain disruptions, regulatory non-compliance, intellectual property breaches, equipment failures, accidents, fires, and market dynamics risks. Each risk category includes a thorough examination of potential outcomes and mitigation strategies.

The report delves into the social and economic impacts of the API manufacturing unit, highlighting its potential benefits to the local community and the broader economy. We have also discussed future challenges that may arise in the API manufacturing sector, offering insights into preparedness and adaptation strategies.

A market survey provides a deep dive into the global and Indian API markets, with insights on types, applications, synthesis methods, regional dynamics, and key players. This information is invaluable for understanding market trends and competition.

In addition, we have included financial data and comparisons of major Indian players and companies in the API manufacturing industry. This financial analysis offers insights into profitability, liquidity, and overall financial performance.

Finally, the report features photographs and images for reference, including machinery, raw materials, and finished products, providing visual context to the information presented. The plant layout section provides a visual representation of the project's physical structure.

In conclusion, our report serves as a comprehensive guide for anyone interested in the API manufacturing business, from project location and technical details to market analysis and financial insights. It offers a thorough understanding of the industry, its potential, and the strategies required for success in the competitive pharmaceutical sector.

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Active Pharma Ingredients (API)

Annexure 1

Assumptions made

- 1 Interest cost for CC limit (WC finance) is @10.00%
- 2 Semi Variable & Fixed Expenses are done on 40:60 basis on full capacity utilisation in 5th Year of operation.
- 3 For working capital calculation, the WC cycle is considered by taking following assumptions are made:
 - a Stock on hand i.e. Raw material cost @ 1 month, Finished goods @ 1 months and WIP cost taken for 1 days.
 - b Receivables @0 months.
 - c Current liabilities @ 1 months.
- 4 Currency is (Amount in Rs.) and (Rs. in Lakhs) in some tables
United State Currency - Dollar

Active Pharma Ingredients (API)

Annexure 2

[NPCS/5515/24212]

PLANT ECONOMICS

Active Pharma Ingredients (API)

Metformin, Amoxicillin, Ibuprofen & Paracetamol

Rated Plant Capacity			
Total Production per Day	=		Kg/Day
Total Production per Month	=		Kg/Month
Total Production per Annum	=		Kg/Annum
Basis			
No. of working days	=		Days/Month
	=		Days/Annum
No. of shifts	=		Shifts per day
One shift	=		Hours
Total working Hours per day			Hours per day

Active Pharma Ingredients (API)

Annexure 3

[NPCS/5515/24212]

PRODUCTION SCHEDULE

Name of Product	Kg. Per Day	Kg. Per Annum	Total Batch	UOM
Metformin (xxx mg & xxx mg)				
Amoxicillin (xxx mg)				
Ibuprofen (xxx mg)				
Paracetamol (xxx mg)				

Prepared by "Niir Project Consultancy Services"

Active Pharma Ingredients (API)

Annexure 4

[NPCS/5515/24212]

LAND & BUILDING

(Amount in Rs.)

Particulars of Proposed Assets (UOM)	UOM	Quantity	Rate	Total
Land Area Required	Sq.mts			
Factory Building -				
Metformin Section	Sq.mts			
Amoxicillin Section	Sq.mts			
Ibuprofen Section	Sq.mts			
Paracetamol Section	Sq.mts			
Tank Area	Sq.mts			
Raw Material Store Area	Sq.mts			
Finished Product Store	Sq.mts			
Administrative Block	Sq.mts			
Laboratory	Sq.mts			
Utility Area	Sq.mts			
Electrical & D.G. Set Room	Sq.mts			
Fuel Storage Area	Sq.mts			
Water Storage Area	Sq.mts			
Water Treatment Area	Sq.mts			
XXXXXXXXX XXX	Sq.mts			
Workshop	Sq.mts			
Toilets	Sq.mts			
Security Room	Sq.mts			

Active Pharma Ingredients (API)

Annexure 4

LAND & BUILDING

(Amount in Rs.)

Particulars of Proposed Assets (UOM)	UOM	Quantity	Rate	Total
Land Development Cost, Boundary Wall, Gate & Road etc.	Sq.mts	1		
			TOTAL	

Active Pharma Ingredients (API)

Annexure 5

PLANT & MACHINERY

(Amount in Rs.)

Particulars of Assets Proposed (UOM)	UOM	Quantity	Rate	Total
Tablet Making & Packaging Machines	Nos.			
Maintenance Equipments	Nos.			
Erection & Installation				
Miscellaneous Equipmetns like pumps, valves, pipeline & fittings	Nos.			
Laboratory Equipments	Nos.			
			TOTAL	

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Active Pharma Ingredients (API)

Annexure 6

[NPCS/5515/24212]

OTHER FIXED ASSETS

(Amount in Rs.)

Particulars of Assets Proposed	Quantity	Rate	Amount
Furniture & Fixtures			
Office Equipment, Furniture plus Other Equipment & Accessories			
Pre-operative & Preliminary Expenses			
Electrical Cable, MCB, Meter Boxes, Switch Board etc.			
Fire Fighting Equipment			
Effluent Treatment Plant			
Website Development & Promotion			
Water Resources with Storage Tank			
Others			
Technical know how			
Office Vehicles			
Office Automation Equipments (Telephone/ Fax/ Computer)			
Provision for Contingencies			
		TOTAL	

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Active Pharma Ingredients (API)

Annexure 7

[NPCS/5515/24212]

WORKING CAPITAL Requirement Per Month

Raw Materials	UOM	Quantity	Rate	Amount	Qty p.a.	Qty per Batch
For Metformin - Dicyanodiamide	Kgs					
Dimethylammonium Chloride	Kgs					
For Amoxicillin - Methylene chloride	Kgs					
XXXXXXXXXX XXXXX	Kgs					
XXXXXX XXXXXXXX	Kgs					
XXXXXXXXXXXX XXXXX	Kgs					
XXXX XXXXX	Kgs					
XXXXXXX	Kgs					
XXXXXXXXXXXX XXXXXXXX	Kgs					
NaCl (Sodium Chloride)	Kgs					
For Ibuprofen - Isobytyl XXXXXXXX	Kgs					
XXXXXX	Kgs					
XXXXXX XXXXX	Kgs					
Toluene	Kgs					
XXXX XXX XXXX	Kgs					
XXXX	Kgs					
Methyl XXXXXXXX	Kgs					
For Paracetamol - p-nitrophenol	Kgs					
XXXXXXX	Kgs					

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Active Pharma Ingredients (API)

WORKING CAPITAL Requirement Per Month

Raw Materials	UOM	Quantity	Rate	Amount	Qty p.a.	Qty per Batch
XXX XXXXX XXXXX	Kgs					
Methanol	Kgs					
XXXXXXXX XXXXXXXX	Kgs					
Printed Packing Strips (include XXX Film, XXXXXXXXXXXX XXXXX Adhesives) each Strips App. Wt. XXX gms XXXX	Kgs					
Lab Chemicals Cost						
Consumable Store						
			TOTAL			

Active Pharma Ingredients (API)

Annexure 8

[NPCS/5515/24212]

Overheads Required Per Month

(Amount in Rs.)

Utilities and Overheads	Quantity	Rate	Amount
Power Consumption			
Water Consumption			
Fuel Cost			
Insurance Professional fees			
Administration Expense			
Stationery Exp., Telephone, Postage			
Repairs and Maintenance			
Internet Expenses			
Conveyance Exp.			
Publicity Exp.			
		TOTAL	
Total load is			
Utilities and Overheads	Quantity	Rate	Amount
Royalty and other charges			
Selling and Distribution expenses			
		TOTAL	

Active Pharma Ingredients (API)

Annexure 9

Salary and Wages

[NPCS/5515/24212]

(Amount in Rs.)

Salary and Wages	UOM	Quantity	Rate	Amount
General Manager	Nos.			
AGM (Comm.)	Nos.			
Production, Engineering & Quality Control Manager	Nos.			
Chemical Engineers	Nos.			
Quality Control Supervisors	Nos.			
Production Supervisors	Nos.			
Skilled Workers	Nos.			
Electricians	Nos.			
Fitters	Nos.			
Unskilled Workers	Nos.			
Accountant	Nos.			
Computer Operators	Nos.			
Office Staffs	Nos.			
Sales Executives	Nos.			
Store Keeper	Nos.			
Peons	Nos.			
Security Officer	Nos.			
Security Guards	Nos.			
TOTAL BASIC SALARY				
Plus Perks (25% p.a. of Basis Salaries)			20.00%	
Per Month			TOTAL	
Per Annum				

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Active Pharma Ingredients (API)

Annexure 10

[NPCS/5515/24212]

TURNOVER PER ANNUM

(Amount in Rs.)

Name of Product	UOM	Quantity	Rate	Amount
Metformin (xxx mg & xxx mg)	Kgs			
Amoxicillin (xxx mg)	Kgs			
Ibuprofen (xxx mg)	Kgs			
Paracetamol (xxx mg)	Kgs			
			TOTAL	

Active Pharma Ingredients (API)

Annexure 11

[NPCS/5515/24212]

SHARE CAPITAL

(Rs. in Lakhs)

Share Capital (No. of Shares)	Face Value USD/ Share	Equity Share Capital		
		Existing	Proposed	Proposed
30098				
Particulars	Existing	Existing	Proposed	Proposed
	%age		%age	
Equity Capital				
Preference Share Capital				
Total				

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Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 1

COST OF PROJECT AND MEANS OF FINANCE

(Rs. in Lakhs)

Particulars	Existing	Proposed	Total
COST OF PROJECT			
Land & Site Development Exp.			
Land Area Required			
Land Development Cost, Boundary Wall, Gate & Road etc.			
Buildings			
Factory Building -			
Office Buildings			
Plant & Machineries			
Indigenous Machineries			
Erection & Installation			
Laboratory Equipments			
Miscellaneous Equipmetns like pumps, valves, pipeline & fittings			
Imported Machineries			
Technical know how			
Office Vehicles			
Office Automation Equipments (Telephone/ Fax/ Computer)			
Office Equipment, Furniture plus Other Equipment & Accessories			
Other Misc. Assets			
Pre-operative & Preliminary Expenses			
Provision for Contingencies			
Total Capital Cost of Project			
Margin Money for Working Capital			
Total Cost of Project			
MEANS OF FINANCE			
Equity Share Capital			
Others - Preference Share Capital			
Total Equity Share Capital			
Long/Medium Term Borrowings			
FROM BANK			
From Other Financial Institutions			
Total Long/Medium Term Borrowings			
Total Means of Finance			

Active Pharma Ingredients (API)

ANNEXURE - 2
PROFITABILITY AND NET CASH ACCRUALS

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Revenue/Income/Realisation					
Gross Sales Realisation					
Less : Excise Duties/Levies					
Net Sales Realisation					
Total Revenue/Income/Realisation					
Expenses/Cost of Products/Services/Items					
Raw Material Cost					
Indigenous					
Total Nett Consumption					
Lab & ETP Chemical Cost					
Packing Material Cost					
Sub Total of Net Consumption					
Miscellaneous Cost					
Employees Expenses					
Fuel Expenses					
Power/Electricity Expenses					
Depreciation					
Royalty & Other Charges					
Repairs & Maintenance Exp.					
Other Mfg. Expenses					

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Active Pharma Ingredients (API)

ANNEXURE - 2
PROFITABILITY AND NET CASH ACCRUALS

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Cost of Output of Goods Sold					
Gross Profit					
Administration Expenses					
Technical Knowhow Fees & Exp.					
Financial Charges					
Long/Medium Term Borrowing					
On Wkg. Capital Borrowings					
Total Financial Charges					
Selling Expenses					
Total Cost of Sales					
Net Profit Before Taxes					
Tax on Profit					
Net Profit After Taxes					
Depreciation Added Back					
Technical Knowhow Fees & Exp.					
Net Cash Accruals					

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Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 3

ASSESSMENT OF WORKING CAPITAL REQUIREMENTS

(Rs. in Lakhs)

Particulars	Stk.Prd.	Stk.Prd.	Operating Years				
	1st Year	2nd Yr&+	1-2	2-3	3-4	4-5	5-6
Capacity							
CURRENT ASSETS							
Stocks on Hand							
Raw Material Cost							
Indigenous							
Lab & ETP Chemical							
Packing Material							
Miscellaneous Cost							
Work-in-Process							
Finished Goods							
Current Expenses							
Receivables							
Total							
Cash/Bank Balances							
Gross Wkg. Capital							

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Active Pharma Ingredients (API)

ANNEXURE - 3

[NPCS/5515/24212]

ASSESSMENT OF WORKING CAPITAL REQUIREMENTS

(Rs. in Lakhs)

Particulars	Stk.Prd.	Stk.Prd.	Operating Years				
	1st Year	2nd Yr&+	1-2	2-3	3-4	4-5	5-6
Capacity							
CURRENT LIABILITIES							
Sundry Creditors - Raw Material Cost							
Indigenous							
Lab & ETP Chemical							
Packing Material							
Miscellaneous Cost							
Current Expenses							
Other Current Liabilities							
Total							
Instalments Due Within Next 12 Months: Term Borrowings							
Total Current Liabilities							
Net Wkg.Capital(Tot.CA - Tot.CL)							
M.P.B.F. -Method I							
As Per Tandon Com.Norm-Method II - Permissible Finance - D.P.(%age)							
Work in Process %	0.65	DP					
Finished Goods %	0.70	DP					
Total Bank Finance(DP Method)							
Bank Finance(Turnover Method)							
Bank Finance : As per DP Method							
Margin Money : (At Commencement)							
Margin Money:(incl.Cash/Bk. Bal)							
% Margin Money - Net Wkg.Capital							
Current Ratio (No. of times)							

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Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 3

Working note for calculation of Work-in-process

Description of Product	% assumed for WIP Completion	Rate per unit in USD	Equivalent (%) Rate per unit in USD
For Metformin - Dicyanodiamide			
Dimethylammonium Chloride			
For Amoxicillin - Methylene chloride			
XXXXXXXXXXXX XXXXX			
XXXXXX XXXXXXXX			
XXXXXXXXXXXX XXXXX			
XXXX XXXXX			
XXXXXXXXXX			
XXXXXXXXXXXX XXXXXXXX			
NaCl (Sodium Chloride)			
For Ibuprofen - Isobutyl XXXXXXXX			
XXXXXX			
XXXXXX XXXXX			
Toluene			
XXXX XXX XXXX			
XXXX			
Methyl XXXXXXXX			
For Paracetamol - p-nitrophenol			
XXXXXXXXXX			
XXX XXXXX XXXXX			

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Methanol	[REDACTED]		
XXXXXX XXXXXXXX	[REDACTED]		

Active Pharma Ingredients (API)

ANNEXURE - 3

Working note for calculation of Work-in-process

Description of Product	% assumed for WIP Completion	Rate per unit in USD	Equivalent (%) Rate per unit in USD
Printed Packing Strips (include XXX Film, XXXXXXXXXXXXXXX XXXXX Adhesives) each Strips App. Wt. XXX gms XXXX			
Lab Chemicals Cost			
Consumable Store			
Total			

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Active Pharma Ingredients (API)

ANNEXURE - 4

[NPCS/5515/24212]

SOURCES AND DISPOSITION OF FUNDS

(Rs. in Lakhs)

Particulars	Constr. Period	Operating Years				
		1-2	2-3	3-4	4-5	5-6
SOURCES OF FUNDS						
Net Profit Before Tax with Interest Charges Added Back but after Depreciation Provision						
Equity Share Capital						
Depreciation						
Incr.in Long/Medium Term Proposed-FROM BANK						
Incr.in Bank Borrowing for Working Capital						
Incr.in Cur.Liabilities						
Technical Knowhow Fees & Exp.						
Total Sources of Fund						
DISPOSITIONS OF FUNDS						
P & P Expenses						
Technical Knowhow Fees						
Incr.in Capital Expense						
Incr.in Current Assets						
Decr.in Long/Medium Term Proposed-FROM BANK						
Interest/Financial Exp.						
Taxes on Profit						
Total Disposition						
Opening Balance						
Net Surplus / Deficit						
Closing Balance						

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Active Pharma Ingredients (API)

ANNEXURE - 5
PROJECTED BALANCE SHEETS

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Equity Share Capital					
Surplus of Previous Year					
Add : Net Profit After Taxes					
Surplus at the End of Year					
Unsecured Deposits					
Long/Medium Term Borrowings Proposed-FROM BANK					
Bank Borrowing for Wkg. Capital					
Current Liabilities					
Sundry Creditors					
Other Current Liabilities					
Total Current Liabilities					
Total of Liabilities					

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Active Pharma Ingredients (API)

**ANNEXURE - 5
PROJECTED BALANCE SHEETS**

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
A S S E T S					
Fixed Assets					
Gross Block					
Less : Depreciation to Date					
Net Block					
Current Assets					
Stocks on Hand					
Receivables					
Other Current Assets					
Cash and Bank Balances					
Total Current Assets					
P & P Exp. and/or Other Dvp.Exp. (To The Extent Not W/Off)					
Other Non Current Assets					
Total of Assets					
ROI (Average of Fixed Assets)					
RONW (Average of Share Capital)					
ROI (Average of Total Assets)					

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Active Pharma Ingredients (API)

ANNEXURE - 6

[NPCS/5515/24212]

PROFITABILITY RATIOS, DSCR, DEBT EQUITY, ETC.

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Profit Percentages to Net Sales					
Gross Profit					
% Of G.P. to Net Sales					
Net Profit Before Taxes					
% of N.P.B.T. To Net Sales					
Net Profit After Taxes					
% of N.P.A.T. To Net Sales					
Debt Service Coverage Ratio					
Funds Available to Service Debts					
Net Profit After Taxes					
Depreciation Charges					
Technical Knowhow Fees & Exp					
Interest on Long/Medium Term					
T o t a l					
Debt Service Obligations					
Repayment of Long/Medium Ter					
Interest on Long/Medium Term					
T o t a l					
D. S. C. R. (Individual)					
D. S. C. R. (Cumulative)					
D. S. C. R. (Overall)					
Parameters					
Initial Equity Capital					
Credit Balance in P & L					
Total Capital excl Unsec Deposits					
Unsecured Dep.					
Total Equity incl Unsecured Deposits					

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Active Pharma Ingredients (API)

ANNEXURE - 6

[NPCS/5515/24212]

PROFITABILITY RATIOS, DSCR, DEBT EQUITY, ETC.

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Long/Medium Term Borrowings from Bank					
Term lia. Incl Unsecured Deposit					
Total Liabilities					
Total Liabilities incl Unsecured Deposits					
DEBT EQUITY RATIO considering i.e.Total Term Lia./NW					
Unsecured Dep. as Equity					
Unsecured Dep. as Debt					
Total Outside Lia./NW					
Assets Turnover Ratio (x)					
No. of Shares of 10.00 each					
Earnings Per Share(EPS) (in USD)					
Proposed dividend					
Cash EPS (in USD)					
Dividend Per Share(DPS) (in USD)					
Payout Ratio (%Age)					
Retained Earnings/Share (in USD)					
Retained Earnings (%Age)					
Book Value Per Share (in USD)					
Debt Per Share (in USD)					
Probable Mkt.Price/Share(in USD)					
Price / Book Value (x)					
Price Earnings Ratio (x)					
Yield (%Age)					

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Active Pharma Ingredients (API)

**ANNEXURE - 7
BREAK EVEN ANALYSIS**

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Ratio	Operating Years				
		1-2	2-3	3-4	4-5	5-6
BREAK EVEN ANALYSIS						
Total Value of Output						
Variable Cost & Expenses						
Raw Material Cost						
Lab & ETP Chemical Cost						
Packing Material Cost						
Sales Commission/Exp.						
Sub-total						
Less:W.I.P. Adjustments						
Total Variable Cost						
Net Contribution						
Profit Volume Ratio (%)						
Semi-Var./Semi-Fixed Exp.						
Miscellaneous Cost						
Employees Expenses						
Power/Electricity Expen						
Fuel Expenses						
Royalty & Other Charges						

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Active Pharma Ingredients (API)

**ANNEXURE - 7
BREAK EVEN ANALYSIS**

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Ratio	Operating Years				
		1-2	2-3	3-4	4-5	5-6
Repairs & Maintenance E						
Other Mfg. Expenses						
Administration Expenses						
Selling Expenses						
Interest on Wkg. Capital						
Tot. Semi-Var./Fixed Exp.						
Fixed Expenses / Cost						
Miscellaneous Cost						
Employees Expenses						
Power/Electricity Expen						
Fuel Expenses						
Royalty & Other Charges						
Repairs & Maintenance E						
Other Mfg. Expenses						
Administration Expenses						
Selling Expenses						
Intrest-Fixed Borrowing						
Intrest-Working Capital						
Depreciation Charges						

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Active Pharma Ingredients (API)

ANNEXURE - 7
BREAK EVEN ANALYSIS

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Ratio	Operating Years				
		1-2	2-3	3-4	4-5	5-6
Deferred Expenses W/Off						
Total Fixed Expenses						
Tot.Fixed/Semi-Fixed Exp						
Tot.Cash Fixed/SemiFixed						
Cash Break Even Sales						
Cash Margin of Safety						
Break Even Sales						
Margin of safety						
At Maximum Utilisation :	Year					
(as % of Installed Capacity)						
Cash B.E.P. :	%					
B.E.P. :	%					

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Active Pharma Ingredients (API)

ANNEXURE - 8
SENSITIVITY ANALYSIS - I

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
INCREASE IN SALES PRICES :: By 2.00 %					
Resultant - Sale Value(Sales)					
Resultant - Gross Profit					
Resultant - N.P.B.T.					
Resultant - Tax on Profit					
Resultant - N.P.A.T.					
Resultant - Funds available					
As such - Debt Obligations					
Resultant - DSCR (Individual)					
Resultant - DSCR (Cumulative)					
Resultant - DSCR (Overall)
Resultant - Sale Value(Output)					
As such - Variable Cost					
Resultant - Nett Contribution					
Resultant - PV Ratio (%age)					
Resultant - Cash BEP Sales					
Resultant - Cash Margin of Safety					
Resultant - BEP Sales					
Resultant - Margin of safety					
Resultant - Cash BEP % (Yr. 5)	

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Active Pharma Ingredients (API)

ANNEXURE - 8
SENSITIVITY ANALYSIS - I

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Resultant - BEP %age (Yr. 5)	
Resultant - DEBT EQUITY RATIO					
- Unsecured Dep. as Equity					
- Unsecured Dep. as Debt					
Resultant - ROI (%age) (Based on Fixed Assets)					
Resultant - RONW (%age)					
DECREASE IN SALES PRICES ::: By 2.00 %					
Resultant - Sale Value(Sales)					
Resultant - Gross Profit					
Resultant - N.P.B.T.					
Resultant - Tax on Profit					
Resultant - N.P.A.T.					
Resultant - Funds Available					
As such - Debt Obligations					
Resultant - DSCR (Individual)					
Resultant - DSCR (Cumulative)					
Resultant - DSCR (Overall)

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Active Pharma Ingredients (API)

ANNEXURE - 8
SENSITIVITY ANALYSIS - I

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Resultant - Sale Value(Output)					
As such - Variable Cost					
Resultant - Nett Contribution					
Resultant - PV Ratio (%age)					
Resultant - Cash BEP Sales					
Resultant - BEP Sales					
Resultant - Cash Margin of Safety					
Resultant - Margin of Safety					
Resultant - Cash BEP % (Yr. 5)	
Resultant - BEP %age (Yr. 5)	
Resultant - DEBT EQUITY RATIO					
- Unsecured Dep. as Equity					
- Unsecured Dep. as Debt					
Resultant - ROI (%age)					
Resultant - RONW (%age)					

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Active Pharma Ingredients (API)

ANNEXURE - 9
SENSITIVITY ANALYSIS - II

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
INCREASE IN SALES PRICES :: By 5.00 %					
Resultant - Sale Value(Sales)					
Resultant - Gross Profit					
Resultant - N.P.B.T.					
Resultant - Tax on Profit					
Resultant - N.P.A.T.					
Resultant - Funds available					
As such - Debt Obligations					
Resultant - DSCR (Individual)					
Resultant - DSCR (Cumulative)					
Resultant - DSCR (Overall)
Resultant - Sale Value(Output)					
As such - Variable Cost					
Resultant - Nett Contribution					
Resultant - PV Ratio (%age)					
Resultant - Cash BEP Sales					
Resultant - BEP Sales					
Resultant - Cash Margin of Safety					
Resultant - Margin of Safety					
Resultant - Cash BEP % (Yr. 5)	

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Active Pharma Ingredients (API)

ANNEXURE - 9
SENSITIVITY ANALYSIS - II

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Resultant - BEP %age (Yr. 5)	
Resultant - DEBT EQUITY RATIO					
- Unsecured Dep. as Equity					
- Unsecured Dep. as Debt					
Resultant - ROI (%age)					
Resultant - RONW (%age)					
DECREASE IN SALES PRICES ::: By 5.00 %					
Resultant - Sale Value(Sales)					
Resultant - Gross Profit					
Resultant - N.P.B.T.					
Resultant - Tax on Profit					
Resultant - N.P.A.T.					
Resultant - Funds Available					
As such - Debt Obligations					
Resultant - DSCR (Individual)					
Resultant - DSCR (Cumulative)					
Resultant - DSCR (Overall)

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Active Pharma Ingredients (API)

ANNEXURE - 9
SENSITIVITY ANALYSIS - II

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Resultant - Sale Value(Output)					
As such - Variable Cost					
Resultant - Nett Contribution					
Resultant - PV Ratio (%age)					
Resultant - Cash BEP Sales					
Resultant - BEP Sales					
Resultant - Cash Margin of Safety					
Resultant - Margin of Safety					
Resultant - Cash BEP % (Yr. 5)	
Resultant - BEP %age (Yr. 5)	
Resultant - DEBT EQUITY RATIO					
- Unsecured Dep. as Equity					
- Unsecured Dep. as Debt					
Resultant - ROI (%age)					
Resultant - RONW (%age)					

Active Pharma Ingredients (API)

ANNEXURE - 10
SENSITIVITY ANALYSIS - III

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
INCREASE IN MAIN MATERIAL PRICES :: By 2.00 %					
Resultant - Main Material Amt					
Resultant - Gross Profit					
Resultant - N.P.B.T.					
Resultant - Tax on Profit					
Resultant - N.P.A.T.					
Resultant - Funds available					
As such - Debt Obligations					
Resultant - DSCR (Individual)					
Resultant - DSCR (cumulative)					
Resultant - DSCR (overall)
As such - Sale Value(Output)					
Resultant - Variable Cost					
Resultant - Nett Contribution					
Resultant - PV Ratio (%age)					
Resultant - Cash BEP Sales					
Resultant - BEP Sales					
Resultant - Cash Margin of Safety					

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Active Pharma Ingredients (API)

ANNEXURE - 10
SENSITIVITY ANALYSIS - III

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Resultant - Margin of Safety					
Resultant - Cash BEP % (Yr. 5)	
Resultant - BEP %age (Yr. 5)	
Resultant - DEBT EQUITY RATIO					
- Unsecured Dep. as Equity					
- Unsecured Dep. as Debt					
Resultant - ROI (%age)					
Resultant - RONW (%age)					
DECREASE IN MAIN MATERIAL PRICES ::: By 2.00 %					
Resultant - Main Material Amt					
Resultant - Gross Profit					
Resultant - N.P.B.T.					
Resultant - Tax on Profit					
Resultant - N.P.A.T.					
Resultant - Funds available					
As such - Debt Obligations					
Resultant - DSCR (Individual)					

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Active Pharma Ingredients (API)

ANNEXURE - 10
SENSITIVITY ANALYSIS - III

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Resultant - DSCR (cumulative)					
Resultant - DSCR (overall)
As such - Sale Value(Output)					
Resultant - Variable Cost					
Resultant - Nett Contribution					
Resultant - PV Ratio (%age)					
Resultant - Cash BEP Sales					
Resultant - BEP Sales					
Resultant - Cash Margin of Safety					
Resultant - Margin of Safety					
Resultant - Cash BEP % (Yr. 5)	
Resultant - BEP %age (Yr. 5)	
Resultant - DEBT EQUITY RATIO					
- Unsecured Dep. as Equity					
- Unsecured Dep. as Debt					
Resultant - ROI (%age)					
Resultant - RONW (%age)					

Prepared by "Niir Project Consultancy Services"

Active Pharma Ingredients (API)

ANNEXURE - 11
SENSITIVITY ANALYSIS - IV

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
INCREASE IN MAIN MATERIAL PRICES :: By 5.00 %					
Resultant - Main Material Amt					
Resultant - Gross Profit					
Resultant - N.P.B.T.					
Resultant - Tax on Profit					
Resultant - N.P.A.T.					
Resultant - Funds available					
As such - Debt Obligations					
Resultant - DSCR (Individual)					
Resultant - DSCR (Cumulative)					
Resultant - DSCR (Overall)					
As such - Sale Value(Output)					
Resultant - Variable Cost					
Resultant - Nett Contribution					
Resultant - PV Ratio (%age)					
Resultant - Cash BEP Sales					
Resultant - BEP Sales					

Prepared by "Niir Project Consultancy Services"

Active Pharma Ingredients (API)

ANNEXURE - 11
SENSITIVITY ANALYSIS - IV

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Resultant - Cash Margin of Safety					
Resultant - Margin of Safety					
Resultant - Cash BEP % (Yr. 5)	
Resultant - BEP %age (Yr. 5)	
Resultant - DEBT EQUITY RATIO					
- Unsecured Dep. as Equity					
- Unsecured Dep. as Debt					
Resultant - ROI (%age)					
Resultant - RONW (%age)					
DECREASE IN MAIN MATERIAL PRICES ::: By 5.00 %					
Resultant - Main Material Amt					
Resultant - Gross Profit					
Resultant - N.P.B.T.					
Resultant - Tax on Profit					
Resultant - N.P.A.T.					
Resultant - Funds Available					
As such - Debt Obligations					

Prepared by "Niir Project Consultancy Services"

Active Pharma Ingredients (API)

ANNEXURE - 11
SENSITIVITY ANALYSIS - IV

[NPCS/5515/24212]

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Resultant - DSCR (Individual)					
Resultant - DSCR (Cumulative)					
Resultant - DSCR (overall)
As such - Sale Value(Output)					
Resultant - Variable Cost					
Resultant - Nett Contribution					
Resultant - PV Ratio (%age)					
Resultant - Cash BEP Sales					
Resultant - BEP Sales					
Resultant - Cash Margin of Safety					
Resultant - Margin of Safety					
Resultant - Cash BEP % (Yr. 5)	
Resultant - BEP %age (Yr. 5)	
Resultant - DEBT EQUITY RATIO					
- Unsecured Dep. as Equity					
- Unsecured Dep. as Debt					
Resultant - ROI (%age)					
Resultant - RONW (%age)					

Prepared by "Niir Project Consultancy Services"

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 12

SHAREHOLDING PATTERN AND STAKE STATUS

(Rs. in Lakhs)

Shares	Face Value USD/ Share	Share Capital				
30098	10.00	300.98				
Particulars	Existing %age	Existing	Proposed %age	Proposed	Total %age	Total
Capital						
Share Premium						
Total						

Prepared by "Niir Project Consultancy Services"

Active Pharma Ingredients (API)

ANNEXURE - 13

[NPCS/5515/24212]

QUANTITATIVE DETAILS OF OUTPUT, SALES AND STOCKS

Particulars	UOM	Operating Years				
		1 - 2	2 - 3	3 - 4	4 - 5	5 - 6
Determined Capacity P.A of Products/Services	.					
Metformin (xxx mg & xxx mg)	Kgs					
Amoxicillin (xxx mg)	Kgs					
Ibuprofen (xxx mg)	Kgs					
Paracetamol (xxx mg)	Kgs					
Achievable Efficiency/Yield % of Products/Services/Items						
Metformin (xxx mg & xxx mg)	%					
Amoxicillin (xxx mg)	%					
Ibuprofen (xxx mg)	%					
Paracetamol (xxx mg)	%					
Net Usable Load/Capacity of Products/Services/Items						
Metformin (xxx mg & xxx mg)	Kgs					
Amoxicillin (xxx mg)	Kgs					
Ibuprofen (xxx mg)	Kgs					
Paracetamol (xxx mg)	Kgs					
No of Shifts Wkg./Day						
No of Working Days/Year						

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Active Pharma Ingredients (API)

ANNEXURE - 13

[NPCS/5515/24212]

QUANTITATIVE DETAILS OF OUTPUT, SALES AND STOCKS

Particulars	UOM	Operating Years				
		1 - 2	2 - 3	3 - 4	4 - 5	5 - 6
Expected Usage/Utilisation of Achievable Load/Capacity (%)						
Metformin (xxx mg & xxx mg)	%					
Amoxicillin (xxx mg)	%					
Ibuprofen (xxx mg)	%					
Paracetamol (xxx mg)	%					
Expected Usage/Output						
Metformin (xxx mg & xxx mg)	Kgs					
Amoxicillin (xxx mg)	Kgs					
Ibuprofen (xxx mg)	Kgs					
Paracetamol (xxx mg)	Kgs					
Total						
Expected Sales/ Revenue/ Income of Products/ Services/ Items						
Metformin (xxx mg & xxx mg)	Kgs					
Amoxicillin (xxx mg)	Kgs					
Ibuprofen (xxx mg)	Kgs					
Paracetamol (xxx mg)	Kgs					

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Active Pharma Ingredients (API)

ANNEXURE - 14

[NPCS/5515/24212]

PRODUCT-WISE DOMESTIC SALES REALISATION

(Rs. in Lakhs)

Operating Year	UOM	Quantity	Rate	Sales
Description of Product				
1-2				
Metformin (xxx mg & xxx mg)	Kgs			
Amoxicillin (xxx mg)	Kgs			
Ibuprofen (xxx mg)	Kgs			
Paracetamol (xxx mg)	Kgs			
Year Totals ::				
2-3				
Metformin (xxx mg & xxx mg)	Kgs			
Amoxicillin (xxx mg)	Kgs			
Ibuprofen (xxx mg)	Kgs			
Paracetamol (xxx mg)	Kgs			
Year Totals ::				
3-4				
Metformin (xxx mg & xxx mg)	Kgs			
Amoxicillin (xxx mg)	Kgs			
Ibuprofen (xxx mg)	Kgs			
Paracetamol (xxx mg)	Kgs			
Year Totals ::				
4-5				
Metformin (xxx mg & xxx mg)	Kgs			
Amoxicillin (xxx mg)	Kgs			
Ibuprofen (xxx mg)	Kgs			
Paracetamol (xxx mg)	Kgs			
Year Totals ::				
5-6				
Metformin (xxx mg & xxx mg)	Kgs			
Amoxicillin (xxx mg)	Kgs			
Ibuprofen (xxx mg)	Kgs			
Paracetamol (xxx mg)	Kgs			
Year Totals ::				

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Active Pharma Ingredients (API)

ANNEXURE - 15

[NPCS/5515/24212]

TOTAL RAW MATERIAL COST

(Rs. in Lakhs)

Operating Year / Description of Product	UOM	Output Quantity	Adj. for WIP Stks	Total Quantity	Cost Per Unit	Material Type I	Material Type II	Total
1-2								
Metformin (xxx mg & xxx mg)	Kgs							
Amoxicillin (xxx mg)	Kgs							
Ibuprofen (xxx mg)	Kgs							
Paracetamol (xxx mg)	Kgs							
Total Raw Mat.Requirement								
2-3								
Metformin (xxx mg & xxx mg)	Kgs							
Amoxicillin (xxx mg)	Kgs							
Ibuprofen (xxx mg)	Kgs							
Paracetamol (xxx mg)	Kgs							
Total Raw Mat.Requirement								
3-4								
Metformin (xxx mg & xxx mg)	Kgs							
Amoxicillin (xxx mg)	Kgs							
Ibuprofen (xxx mg)	Kgs							
Paracetamol (xxx mg)	Kgs							
Total Raw Mat.Requirement								
4-5								
Metformin (xxx mg & xxx mg)	Kgs							

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Active Pharma Ingredients (API)

ANNEXURE - 15

[NPCS/5515/24212]

TOTAL RAW MATERIAL COST

(Rs. in Lakhs)

Operating Year / Description of Product	UOM	Output Quantity	Adj. for WIP Stks	Total Quantity	Cost Per Unit	Material Type I	Material Type II	Total
Amoxicillin (xxx mg)	Kgs							
Ibuprofen (xxx mg)	Kgs							
Paracetamol (xxx mg)	Kgs							
Total Raw Mat.Requirement								
5-6								
Metformin (xxx mg & xxx mg)	Kgs							
Amoxicillin (xxx mg)	Kgs							
Ibuprofen (xxx mg)	Kgs							
Paracetamol (xxx mg)	Kgs							
Total Raw Mat.Requirement								

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 16

RAW MATERIAL COST PER UNIT

(Amount in Rs.)

Description of Product / Description of Raw-Material	UOM	Qty.Per Batch	Losses %age	Total Quantity	Rate Per Unit	Total	Batch Qty of Output	Amount Per Unit
Active Pharma Ingredients (API)								
For Metformin - Dicyanodiamide	Kgs							
Dimethylammonium Chloride	Kgs							
For Amoxicillin - Methylene chloride	Kgs							
XXXXXXXXXX XXXXX	Kgs							
XXXXXX XXXXXXXX	Kgs							
XXXXXXXXXXXXXXX XXXXX	Kgs							
XXXX XXXXX	Kgs							
XXXXXXX	Kgs							
XXXXXXXXXXXXXXX XXXXXXX	Kgs							
NaCl (Sodium Chloride)	Kgs							
For Ibuprofen - Isobytyl XXXXXXXX	Kgs							
XXXXXX	Kgs							
XXXXX XXXXX	Kgs							
Toluene	Kgs							
XXXX XXX XXXX	Kgs							
XXXX	Kgs							
Methyl XXXXXXXX	Kgs							
For Paracetamol - p-nitrophenol	Kgs							
XXXXXXXX	Kgs							
XXX XXXXX XXXXX	Kgs							

Active Pharma Ingredients (API)

Methanol	Kgs						
XXXXXX XXXXXXX	Kgs						
Sub Totals							
Add Loss/Wastage @ 0.00%	0.00%					-	
Totals (Indigenous)							

Active Pharma Ingredients (API)

ANNEXURE - 17

[NPCS/5515/24212]

TOTAL LAB & ETP CHEMICALS COST

(Rs. in Lakhs)

Operating Year / Description of Product	UOM	Output Quantity	Adj. for WIP Stks	Total Quantity	Cost Per Unit	Total
1-2						
Lab Chemicals Cost						
Year Total::						
2-3						
Lab Chemicals Cost						
Year Total::						
3-4						
Lab Chemicals Cost						
Year Total::						
4-5						
Lab Chemicals Cost						
Year Total::						
5-6						
Lab Chemicals Cost						
Year Total::						

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Active Pharma Ingredients (API)

ANNEXURE - 18

[NPCS/5515/24212]

CONSUMABLES, STORES AND SPARES EXPENSES

(Rs. in Lakhs)

Operating Year / Description of Product	UOM	Output Quantity	Adj. for WIP Stks	Total Quantity	Cost Per Unit	Total
1-2						
Consumable Store						
Year Total::						
2-3						
Consumable Store						
Year Total::						
3-4						
Consumable Store						
Year Total::						
4-5						
Consumable Store						
Year Total::						
5-6						
Consumable Store						
Year Total::						

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Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 19
TOTAL PACKING MATERIAL COST

(Rs. in Lakhs)

Operating Year / Description of Product	UOM	Output Quantity	Adj. for WIP Stks	Total Quantity	Cost Per Unit	Total
1-2						
Active Pharma Ingredients (API)	Kgs					
Year Total::						
2-3						
Active Pharma Ingredients (API)	Kgs					
Year Total::						
3-4						
Active Pharma Ingredients (API)	Kgs					
Year Total::						
4-5						
Active Pharma Ingredients (API)	Kgs					
Year Total::						
5-6						
Active Pharma Ingredients (API)	Kgs					
Year Total::						

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 20

PACKING MATERIAL COST PER UNIT

(Amount in Rs.)

Description of Product / Description of Packing Material	UOM	Qty.Per Batch	Losses %age	Total Quantity	Rate Per Unit	Total	Batch Qty of Output	Amount Per Unit
Active Pharma Ingredients (API)								
Printed Packing Strips (include XXX Film, XXXXXXXXXXXXXXX XXXXX Adhesives) each Strips App. Wt. XXX gms XXXX	Kgs							
Sub Total								
Add Loss/Wastage @ 0.00 %								
Product Total								

Active Pharma Ingredients (API)

ANNEXURE - 21
EMPLOYEES EXPENSES

[NPCS/5515/24212]

(Rs. in Lakhs)

Placement / Designation	Dept./ Category	Starting Year	Starting Month	No.of Persons	Pay Per Month	Total Per Annum
Factory Personnel						
As Applicable from Year 1						
General Manager						
AGM (Comm.)						
Production, Engineering & Quality Control Manager						
Chemical Engineers						
Quality Control Supervisors						
Production Supervisors						
Skilled Workers						
Electricians						
Fitters						
Unskilled Workers						
Accountant						
Computer Operators						
Office Staffs						
Sales Executives						
Store Keeper						
Peons						
Security Officer						

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Active Pharma Ingredients (API)

ANNEXURE - 21
EMPLOYEES EXPENSES

[NPCS/5515/24212]

(Rs. in Lakhs)

Placement / Designation	Dept./ Category	Starting Year	Starting Month	No.of Persons	Pay Per Month	Total Per Annum
Security Guards						
TOTAL						
Welfare Expenses						
Year Total						
Total (Factory)						
Grand Total						

EMPLOYEES EXPENSES

Operating Year	%age Increase	Total
1-2		463.68
2-3	10.00	510.05
3-4	10.00	561.05
4-5	10.00	617.16
5-6	10.00	678.87

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Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 22 FUEL EXPENSES

(Rs. in Lakhs)

Operating Year	%age Increase	Total
1-2		8.64
2-3		
3-4		
4-5		
5-6		

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 23

POWER/ELECTRICITY EXPENSES

(Rs. in Lakhs)

Operating Year	%age Increase	Total
1-2		52.34
2-3		
3-4		
4-5		
5-6		

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 24

ROYALTY AND OTHER CHARGES

(Rs. in Lakhs)

Operating Year	%age Increase	Total
1-2		2.00
2-3		
3-4		
4-5		
5-6		

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 25

REPAIRS AND MAINTENANCE EXPENSES

(Rs. in Lakhs)

Particulars	%age to Assets Value	Total
Buildings		
-Factory Building		
-Office Building		
Plant & Machineries		
-Imported Machineries		
-Indigenous Machineries		
-Maintenance Equipments		
-Laboratory Equipments		
-Miscellaneous Machines		
-Foundation, Installati		
-Motor Vehicles		
-Office Automation Equi		
-Furniture & Fixtures		
TOTAL		

Operating Year	% Increase	Total
1-2		
2-3		
3-4		
4-5		
5-6		

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 26

OTHER MANUFACTURING EXPENSES

(Rs. in Lakhs)

Particulars	Total
Insurance Professional fees	
Water Exp.	
Total	

Operating Year	% Increase	Total
1-2		
2-3		
3-4		
4-5		
5-6		

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 27

ADMINISTRATIVE AND GENERAL EXPENSES

(Rs. in Lakhs)

Particulars	Total
Administration Expense	
Stationery Exp., Telephone, Postage	
Repairs and Maintenance	
Internet Expenses	
Conveyance Exp.	
Publicity Exp.	
Total	

Operating Year	% Increase	Total	Misc	Total
1-2				
2-3				
3-4				
4-5				
5-6				

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 28

SELLING AND DISTRIBUTION EXPENSES

(Rs. in Lakhs)

Operating Year	% Increase	Total
1-2		1.00
2-3		
3-4		
4-5		
5-6		

Active Pharma Ingredients (API)

ANNEXURE - 29

[NPCS/5515/24212]

DEPRECIATION CHARGES AS PER BOOKS (TOTAL)

(Rs. in Lakhs)

Operating Year	F.Assets Type A-1	F.Assets Type A-2	F.Assets Type B	F.Assets Type C	F.Assets Type D-1	F.Assets Type D-2	Total
Particulars	Factory Building -	Office Buildings	PLANT & MACHINERY	Office Vehicles	Office Automation Equipments (Telephone/ Fax/ Computer)	Furniture & Fixtures	
1-2							
2-3							
3-4							
4-5							
5-6							

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Active Pharma Ingredients (API)

ANNEXURE - 29

[NPCS/5515/24212]

DEPRECIATION CHARGES AS PER BOOKS (TOTAL)

(Rs. in Lakhs)

Particulars	Method	Deprn.Rate	Part Consideration (for Asset put to use less than 6 months)
Type A :: Buildings			
Factory Building -	WDV		
Office Buildings	WDV		
Type C			
Office Vehicles	WDV		
Type D :: Misc. Fixed Assets			
Equipments (Telephone/ Fax/ Computer)	WDV		
Furniture & Fixtures	WDV		
Type B :: Plant & Machineries	(All calculation are given in Annexure 30)		

Contingencies, Pre-operative Expenses and Capital WIP are capitalised as under (Rs. in Lakhs)

Description	P & P Expenses	Contingencies	Capital WIP	Total
Factory Building -				
Office Buildings				
Total				

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Active Pharma Ingredients (API)

ANNEXURE - 30

[NPCS/5515/24212]

DEPRECIATION CHARGES AS PER BOOKS (P&M)

(Rs. in Lakhs)

Operating Year	F.Assets Type B-1	F.Assets Type B-2	F.Assets Type B-3	F.Assets Type B-4	F.Assets Type B-5	F.Assets Type B-6	Total
PLANT & MACHINERY	Imported Machinerie s	Indigenous Machinerie	Erection & Installation	Laboratory Equipments	Miscellaneous Equipmetns like pumps, valves, pipeline & fittings	Maintenance Equipments	
1-2							
2-3							
3-4							
4-5							
5-6							

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Active Pharma Ingredients (API)

ANNEXURE - 30

[NPCS/5515/24212]

DEPRECIATION CHARGES AS PER BOOKS (P&M)

(Rs. in Lakhs)

Particulars	Method	Dep.Rate	Part Consideration, if any
Imported Machineries	WDV		
Indigenous Machineries	WDV		
Erection & Installation	WDV		
Laboratory Equipments	WDV		
Miscellaneous Equipmetns like pumps, valves, pipeline & fittings	WDV		
Maintenance Equipments	WDV		

Contingencies, Pre-operative Expenses and Capital WIP are capitalised as under

(Rs. in Lakhs)

Description	P & P Expenses	Contingencies	Capital WIP	Total
Imported Machineries				
Indigenous Machineries				
Erection & Installation				
Laboratory Equipments				
Miscellaneous Equipmetns like pumps, valves, pipeline & fittings				
Maintenance Equipments				
Total				

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Active Pharma Ingredients (API)

ANNEXURE - 31

[NPCS/5515/24212]

DEPRECIATION CHARGES AS PER INCOME TAX ACT (WDV) (TOTAL)

(Rs. in Lakhs)

Operating Year	F.Assets Type A-1	F.Assets Type A-2	F.Assets Type B	F.Assets Type C	F.Assets Type D-1	F.Assets Type D-2	Total
Particulars	Factory Building -	Office Buildings	PLANT & MACHINERY	Office Vehicles	Office Automation Equipments (Telephone/ Fax/ Computer)	Furniture & Fixtures	
1-2							
2-3							
3-4							
4-5							
5-6							

Depreciation hereinabove is calculated as per WDV at rates prescribed under I.T.Act

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Active Pharma Ingredients (API)

ANNEXURE - 31

[NPCS/5515/24212]

DEPRECIATION CHARGES AS PER INCOME TAX ACT (WDV) (TOTAL)

Particulars	Method	Dep.Rate	Part Consideration (for Asset put to use less than 6 months)
Type A :: Buildings			
Factory Building	WDV		
Office Building	WDV		
Type C			
Motor Vehicles	WDV		
Type D :: Misc. Fixed Assets			
Office Automation Equipments	WDV		
Furniture & Fixtures	WDV		

Type B :: Plant & Machineries(All calculation are given in Annexure 32)

Active Pharma Ingredients (API)

ANNEXURE - 32

[NPCS/5515/24212]

DEPRECIATION CHARGES AS PER INCOME TAX ACT(WDV) (P&M)

(Rs. in Lakhs)

Operating Year	F.Assets Type B-1	F.Assets Type B-2	F.Assets Type B-3	F.Assets Type B-4	F.Assets Type B-5	F.Assets Type B-6	Total
PLANT & MACHINERY	Imported Machineries	Indigenous Machineries	Erection & Installation	Laboratory Equipments	Miscellaneous Equipmetns like pumps, valves, pipeline & fittings	Maintenance Equipments	
1-2							
2-3							
3-4							
4-5							
5-6							

Depreciation hereinabove is calculated as per WDV at rates prescribed under I.T.Act

(Rs. in Lakhs)

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Active Pharma Ingredients (API)

ANNEXURE - 32

[NPCS/5515/24212]

DEPRECIATION CHARGES AS PER INCOME TAX ACT(WDV) (P&M)

Particulars	Method	Dep.Rate	Part Consideration, if any
Imported Machineries	WDV		
Indigenous Machineries	WDV		
Maintenance Equipments	WDV		
Laboratory Equipments	WDV		
Miscellaneous Equipments	WDV		
Foundation, Installation etc.	WDV		

Active Pharma Ingredients (API)

ANNEXURE - 33

[NPCS/5515/24212]

INTEREST AND REPAYMENT ON TERM LOANS

(Rs. in Lakhs)

A	Name of Institution-Bank		
B	Term Borrowing Amount		Thousand
C	Repayment Term (Years)		Years
D	Repayment Instalments		Instalments
E	Repayment Commencement		
F	Rate of Interest(General)		p.a.
F	Rate of Interest(Initial)		p.a.
G	Apply Gen. Int. Rate from Year		
H	Interest Calculation		

Operating Year	Period Ended	Repayment	Outstanding	Interest
	Quarter Ended			
1-2				
	TOTAL :			
2-3				
	TOTAL :			
3-4				
	TOTAL :			
4-5				
	TOTAL :			
5-6				
	TOTAL :			
Total Loan amount				

Note : Repayment is considered as being made at the end of the period

Active Pharma Ingredients (API)

[NPCS/5515/24212]

ANNEXURE - 34
TAX ON PROFITS

(Rs. in Lakhs)

Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Net Profit Before Taxes					
Adjustments to NPBT					
Add : Depreciation as provided					
Less : Depreciation as per IT					
Recomputed NPBT					
Taxable Profits					
(%)					
Tax on Profits					

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Active Pharma Ingredients (API)

ANNEXURE - 35

[NPCS/5515/24212]

PROJECTED PAY-BACK PERIOD AND IRR

(Rs. in Lakhs)

Particulars	Operating Years					Total
	1-2	2-3	3-4	4-5	5-6	
IN-FLOW of Funds						
Net Profit After Taxes						
Added Back						
Depreciation Charges						
P & P Expenses W/off						
Interest Charges						
Revenue Inflow of Funds						
Residual Value-M/Money						
Total Inflow of Funds						
OUT-FLOW of Funds						
Capital Out-flow of Funds						

(Rs. in Lakhs)

Projected Pay Back Period					
Particulars	Operating Years				
	1-2	2-3	3-4	4-5	5-6
Year	1	2	3	4	5
Initial Investment					
Total Initial Investment					
Yearly Cash Flow					
Accumulated Cash Flow					
Pay Back Period					

Active Pharma Ingredients (API)

ANNEXURE - 35

[NPCS/5515/24212]

PROJECTED PAY-BACK PERIOD AND IRR

(Rs. in Lakhs)

Projected IRR			
Year	CFAT	PV factor @15%	0.15
Initial Investment			
1-2			
2-3			
3-4			
4-5			
5-6			
Total PV			
IRR			

Active Pharma Ingredients (API)

[NPCS/5515/24212]

PROJECT AT A GLANCE

(Rs. in Lakhs)

COST OF PROJECT				MEANS OF FINANCE			
Particulars	Existing	Proposed	Total	Particulars	Existing	Proposed	Total
Land & Site Development Exp.				Capital			
Buildings				Share Premium			
Plant & Machineries				Other Type Share Capital			
Motor Vehicles				Reserves & Surplus			
Office Automation Equipments				Cash Subsidy			
Technical Knowhow Fees & Exp.				Internal Cash Accruals			
Franchise & Other Deposits				Long/Medium Term Borrowings			
Preliminary & Pre-operative Exp				Debentures / Bonds			
Provision for Contingencies				Unsecured Loans/Deposits			
Margin Money - Working Capital							
TOTAL				TOTAL			

Active Pharma Ingredients (API)

PROJECT AT A GLANCE

[NPCS/5515/24212]

Year	Annualised		Book Value	Debt	Dividend	Retained Earnings		Payout	Probable Market Price	P/E Ratio	Yield Price/ Book Value
	EPS	CEPS				Per Share					
	USD	USD	USD	USD	USD	%	USD	%	USD	No.of Times	%
1-2											
2-3											
3-4											
4-5											
5-6											

Year	D. S. C. R.			Debt / - Deposits Debt	Equity as- Equity	Total Net Worth	Return on Net Worth	Profitability Ratio					Assets Turnover Ratio	Current Ratio
	Individual	Cumulative	Overall					GPM	PBT	PAT	Net Contribution	P/V Ratio		
	(Number of times)			(Number of times)	%	%	%	%	%		%			
Initial														
1-2														
2-3														
3-4														
4-5														
5-6														

Active Pharma Ingredients (API)

PROJECT AT A GLANCE

[NPCS/5515/24212]

BEP	
BEP - Maximum Utilisation Year	
Cash BEP (% of Installed Capacity)	
Total BEP (% of Installed Capacity)	
IRR, PAYBACK and FACR	
Internal Rate of Return .. (In %age)	
Payback Period of the Project is (In Years)	
Fixed Assets Coverage Ratio (No. of times)	