

HOW TO SUCCEED IN

Active Pharmaceutical Ingredient

MANUFACTURING

- Know about Active Pharmaceutical Ingredients
- Select Profitable Molecules to Manufacture
- Optimize Your Manufacturing Business

Rasa Bihari Mishra

✓ *More than 101 Active Pharmaceutical Ingredient Molecules for You to Consider for Manufacturing*

HOW TO SUCCEED IN ACTIVE PHARMACEUTICAL INGREDIENT MANUFACTURING

By Rasa Bihari Mishra

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Introduction

You're feeling tired. Your whole body is aching. It seems you don't have any energy left in your body. It looks very surprising. Just before an hour or two you were fine. And within this short period you've become sick. Your body temperature has elevated and entered into the risky zone. Your doctor is serious. The cause may be severe infection. Your blood sample has already been sent to the pathological laboratory. Your doctor is waiting for the report. But now the matter of concern is your body temperature. It's very high. Somehow it's now important to bring down the temperature as fast as possible. Your doctor asked you to take Paracetamol tablet immediately. And you did. Within a short period your body temperature started falling. You no longer feel the chill. You've started sweating.

Your blood report has already come. It's severe bacterial infection. Those dangerous pathogens – the disease causing microorganisms – have invaded your body. And they are multiplying into millions very fast. They are attacking the cells of your body and damaging them. As a result the organs of your body are getting affected badly and not able to function properly. You can feel it. The protective systems in your body are finding it difficult to control the infection.

Without making any delay your doctor gave you the injection of advanced Cephalosporins antibiotics. Once the antibiotics is in your bloodstream, it started acting very fast. It started killing the pathogens in lightening swiftness. Now the multiplications of the pathogens have stopped. The powerful medicine molecules are searching for the pathogens in each and every corner of your body and killing them. The protective systems in your body heaved a sigh of relief. Your natural healing mechanism has taken control and repairing the damaged cells and organs of your body. You are feeling much better. The medicines have saved your life.

What made the real difference? It's the active molecule in your medicines which have done the real job. These molecules are powerful enough to cure you from life threatening diseases.

The Paracetamol molecule is a pain killer having fever reducing capability. It controlled your body temperature and kept it in safe zone. It was necessary before the other medicine does it's job.

The Cephalosporins are capable of killing a wide range of bacterial pathogens. This molecule did the job of killing the pathogens and helping your healing mechanism to take control.

Active Molecules

These molecules make the medicines powerful. No doubt the medicines the doctor prescribes you contain many other ingredients for various functions. But it's those active molecules which do the real job of fighting with the diseases.

That's precisely the reason why we call them Active Pharmaceutical Ingredients.

There're basically two types of Active Pharmaceutical Ingredients.

Small Molecules

Small molecule active pharmaceutical ingredients have low molecular weights. Major percentage of the molecules used in medication are small molecules.

Large Molecules

Large molecule active pharmaceutical ingredients are structurally very complex and have high molecular weights. Most of them are protein based. They're exclusively manufactured by biotechnological processes.

We shall focus on Small Molecules in this ebook.

Medicines are essential for all of us. But unless they're available at affordable prices all of us can't take the advantage of them.

Making Medicines Available at Affordable Prices

Active pharmaceutical ingredients give the medicines their power. That's why the availability and the cost of the medicines depend on the active pharmaceutical ingredients.

In order to make medicines available at affordable prices, it's essential to focus on efficient manufacturing of active pharmaceutical ingredients.

Successful manufacturing of active pharmaceutical ingredients calls for technical expertise and tremendous industrial experience. You need to know all aspects of their manufacturing in order to succeed in this knowledge intensive business.

Knowledge Intensive Industry

Apart from general business knowledge the specific knowledge of manufacturing active pharmaceutical ingredients is necessary.

In fact if you look at the competitive business environment and the technical complexity, the domain knowledge becomes more important.

In order to succeed in a knowledge intensive business like active pharmaceutical ingredients manufacturing you must have a minimum level of knowledge. Why?

Because then only you'll be able to judge what's right and what's wrong. What you should do and what you shouldn't do. In order to run the business successfully you need to take many decisions which are critical.

The business success will depend on the quality of your decisions. And the quality of your decisions will depend on your knowledge. So it makes business sense to invest in useful education.

Once you start focusing on active pharmaceutical ingredient manufacturing you'd like to know the answers to the questions like:

- Why active pharmaceutical ingredients (API) are important?
- How the API work in curing us from the diseases?
- Which API is effective against which disease?
- How the API are manufactured?
- What are the challenges API manufacturing is facing?
- How to minimize the manufacturing cost?
- How to ensure the product quality?

When you start searching for the answers to the critical questions, your learning process gets accelerated. That's what can help you in making the business profitable and sustainable.

This ebook will not only introduce you to the lucrative world of active pharmaceutical ingredients manufacturing but also help you utilize the incredible opportunities it offers.

What'll we cover in this ebook?

To start with we need to know why it's important to manufacture active pharmaceutical ingredients. There must be compelling reasons to get into the manufacturing of active pharmaceutical ingredients. We'll discuss about the details in the first chapter : **The Importance of Manufacturing Active Pharmaceutical Ingredients**

Active pharmaceutical ingredients are powerful enough to cure us from life threatening diseases. So it becomes necessary to know about the different types of diseases.

There're basically two types of diseases. Infectious diseases which are caused by infections. And other diseases which are caused due to

various reasons other than infection. We'll get into those details in the second chapter : **Know about the Diseases**

Now you've got brief idea about the different types of diseases. But the important thing is to know about the medicines

which will cure us from the diseases.

When we talk about the medicines you've to get into the world of active pharmaceutical ingredient molecules. And we'll discuss about the molecules effective against the infectious diseases in the third chapter : **Active Molecules for Infectious Diseases.**

Once you know which active pharmaceutical ingredient molecules are effective against the Infectious diseases, you'd like to know about the molecules effective against the other type of diseases.

Of course these diseases are not caused by the infection. So the molecules are different. We'll get into those details in the fourth chapter : **Active Molecules for Non-Infectious Diseases**

Now it's time to know how the active pharmaceutical ingredients are manufactured. And how to address the difficult challenges and utilize the incredible opportunities. We'll get into those details in the fifth chapter : **How to Manufacture Active Pharmaceutical Ingredients.**

Finally it's important to run the manufacturing business successfully. Why? Because unless you're able to achieve profitability and sustainability, no useful purpose will be served. We'll discuss how to maximize the profitability and achieve sustainable growth in the sixth chapter : **How to Make the Business Profitable and Sustainable**

When you're thinking about getting into the manufacturing of active pharmaceutical ingredients you must know about the active molecules.

More than 101 Active Pharmaceutical Ingredient Molecules to Choose from

Different active molecules are effective against different diseases. There're hundreds of active molecules which have high market demands. It's not possible to mention all of them.

However 101 active pharmaceutical ingredient molecules are mentioned to introduce you to the world of active pharmaceutical ingredients. It's to ignite your thinking process. Once you start getting actively involved everything will change for better.

In fact you can choose the products based on your interest, background, objectives, and the resources available to you. There're hundreds of products not mentioned in the list. That doesn't mean that they're not good or suitable. Any of them can be suitable for you.

It all depends on your situation. So learn as much as you can about the products especially about the opportunities and challenges. You need to match the product related requirements with your objectives and the resources available to you.

Only when you evaluate a wide varieties of active pharmaceutical ingredients molecules you'll be able to select the best one. The product selection is of utmost importance. That'll form a solid foundation for your industrial venture.

Perhaps you can refer to the Project Reports. You can order the Project Reports of the products you're interested in. The Project Reports will provide you with the details you'll need to evaluate their suitability for your requirements.

For more details email us at rbm.innovations@gmail.com with the list of products you're interested in. Also let's know if you want certain aspects to be covered in more details in the Project Reports.

Let's join hands for implementing the powerful techno-commercial tools and developing them further in order to add tremendous value to active pharmaceutical ingredients manufacturing industry. And application oriented knowledge is essential for adding value

Let's start. Enjoy learning.

Email this ebook freely to your friends and the people who can benefit from it.

Secrets of Active Pharmaceutical Ingredients Manufacturing Success

How to achieve Business Success and make Significant Contribution

Are you interested in getting associated with the High Potential Fast Growing Industry having Highest Contribution to the Society?

It's the Pharmaceutical Industry which is offering Incredible Opportunities to Succeed.

You can associate with Pharmaceutical Industry by Manufacturing Active Pharmaceutical Ingredients. Why?

Because the Active Pharmaceutical Ingredients give the power to the Medicines to fight with Life Threatening Diseases.

But it's tough to succeed in this business because of difficult Issues like:

- Manufacturing these Complex Molecules is extremely difficult.
- It's difficult to meet the Stringent Quality System requirements even after investing heavily.
- High Market Fluctuations is making the Manufacturing Difficult.

It calls for Technical Expertise and Tremendous Industrial Experience

If You're Serious about utilizing the Opportunities the Book "Secrets of Active Pharmaceutical Ingredients Manufacturing Success" can guide you at every stage.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

Project Reports

Chemical, Pharmaceutical, and Other Process Industries

Do you know why some Industries are Highly Successful whereas Many others are Struggling?

Isn't it surprising that in spite of tough competition these Industries are not only maximizing the profits but also growing vigorously?

If you study those Industries closely you'll find an Important Difference.

All of them have Selected products based on their Strengths and the Resources Available to them.

You can Match the Products with the Resources Available to You only when You Know the Details. You must know the Product Details, Market, Quality requirements, Raw Materials, Manufacturing Process, Equipments required and so on.

Project Reports can provide you all the Details.

If You are Interested in Selecting the Right Products for Your Industrial Venture Study as many Project Reports as you can.

You can Order the Project Reports of the Products you're Interested In. Project Reports on hundreds of Profitable Products are available. They'll Help You Select the Right Products for Your Enterprise.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

Why to Manufacture API?

When you're suffering from diseases you're not healthy. You're sick. You need medicines to get cured. But what do you mean by the medicines?

Medicines are used to cure us from dangerous diseases. In fact they're effective in prevention, treatment and cure. Do you know what makes the medicines so effective?

Active Pharmaceutical Ingredients

It's the active ingredients, the medicines are formulated with which make all the difference. These molecules fight with the diseases and keep you healthy. Since these active molecules make the pharmaceuticals effective they're called active pharmaceutical ingredients.

Of course they're formulated with other substances to convert them into useful forms like tablets, capsules, injectables and others.

But whatever be the formulations the active pharmaceutical ingredients do the actual job of fighting with the diseases. They're in fact complex molecules having special properties. And that's the reason why they're so effective against the diseases.

No doubt active pharmaceutical ingredients are important to keep us healthy. But when you think of manufacturing them in commercial scale the business aspects become important. And to start with you'd like to know about the market demand. Right?

The Demand is going up day by day

The demand for active pharmaceutical ingredients is going up due to various favorable factors. Let's highlight the major ones.

Health Awareness :

Due to the mass media and education, health awareness is increasing. Regular medical check ups have become common. People want to lead healthy life. It has resulted in increased medicine consumption.

Life Style Diseases :

The modern world has brought stress for all of us. Due to the increased competition the stress levels have gone up. And sedentary lifestyle coupled with increased processed food consumption has resulted in surge of metabolic diseases.

Increased Prosperity :

The income level is going up. Now more and more people are earning sufficient money to afford the medicines. As a result pharmaceuticals consumption is going up.

Medicines have become affordable :

Due to the massive improvements in manufacturing technologies and wide spread entrepreneurship a wide number of medicines have become available at affordable prices. And it has become possible now for all of us to afford the essential medicines.

Now you're sure that there'll be excellent market demand for years to come. Of course the products may change with time. But always there'll be the requirements.

Equally important aspect for any business is the profitability.

The Profitability is More

The profitability of manufacturing active pharmaceutical ingredients have improved a lot due to various factors like:

- New molecules are getting added to the list due to the boost in the generic medicines.
- New developments in science and technology are making it easy to make the complex molecules and helping a lot to cut down the manufacturing costs.
- Value addition is more. You can manufacture high priced products from low cost raw materials.
- The sales turnover to investment is more. It results in reduction in the financial cost and increase in the profit margin.
- When you talk about the active pharmaceutical ingredients demand supply gap is significant. The supply doesn't meet the demand resulting in Increase in the selling prices.
- In active pharmaceutical ingredients manufacturing the possibility of backward and forward integration high. And it results in sustainable business growth.

Essential to Cure Us from Diseases

Active Pharmaceutical Ingredients (API) are essential to cure us from diseases. Can you imagine what would have been the situation if medicines wouldn't have been developed?

It's quite scary. Isn't it. In fact we're fortunate that medicines are available for almost all diseases. Of course when we talk about the medicines we are talking about the active pharmaceutical ingredients.

In fact these powerful molecules are not only curing us from life threatening diseases but also helping us to lead a healthy life.

So you can't ignore the importance of active pharmaceutical ingredients to the modern world.

We shall get into more details on the active pharmaceutical ingredients later. But in order to understand why they're important and how they work, you must know about the diseases.

Let's know more about the diseases in the next chapter...

Email this ebook freely to your friends and the people who can benefit from it.

Integrated Technical Training

Effective Technical Training is Not an Option. It's a Must. Why? Because It's to Avoid:

- Non Compliance of Pollution Control requirements in spite of Huge Investments and High Waste Treatment Costs
- Inferior Product Quality in spite of High Manufacturing Cost
- High Resources Consumption leading to Reduced Profit Margins
- Low Productivity and Production Bottlenecks
- Expensive Operational Mistakes resulting in Huge Losses.

But it's a Difficult Challenge to Address. Why? Because...

- It's Technically Complex. it calls for Technical Expertise and tremendous Industrial Experience.
- It's Not a One Time Work. The Operation must be perfect every time.
- It's Not for a Selected few. It's for All Concerned

Employees Must be Trained so that they can perform their jobs Efficiently. Effective Technical Training is the Only Solution.

Leading Chemical, Pharmaceutical, and Allied Process Industries are Already taking the Advantage of Periodic Technical Training.

Perhaps you can consider our Integrated Technical Training Programs for Efficient Operation of Your Manufacturing Facility

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

Maximizing the Profitability and Achieving Sustainable Growth is the Key to Industrial Success

It's possible only when you address the Industrial Challenges Effectively like:

- Achieving Profit Maximization in spite of High Resources Costs.
- Manufacturing Highest Quality Products at Lowest Cost
- Complying with Stringent Quality System Requirements
- Technological Development to Prepare the Organization for the Future
- Complying with Pollution Control requirements Economically
- Ensuring Safe Industrial Operations
- Achieving Project Success in spite of Difficult Business Constraints

However addressing these Difficult Challenges calls for Technical Expertise and tremendous Industrial Experience.

Leading Chemical, Pharmaceutical, and Allied Process Industries are Already Investing in Technical Innovations to achieve Extraordinary Output from Ordinary Resources.

Perhaps you can consider our End to End Technical Support.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

Know about the Diseases

What are the diseases?

Diseases are the medical conditions which make you unhealthy resulting into sickness. These're abnormal conditions where the internal organs of your body doesn't function properly. In medical sense most of the diseases have their own symptoms and signs.

As far as the diseases are concerned they're basically of two types.

- Infectious Diseases
- Non Infectious Diseases

Let's first get into the details of infectious diseases.

Infectious Diseases

There're various types of diseases and the causes are many. Out of the long list of diseases Infectious Diseases are very important. Why? Because many Infectious Diseases are very dangerous and most of the times life threatening.

The cause of getting affected with infectious disease is infection. That happens when we get infected. But why we get infected and become sick?

Why We Get Infected?

There may be many reasons why we get infected. But it's due to the pathogens where the disease causing pathogens invade our body. And when our internal defense mechanism is unable to control the infection, we become sick.

But what are the pathogens?

Pathogens are the organisms which cause the diseases. They invade our body and start multiplying vigorously. But the situation becomes serious when our internal defense mechanism is unable to control them. It results in infection and we become sick.

You can't understand anything about the Infections without knowing about the pathogens – the disease causing organisms.

- How they infect us?
- What damage they do to the human body?
- And above all how to address the issue?

Infection causing organisms

There're many organisms which cause infections and we get sick. Of course all organisms are not the cause of diseases. Only certain organisms cause diseases. That's the reason why we call them pathogens.

Most of them are microorganisms. You can't see them in the naked eye. You'll need a microscope to see them.

Though the pathogenic organisms can be classified in many ways let's group them in five categories.

Pathogenic Bacteria

Pathogenic bacteria are small microorganisms. Various types of bacteria exist in the environment. They're made of single cell.

Once they infect us they multiply very fast in our body. They're the cause of various dangerous bacterial diseases.

Fungal Pathogens

Fungal pathogens are small microorganisms. Unlike the bacteria they're made of multiple cells. Different types of fungi exist in the environment.

When they infect us they multiply very fast in our body. They cause various fungal diseases.

Disease Causing Virus

Viruses are very small microorganisms – much smaller than the bacteria. They need living cell of any organism to reproduce. They can infect animals, plants and microorganisms.

When they invade our body they reproduce very fast. Their infection results in many dangerous viral diseases.

Parasites

The protozoa and the worms come in this category. The protozoa are microorganisms having single cells whereas the worms are large organisms having multiple cells.

Once they infect us they get their food from our body. Their infections result in various diseases. Out of the diseases caused by the parasites some are very dangerous.

Types of Infectious Diseases

As far as infectious diseases are concerned there're many. Some diseases may not be that serious. But there're many diseases which are dangerous and life threatening. So whatever be the disease you must start medical treatment as early as possible.

You can classify the diseases based on the infection causing pathogens involved. So there're bacterial diseases, fungal diseases, viral diseases, and parasitic diseases.

Different diseases affect different parts of our body. Speaking in that way there're diseases like skin disease, urinary tract infection, throat infection and so on.

Non Infectious Diseases

There're many diseases which are not caused by infections. Sometimes we need medical treatments for the symptoms of the diseases. Let me explain.

You may have fever due to any disease. The disease may be infectious or non infectious. But you need medication to bring down the body temperature into the safe zone. Why? Because the temperature beyond the safe zone can adversely affect our body.

There're many reasons why we may get sick even if there's no infection.

The Causes of Non Infectious Diseases

The functions in a human body are very complex. Thousands of biochemical reactions are taking place every minute catalyzed by enzymes. Enzymes are biocatalysts which make biochemical reactions possible and efficient. They requires specific enzymes for specific reactions. When the biochemical reactions in our body get affected due to various reasons we become sick.

In our body numerous organs do specific functions. And they're all interdependent. When the functions of the internal organs of the body get disturbed and the coordination between them fails or gets affected we become sick.

There're various reasons. Some are known and some are unknown. Advanced research in medical science is going on to find out the reason of the diseases and their cures.

Types of Non Infectious Diseases

These non infectious diseases can be classified in many ways. All types of classifications have their own plus points. The idea is to know about the diseases.

Cardiovascular Diseases

Cardiovascular diseases involves heart and blood vessels. When the blood vessels of the heart are affected by diseases or get damaged the blood flow gets disturbed.

This can result in serious medical problems like heart attack, stroke, heart failure and issue with heart rhythm. As the fatality rate is very high it becomes essential to treat these medical conditions as early as possible.

Diabetes

Diabetes is a disease where the blood sugar levels remain higher than the safe zone for a prolonged period.

The major cause is to do with insulin production in the body. When the body doesn't produce insulin or produces very little the disease onsets.

Other Non Infectious Diseases

There're many other diseases and disease conditions which are not caused by infection. But all of them need medication.

Some of them are:

- Cancer
- Respiratory Diseases
- Pain
- Peptic Ulcer and gastroesophageal reflux
- Arthritis
- Kidney Diseases
- Depression
- Eczema
- Epilepsy

There're many other diseases which need medical treatment.

Now we've got fair idea about the diseases. It's time to get into the details of the active pharmaceutical ingredients which fight with the diseases.

Let's discuss about the molecules for Infectious Diseases in the next chapter...

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Secrets of Flourishing Small Scale Chemical Industry

How to Become an Industrialist with Minimum Investment

Have you Noticed Something Extraordinary in the Industrial World?

A Few Small Scale Chemical Industries are Incredibly Successful.
They've not only maximized the Profitability but growing vigorously.

These handful of Industries are Flourishing where others are finding it difficult to Even Survive.

Have you ever thought why it's so?

If you study these Industries closely and analyze their business strategies meticulously you'll observe that most of them have adopted Innovations.

In fact most of today's Industrial Leaders have started with a Flourishing Small Scale Chemical Industry long back.

If you put in the efforts in the Right Direction you can achieve Success.

If You've Decided to Take Your Business to the Next Level, the Book "Secrets of Flourishing Small Scale Chemical Industry" can guide you at every stage. It'll not only Help You Maximize the Profitability but also Achieve Extraordinary Business Growth.

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Molecules for Infectious Diseases

Hundreds of active pharmaceutical ingredients have been developed for Infectious Diseases. They can be classified into various categories by different ways. The idea is to know about them.

Let's discuss about them under different categories.

Beta Lactum Antibiotics

Beta Lactum Antibiotic molecules work by killing the bacterial pathogens by inhibiting the formation of bacterial cell walls.

Some of the molecules in this category are:

Penicillins

- Amoxicillin
- Ampicillin
- Cloxacillin
- Oxacillin
- Flucloxacillin,

Cephalosporins

- Cephalexin
- Cefadroxil
- Cefazolin
- Cefaclor
- Cefuroxime
- Cefotaxime

- Ceftriaxone
- Cefexime
- Cefepime

Carbapenems

- Imipenem
- Meropenem
- Ertapenem
- Doripenem

Macrolide Antibiotics

Macrolide Antibiotic molecules work by killing the bacterial pathogens by inhibiting their protein biosynthesis.

Some of the molecule in this category are:

- Erythromycin Salts
- Roxithromycin
- Azithromycin,
- Clarithromycin

Quinolone Antibiotics

Quinolone Antibiotic molecules work by killing the bacterial pathogens by inhibiting their DNA replication.

Some of the molecule in this category are:

- Ciprofloxacin
- Levofloxacin,

- Norfloxacin
- Moxifloxacin
- Gatifloxacin

Antifungal Molecules

Antifungal molecules work by killing the fungal pathogens by damaging their cell membranes.

Some of the molecule in this category are:

- Ketoconazole,
- Clotrimazole,
- Miconazole
- Fluconazole,
- Itraconazole,
- Posoconazole,
- Voriconazole
- Terbinafine.

Antiparasitic Molecules

Antiparasitic molecules are very effective against the parasites.

Some of the molecule in this category are:

Antimalarial

- Hydroxy Chloroquine
- Amodiaquine
- Mefloquine

Antiamoebic

- Metronidazole
- Orindazole
- Tinidazole

Others

- Mebendazole
- Albendazole
- Nitazoxanide

Antiviral Molecules

Antiviral molecules work against viral pathogens by inhibiting viral replication.

Some of the molecule in this category are:

- Ritonivir
- Lopinavir
- Remsidivir
- Darunavir
- Zidovudine
- Lamivudine

- Entacavir
- Abacavir
- Nevirapine
- Atazanavir
- Valcyovir
- Famcyclovir
- Sofosovir

Let's discuss about the molecules for Non Infectious Diseases in the next chapter...

Email this ebook freely to your friends and the people who can benefit from it.

Secrets of Manufacturing Money-Making Chemical Formulations

How to Make Maximum Profit with Minimum Investment

Do you have any idea about the Products which can fetch you Highest Profit but can be manufactured with Lowest Investment?

Chemical Formulations. You can Make Money with Little Investment with the Right Chemical Formulations.

But it's extremely difficult to succeed in Chemical Formulations Manufacturing Business. Why?

It's Because of Tough Business Issues like:

- Tough Competition in the Market Place
- The Quality of the Formulations must meet the tough Demands of the Customers
- It's extremely difficult to design the Formulations which can satisfy all business aspects.

It calls for Technical Expertise and Tremendous Industrial Experience to address the issues effectively.

If You're Serious about Making Money with Chemical Formulations the Book "Secrets of Manufacturing Profitable Chemical Formulations" can guide you at every stage. It'll not only Help You in Maximizing the Profitability but also achieve Sustainable Growth.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

Secrets of Successful Batch Chemical Manufacturing

How to Maximize the Profitability and achieve Sustainable Business Growth

Do you know How High Profit and High Demand Chemical, Pharmaceutical, and other Products are made?

Most of them are made by Batch Chemical Manufacturing!

But Batch Chemical Manufacturing is full of Difficult Challenges like:

- Customers are Demanding Products of Highest Quality at Lowest Prices.
- Wide Fluctuations in the Market is Making Manufacturing Difficult.
- Increasing Resources Prices is Making it Difficult to Maintain the Profitability.
- Complying with Pollution Control requirements is getting Difficult and Expensive
- It's Difficult to Make Your Operation Inherently Safer and Accident Free.

It calls for Technical Expertise and Tremendous Industrial Experience to address the issues effectively.

If You're Serious about Batch Chemical Manufacturing the Book "Secrets of Successful Batch Chemical Manufacturing" can guide you at every stage. It'll not only Help You in Maximizing the Profitability but also achieve Sustainable Growth.

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Molecules for Non Infectious Diseases

Molecules for Cardiovascular Diseases

As far as the medications for cardiovascular diseases are concerned different types of molecules are capable of addressing various cardiovascular issues.

Broadly they can be classified into four categories.

- Anticoagulants
- Antiplatelet agents
- Antihypertensive molecules
- Cholesterol lowering agents

Anticoagulant Molecules

Active molecules acting as Anticoagulants prevent the formation of blood clots. They act as blood thinners. Even if blood clot forms they don't let them become bigger. That's how they save you from critical medical conditions.

Some of the molecule in this category are:

- Dabigatran
- Enoxaparin
- Rivaroxaban

Antiplatelet Molecules

Antiplatelet molecules prevent the blood platelets from sticking together. That's how they stop the formation of blood clots and save you from dangerous thrombotic issues.

Some of the molecule in this category are:

- Aspirin
- Clopidogrel
- Prasugrel

Antihypertensive Molecules

Some of the antihypertensive molecules work by expanding the blood vessels. It results in smooth blood flow. The load on the heart gets reduced along with reduction in the blood pressure.

Some of the molecule in this category are:

- Captopril
- Enalapril
- Lisinopril
- Perindopril
- Quinapril
- Candisartan
- Irbesartan
- Losartan
- Telmisartan
- Olmesartan

- Amlodipine
- Cilnidipine

Some other types of antihypertensive molecules reduce the heart rate. It results in reduction in blood pressure. The heart beats slowly with reduced force.

Some of the molecule in this category are:

- Atenolol
- Bisoprolol
- Carvedilol
- Labetalol
- Metoprolol
- Propanalol

Cholesterol Lowering Molecules

Statin type of cholesterol lowering molecules stop body's cholesterol production capability. It helps to avoid blocked arteries. It helps because blocked arteries can cause stroke or heart attack.

Some of the molecule in this category are:

- Atorvastatin
- Simvastatin
- Rosuvastatin
- Pravastatin
- Lovastatin

Molecules for Diabetes

Some of the Antidiabetic molecules reduce the glucose output by increasing the glucose uptake.

Some of the molecule in this category are:

- Metformin
- Phenformin
- Buformin

Glitazone types of antidiabetic molecules work by regulating glucose metabolism.

Some of the molecule in this category are:

- Rosiglitazone
- Pioglitazome
- Troglitazine

Some other types of antidiabetic molecules work by stimulating insulin release.

Some of the molecule in this category are:

- Tolbutamide
- Acetohexamide
- Tolazamide
- Chlorpropamide
- Glipizide
- Glebenclamide

- Glimepiride
- Gliclazide
- Glycopyramide
- Glyquidone

Proton pump inhibitors

They inhibit stomach acid secretion. They're effective in the treatment of peptic ulcer, gastroesophageal reflux diseases and others.

Some of the molecule in this category are:

- Omeprazole
- Pantoprazole
- Lansoprazole
- Rabeprazole

Pain Killers

Non steroidal anti-inflammatory painkiller molecules work in pain relieving by blocking a specific enzyme.

Some of the molecule in this category are:

- Ibuprofen
- Naproxen
- Celecoxib
- Etoricoxib

Anticancer Molecules

Anticancer molecules work by killing the tumor cells

Some of the molecule in this category are:

- Paclitaxol
- Docetaxel
- Doxorubicine
- Epirubicine
- Irinotecan
- Imatinib
- Cisplatin
- Gemcitabine

Other Active Molecules

Anticonvulsant

- Levetiracetam
- Oxcarbazepine
- Pregabalin
- Lamotrizine

Atypical Antipsychotic

- Quetiapine
- Aripiprazole
- Olanzapine

Antihistamine

- Fexofenadine
- Cetirizine
- Levocetirizine
- Loratadine

Anti Asthama

- Mometasone
- Salbutamol

Antitussive

- Dextromethorphan

Nasal decongestant

- Phenylephrine

Parkinson's Disease

- Entacapone

We've seen how important active pharmaceutical ingredients are. And we've discussed about some of the molecules effective against dangerous diseases.

We've already discussed about the active pharmaceutical ingredient molecules for both infectious as well as non-infectious diseases.

Now we've to think about how to make the active pharmaceutical ingredients available in sufficient quantities at reasonable prices. Why?

Because then only life saving medicines can be made available to all of at affordable prices.

Let's discuss about how to manufacture active pharmaceutical ingredients in large scale in the next chapter...

Email this ebook freely to your friends and the people who can benefit from it.

How to Develop Efficient Technology for Profitable Batch Chemical Manufacturing Products

- Are you interested in manufacturing the products having High Profit Margin?
- Would You like the Manufacturing Processes be Environment Friendly and Safe?
- Are you interested in Making Products of Highest Quality at Lowest Cost?

If your answer to any of the questions is 'Yes' you need the Right Technology. Why?

Because only a Highly Efficient Technology can Meet all the Business Requirements.

But Procuring the Technology is Not an Option. Why? Because:

- It's Very Expensive.
- You'll Never Get the Best Technology for Your Products.
- You'll be Dependent on the Technology Provider.

So the Only Option left for You is to Develop Your Own Technology

But Developing Cost-Efficient Technology is Not Easy!

If You're Serious about Developing Your Own Technologies the Book **"How to Develop Efficient Technology for Profitable Batch Chemical Manufacturing Products"** can guide you at every stage. It'll not only Help You Develop Cost-Efficient Technology Quickly but also Minimize the Investment.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

How to Develop Efficient Technology for Profitable Chemical Formulations

- Are you interested in Making High Profit Chemical Formulations?
- Would You like to Enhance the Product Quality to Capture the Market?
- Are you Interested in Minimizing the Manufacturing Cost?

If your answer to any of the questions is 'Yes' you need the Right Technology. Why?

Because only a Highly Efficient Formulation Technology can Meet all the Business Requirements.

But Procuring the Technology is Not an Option. Why? Because:

- It's Very Expensive.
- You'll Never Get the Best Technology for Your Formulations.
- You'll be Dependent on the Technology Provider.

So the Only Option left for You is to Develop Your Own Technology

But Developing Cost-Efficient Formulation Technology is Not Easy!

If You're Serious the Book "How to Develop Efficient Technology for Profitable Chemical Formulations" can guide you at every step of the Developmental Process. It'll not only Help You Develop Cost-Efficient Technology Quickly but also Minimize the Manufacturing Cost.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

How to Manufacture Active Pharmaceutical Ingredients

How to make medicines available at affordable prices? It's possible when active pharmaceutical ingredients are manufactured efficiently. So that the manufacturing cost can be reduced. And it calls for integrated optimization of manufacturing.

Active pharmaceutical ingredients are complex molecules. And manufacturing these molecules involve difficult manufacturing processes.

When you focus on the manufacturing processes you'll find four different manufacturing processes.

- Chemical Synthesis
- Fermentation Process
- Enzymatic Reaction
- Extraction from Natural Sources

Chemical Synthesis

Active pharmaceutical ingredients are complex molecules. So you need to make significant changes in the raw material molecules. It results in new molecules. But how to do that?

You can use the power of chemical reactions to bring about the changes in the molecular structure. It's nothing but chemical synthesis. Of course you need to carry out multiple reaction steps to achieve the molecular complexity.

When you observe the manufacturing processes used in active pharmaceutical ingredients industry you'll find an important fact. A major percentage of active pharmaceutical ingredient molecules are made by chemical synthesis.

As far as chemical synthesis processes are concerned different products need different types of reactions. Of course process parameters you need to maintain for different reactions are different. And most of the molecules need multiple reaction steps.

Once your products are synthesized they need to be separated. Why? Because the products are still in the reactor content along with many other molecules. So you need suitable separation and purification processes. Then only your products can meet the customer requirements.

Fermentation

Many active pharmaceutical ingredient molecules you're interested in are too complex. And it's not possible to make them by chemical synthesis due to the technical and economical constraints.

In those situations you can take the help of the microorganisms – very small organisms. Of course you can't see them with naked eye. You'll need a microscope. Don't underestimate their power. Don't go by their size. They can synthesize complex molecules with ease. This is what is Fermentation. But how the process works?

Specially developed microorganisms are allowed to grow in the reactors called Fermenters. The fermenters are normally agitated vessels. Fermentation media is important. And optimized process conditions are maintained. The microorganism, media components and the process conditions – all are different for different products.

It's not enough to complete the fermentation process. Why?

Because the product molecules are in the fermentation broth along with many other ingredients.

You need powerful separation processes to isolate the molecules from the fermented broth. And you need to use suitable purification processes to make the products suitable for final use.

Enzymatic Reactions

In our body numerous biochemical reactions are going on day in day out. They're essential for the metabolic processes. The credit for those perfect reactions which keep us alive goes to the Enzymes. Why?

Because it's the enzymes which catalyze all the reactions in our body and keep the metabolic processes efficient. That's why we call them biocatalysts. And the complex reactions in our body become possible due to them .

No extreme conditions of temperature, pressure and other physical and chemical conditions. No requirement of hazardous chemicals or reagents. And the reactions are perfect.

That's why we utilize the power of enzymes for making some complex active pharmaceutical ingredients molecules. Of course we need different enzymes for making different molecules.

Most of the industrial enzymes are manufactured by using Fermentation Technology.

Extraction from Natural Sources

Natural sources like plants, marine organisms and others contain many active pharmaceutical ingredients. As far as the plants are concerned leaves, seeds, fruits, flowers, barks and other parts are used.

These molecules are too complex. And In many cases it's not even possible to synthesize them by using manmade processes.

So it becomes economically efficient to get them from the natural sources.

Of course the plant parts containing maximum concentration of the product is chosen. And it's important to ensure that the separation process yields good quality products. Why?

Then only it becomes cost efficient. If the product concentrations are lower or inferior the separation processes used to extract and purify become difficult and expensive.

In most of the cases it makes business sense to combine the manufacturing processes. A lot technical consideration and economic optimizations become necessary to finalize the manufacturing processes.

Making Active Pharmaceutical Ingredients Manufacturing Easy

Let's now see how to make active pharmaceutical ingredients manufacturing easy.

Because of their molecular complexity long difficult manufacturing processes are utilized. When we talk about the chemical synthesis multiple synthesis steps involving difficult reactions become essential.

Even if you talk about other manufacturing processes like fermentation it's no better. Very long fermentation batch cycle times along with very low product concentrations in the fermented broth make the situation worse.

The long and tedious manufacturing process is a real headache. Here the pharmaceutical intermediates step in.

Pharmaceutical Intermediates

Pharmaceutical Intermediates make the API manufacturing very easy. You just take the advanced Intermediates and a few manufacturing steps will do the job.

You can then concentrate on the pharmaceutical effectiveness rather than on molecular complexity.

These pharmaceutical intermediates are basically of two types:

- Basic Pharmaceutical Intermediates
- Advanced Pharmaceutical Intermediates

Basic Pharmaceutical Intermediates

Basic pharmaceutical intermediate molecules get introduced to the active pharmaceutical ingredients manufacturing process early.

You need more manufacturing steps with them. It makes your manufacturing process longer. But you spend less in buying the basic pharmaceutical intermediates and can achieve cost savings.

Advanced Pharmaceutical Intermediates

Advanced pharmaceutical intermediate molecules get introduced to the active pharmaceutical ingredients manufacturing process at the later stage.

You need very less manufacturing steps with them. It makes your manufacturing process very short. But you spend more in buying the advanced pharmaceutical intermediates. However your manufacturing process becomes easier.

These pharmaceutical intermediates are manufactured by using various manufacturing processes like chemical synthesis, fermentation and others.

Whatever be the manufacturing process the product quality is of utmost importance. Why?

Because if you can make quality pharmaceutical intermediates at reasonable cost you can meet the market demand.

And thereby you can not only make your business profitable but also make the medicines affordable.

Irrespective of the manufacturing processes you use you need to make the business profitable and sustainable.

Let's discuss about how to make your business profitable and sustainable in the next chapter...

Email this ebook freely to your friends and the people who can benefit from it.

Integrated Technical Training

Effective Technical Training is Not an Option. It's a Must. Why? Because It's to Avoid:

- Non Compliance of Pollution Control requirements in spite of Huge Investments and High Waste Treatment Costs
- Inferior Product Quality in spite of High Manufacturing Cost
- High Resources Consumption leading to Reduced Profit Margins
- Low Productivity and Production Bottlenecks
- Expensive Operational Mistakes resulting in Huge Losses.

But it's a Difficult Challenge to Address. Why? Because...

- It's Technically Complex. it calls for Technical Expertise and tremendous Industrial Experience.
- It's Not a One Time Work. The Operation must be perfect every time.
- It's Not for a Selected few. It's for All Concerned

Employees Must be Trained so that they can perform their jobs Efficiently. Effective Technical Training is the Only Solution.

Leading Chemical, Pharmaceutical, and Allied Process Industries are Already taking the Advantage of Periodic Technical Training.

Perhaps you can consider our Integrated Technical Training Programs for Efficient Operation of Your Manufacturing Facility

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

Maximizing the Profitability and Achieving Sustainable Growth is the Key to Industrial Success

It's possible only when you address the Industrial Challenges Effectively like:

- Achieving Profit Maximization in spite of High Resources Costs.
- Manufacturing Highest Quality Products at Lowest Cost
- Complying with Stringent Quality System Requirements
- Technological Development to Prepare the Organization for the Future
- Complying with Pollution Control requirements Economically
- Ensuring Safe Industrial Operations
- Achieving Project Success in spite of Difficult Business Constraints

However addressing these Difficult Challenges calls for Technical Expertise and tremendous Industrial Experience.

Leading Chemical, Pharmaceutical, and Allied Process Industries are Already Investing in Technical Innovations to achieve Extraordinary Output from Ordinary Resources.

Perhaps you can consider our End to End Technical Support.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

How to Make the Business Profitable and Sustainable

Making any business profitable and sustainable is not easy. It calls for techno-economic expertise and tremendous industrial experience. When you talk about active pharmaceutical ingredients manufacturing it becomes more important. Why?

Because active pharmaceutical ingredient molecules are complex and the manufacturing processes are difficult. In addition to that there're difficult challenges to address.

In today's competitive business environment it's not enough to maintain the business performance. You need to be on your toes to improve things and prepare the organization for the future.

However a systematic approach can help you in maximizing profitability and achieve sustainable growth. Let's see what you can do.

Effective Manufacturing System

It's important to have a really flexible manufacturing system. Why? Because the cost of the resources as well as the selling prices of the finished products are not stable. Due to the wide gap in demand and supply the changes in the market place has become common.

But how to address this type of situation?

The success depends on how fast can you change your product line without comprising with the critical requirements. It's necessary to address the wide fluctuations in the market place and take the advantage of short supplies.

However it calls for a systematic approach. In fact an effective quality system is essential. It's necessary to control each and every aspect of the business. Then only you can ensure excellent product quality in spite of deviations and constraints.

Flexible Plant Design

The design of all aspects of your manufacturing facility is of utmost importance. Each and every equipments, systems, and components should be appropriate in order to meet the process demand.

It must be based on integrated design optimization considering all business functions especially the constraints.

In fact planning stage is of utmost importance. Separate modules dedicated to carry out important unit reaction processes as well as separation processes can help a lot in maximizing the output. Of course everything should be designed based on concrete data.

Environment and safety aspects can make a difference between success and failure. Safety and environmental requirements must be considered at the design stage.

And above all the system flexibility is important. The plant design must make it easy to change the products quickly. If required the batch sizes can be changed without any issue. Of course that calls for alternative arrangements and above all meticulous planning at the design stage.

Optimum Product Mix

Right Product Mix is essential to make the manufacturing profitable. Why ? Because the manufacturing process is exceedingly complex. You need to optimize all aspects like utility generation and supply, raw materials cost and quality and so on.

Any single Product can't fit into the requirements. However a mixture of right products can. That's what is the Right Product Mix.

Is the product mix fixed? Not at all. It can't be constant in the dynamic market scenario. The demand and supply of the products are changing very fast due to various factors.

You need to consider the resources available to you. You need to think of compensate for lack of resources. And manufacturing constraints are there to focus on. Different products need different resources. Whereas the profitability and the market demand of the products change a lot.

So an integrated approach to optimize the product mix can help you take the advantage of the situation. In fact what you're doing is converting difficult problems into incredible opportunities. However it calls for massive efforts.

Coordination between the Business Functions

Close coordination between marketing, manufacturing, and quality is essential to make active pharmaceutical ingredients manufacturing a success.

You need to decide whether to manufacture the starting raw materials yourself or procure them. And the quality of raw materials is important. Still more important is at what price those ingredients are available in the market. Commercial considerations, technical feasibility, and the available market will decide what to do.

The selling prices of the products are changing very fast. Sales and marketing function must keep close watch on the market to know the trend.

Because frequent product change is not easy even if the manufacturing system is flexible. There must be compelling reasons with respect to profitability and business objectives.

In today's competitive market scenario the demand for products are fluctuating widely. Flexible manufacturing and keeping close watch in the market trends can help you take advantage of the situation.

Strong Research and Development

Manufacturing the products of right quality is very important in order to make them effective enough to cure us from life threatening diseases and keep us healthy. Making them available in sufficient quantities as per the demand is equally important.

Still more important is to manufacture them at a cost all of us can afford. Each and every human being should get the benefit of these powerful molecules and lead a healthy life.

And the function which can help you the most in this area is Research and Development. That's the reason why a strong research and development function becomes critical.

So what we have seen here is efficient management and adopting innovations wholeheartedly are important. That's what is the secret of achieving business excellence.

We've almost reached the end of the ebook. It's now the time for conclusion.

Email this ebook freely to your friends and the people who can benefit from it.

Project Reports

Chemical, Pharmaceutical, and Other Process Industries

Do you know why some Industries are Highly Successful whereas Many others are Struggling?

Isn't it surprising that in spite of tough competition these Industries are not only maximizing the profits but also growing vigorously?

If you study those Industries closely you'll find an Important Difference.

All of them have Selected products based on their Strengths and the Resources Available to them.

You can Match the Products with the Resources Available to You only when You Know the Details. You must know the Product Details, Market, Quality requirements, Raw Materials, Manufacturing Process, Equipments required and so on.

Project Reports can provide you all the Details.

If You are Interested in Selecting the Right Products for Your Industrial Venture Study as many Project Reports as you can.

You can Order the Project Reports of the Products you're Interested In. Project Reports on hundreds of Profitable Products are available. They'll Help You Select the Right Products for Your Enterprise.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

Secrets of Active Pharmaceutical Ingredients Manufacturing Success

How to achieve Business Success and make Significant Contribution

Are you interested in getting associated with the High Potential Fast Growing Industry having Highest Contribution to the Society?

It's the Pharmaceutical Industry which is offering Incredible Opportunities to Succeed.

You can associate with Pharmaceutical Industry by Manufacturing Active Pharmaceutical Ingredients. Why?

Because the Active Pharmaceutical Ingredients give the power to the Medicines to fight with Life Threatening Diseases.

But it's tough to succeed in this business because of difficult Issues like:

- Manufacturing these Complex Molecules is extremely difficult.
- It's difficult to meet the Stringent Quality System requirements even after investing heavily.
- High Market Fluctuations is making the Manufacturing Difficult.

It calls for Technical Expertise and Tremendous Industrial Experience

If You're Serious about utilizing the Opportunities the Book "Secrets of Active Pharmaceutical Ingredients Manufacturing Success" can guide you at every stage.

Email us at rbm.finechemicals@gmail.com or rbm.innovations@gmail.com for more details.

Let's Conclude

You've already learnt how to become successful in active pharmaceutical ingredients manufacturing. And you have seen incredible opportunities in active pharmaceutical ingredients manufacturing industry.

The list of active pharmaceutical ingredient molecules is very long. And you've been introduced to more than 101 molecules to ignite your thinking process. As we've already discussed how any of the products mentioned in the list can be suitable for you.

In fact one of the molecule outside the list of more than 101 active pharmaceutical ingredients may be better. Why?

Because your background as well as requirements are different. And the things are changing at a great pace at the market place. So some of the molecules which are not profitable today may become profitable in future.

The only thing required is consistent evaluation. Once you make it a habit to evaluate the possibilities based on the current information you'll be able to spot incredible opportunities. That's what is the secret of extraordinary success.

You know the importance of innovations in any business. And the importance becomes more in case of knowledge intensive business like active pharmaceutical ingredients manufacturing. In fact it's no longer an option. It's a must.

Converting Problems into Opportunities

But the important part is something else. It concerns you. Now that you're reading the concluding part of this ebook indicates something about you.

You believe in taking action. You're a doer. You don't think as the masses think. You're not interested in ordinary things.

In fact you don't want to do what others can do. You want to do what others can't even think of doing. And you're willing to put in massive efforts to achieve your dreams.

The action orientation is the most important.

Unless you make efforts nothing will happen. It's essential to take the first step immediately. You've already started by reading this ebook. Now you must double your efforts to accelerate your progress.

Active pharmaceutical ingredients manufacturing is a mixed blessing. It's full of difficult challenges and incredible opportunities.

The only way to succeed is to convert the difficult problems into extraordinary opportunities.

Application Oriented Knowledge

But it calls for techno-commercial expertise and tremendous industrial experience to make it happen. Why?

Because things are changing very fast in active pharmaceutical ingredients manufacturing industry. Many molecules are getting obsolete. New molecules are getting added to the long list.

Technologies are getting obsolete. Newer and better technologies are being developed at a great pace. Due to technological complexity it had become extremely difficult to choose the right technologies.

Manufacturing challenges are getting increased day by day. Addressing the challenges effectively is becoming difficult in spite of investing heavily.

That's precisely the reason why application oriented knowledge is important. The kind of knowledge which you can use with immediate effect. The kind of knowledge which can make you capable of solving the problems and making significant improvements in your business.

We're preparing useful learning materials to help you become a successful Industry Professional or an Entrepreneur. Do order the Books or the Project Reports as mentioned earlier and expand your knowledge.

These learning materials will put wings to your imagination. They'll not only introduce you to the lucrative world of Technical Entrepreneurship but also make you capable of bringing in disrupting innovations and add value.

Email us at rbm.innovations@gmail.com with your comments and suggestions. Your opinion is very important to us. It will help us in making the learning materials useful.