



# **20 Booming Industries for Startups.**

**Profitable Money  
Making Business  
Ideas**



## Introduction

**In the ever-increasing startup ecosystem of today, everyone dreams of starting their own startup and becoming a millionaire or a billionaire. But most of the people remain confused between which business to start for maximum profit and which business has the least probability of failure.**

**Manufacturing business has always been a lucrative field for the people globally. Initially it demands reasonable investment but once it is established it fetches heavy consistent profits. However selecting a good manufacturing business idea is key for the success of the business. There are various manufacturing business ideas across the world where one can start.**



## *Here are a few profitable business ideas to begin in 2019:*

### ➤ **Fireworks**

**Fireworks are a class of low explosive pyrotechnic devices used for aesthetic and entertainment purposes. The most common use of a firework is as part of a fireworks display (also called a fireworks show or pyrotechnics), a display of the effects produced by firework devices. Fireworks competitions are also regularly held at a number of places. Fireworks take many forms to produce the four primary effects: noise, light, smoke, and floating materials (confetti for example).**



**They may be designed to burn with colored flames and sparks including red, orange, yellow, green, blue, purple, and silver.**

**Fireworks are a kind of beautiful things can send out variety colors spark when light it in air, main make up from gunpowder and medicinal usher. Spark present different colors is due to burning of different metals occur flame test. It usually used in holiday celebrate.**



## ➤ PVC Lining For Metal Crown Caps

**Poly Vinyl Chloride (PVC) is the most commonly specified lining material in the industry. Manufactured by the calendaring or extrusion process, it is a highly flexible, non-reinforced, cost-effective, waterproofing geomembrane with many uses and advantages. PVC liners readily conform to sub grade contours and offer excellent interface friction without being textured. The use of a PVC liner prevents contaminants from entering groundwater sources or streams.**





## ➤ Sport Shoes (Automatic Imported Plant)

**Walking shoes are designed with the specific body mechanics and strike path of walking in mind. They are constructed to be more flexible through the ball of the foot to allow a greater range of motion through the roll of the forefoot. They also have greater arch support to protect where the force is heaviest on the foot. Running shoes, in contrast, have more cushioning in the heel—the point of impact—and less protection through the ball of the foot. The amount of heat generated in the running motion is greater, so running shoes also are made with a higher amount of mesh to keep feet cool during exercise.**



**Running shoes include shoes required for training, advanced running, road running, trail running, track running, and racing. The running shoe segment dominated the market in 2017, which can be attributed to daily usage of running shoes and availability of these shoes in a wide range of prices ranging from affordable athletic shoes to highly luxurious athletic shoes.**

**In most of the developed countries, the proportion of women athletes representing their respective nations at major sporting events is significant as compared to developing and underdeveloped countries. In addition, overall level of awareness about fitness among women is considerably high in advanced countries as compared to developing countries.**



**Moreover, footwear manufacturers are focusing on quality and cost effective athletic footwear which are durable and comfortable for the consumers. These advantages of athletic footwear are expected to bolster the market in near future. Likewise, adoption of latest 3-D printing technology by the shoe manufacturers in order to manufacture shoes in less time and with enhanced quality is the key factor for the growth of athletic footwear market.**

**The market offers a variety of footwear with options in color, design, and price to cater to the needs and purchasing abilities of individual customers. Sales expansion through online channels, innovative product launches, and attractive marketing and promotional strategies that are adopted by the companies have fueled the growth of the athletic footwear market size.**





## ➤ Rubber Roller & Ebonite Roller

**Rubber rollers are used for variety of purposes and are found in many manufacturing processes. The basic uses for rubber rollers are found in the manufacturing processes of textiles, film, sheet, paper and coiled metal. Rubber covered rollers are used in all sorts of container and packaging fabricating equipment as well as machinery used for the sanding and grinding of wood, steel and aluminum.**





**Industrial rubber rollers or rolls are used in applications which require a high degree of contact and holding friction, and also in material processing applications requiring a soft touch. Rollers are usually in the shape of cylindrical or spherical shape and are devices that roll or rotate, like for example, a small spoke less wheel or like a roller skate or caster. Rollers are also used in printing.**

**Demand for industrial rubber products in the US is forecast to expand 3.4 percent per annum to \$24.4 billion in 2019. Gains will be fueled by increased production of machinery and healthy growth in nonresidential construction spending.**



## ➤ Alcohol from Tapioca Starch

**Alcohol is a depressant, which in low doses causes euphoria, reduces anxiety, and improves sociability. In higher doses, it causes drunkenness, stupor, unconsciousness, or death. Long-term use can lead to alcohol abuse, physical dependence, and alcoholism. Alcohol is one of the most widely used recreational drugs in the world with about 33% of people being current drinkers.**

**The global alcoholic beverages market was valued at \$1,439 billion in 2017, and is expected to reach \$1,684 billion by 2025, registering a CAGR of 2.0% from 2018 to 2025.**



**Most cultures across the globe have traditionally consumed various types of alcoholic beverages; however, local specialty alcoholic beverages account for the majority share. Only a small number have evolved into commodities that are produced commercially on a large scale.**

**The demand for alcoholic drinks is growing at a faster rate in emerging countries, like India, China, Indonesia, and Singapore. This is driving the demand for alcoholic drinks industry. The growing demand for premium alcoholic beverages is considered to be one of the primary drivers for this market. Efforts by alcoholic beverage manufacturers for strengthening distribution channels and extension of purchase channels, such as online stores, and convenience stores, is also contributing substantially to the growth of the global alcoholic beverages market.**



## ➤ Paints & Varnishes

### *Paints*

**Paint is any pigmented liquid, liquefiable, or mastic composition that, after application to a substrate in a thin layer, converts to a solid film. It is most commonly used to protect, color, or provide texture to objects. Paint can be made or purchased in many colors—and in many different types, such as watercolor, synthetic, etc. Paint is typically stored, sold, and applied as a liquid, but most types dry into a solid.**



**Paint is essentially a coating or covering material applied on metallic or non-metallic surfaces for decorative or protective purposes.**

**Paint is used to decorate, protect and prolong the life of natural and synthetic materials, and acts as a barrier against environmental conditions. Paints may be broadly classified into Decorative paints, applied on site to decorate and protect buildings and other objects, and Industrial coatings which are applied in factories to finish manufactured goods such as cars.**

**The Indian paint market is expected to reach Rs 709 bn by 2019-20 from around Rs 403 bn in 2014-15. The per capita paint consumption in India which is a little over 4 kgs is still very low as compared to the developed western nations. Therefore, as the country develops and modernizes, the per capita paint consumption is bound to increase. The paints sector is raw material intensive, with over 300 raw materials (50% petro-based derivatives) involved in the manufacturing process. Since most of the raw materials are petroleum based, the industry benefits from softening crude prices.**



**The unorganised sector controls around 35% of the paint market, with the organised sector accounting for the balance. In the unorganised segment, there are about 2,000 units having small and medium sized paint manufacturing plants. Top organised players include Asian Paints, Kansai Nerolac, Berger Paints and ICI.**

**Automotive paint, one of the most vital parts of automobile, is applied on automobiles to preserve them from UV rays, corrosion and oxidation. They are used extensively for painting exterior and interior of automobiles and serve a dual purpose of decoration as well as protection. The different products that fall under automotive paints are electro coats, powder coats, basecoat and clear coat. Availability of various choices of color is boosting the automotive paints market.**



## ***Varnishes***

**Varnish is a clear transparent hard protective finish or film. Varnish has little or no color and has no added pigment as opposed to paint or wood stain which contains pigment. However, some varnish products are marketed as a combined stain and varnish. Varnish is primarily used in wood finishing applications where the natural tones and grains in the wood are intended to be visible. It is applied over wood stains as a final step to achieve a film for gloss and protection. Varnish finishes are usually glossy but may be designed to produce satin or semi-gloss sheens by the addition of "flatting" agents.**





**Varnish is a transparent, hard, protective finish or film primarily used in wood finishing but also for other materials. Varnish is traditionally a combination of a drying oil, a resin, and a thinner or solvent. Varnish finishes are usually glossy but may be designed to produce satin or semi-gloss sheens by the addition of "flatting" agents.**

**Varnish is a type of clear finish. It is composed of a solvent, resin and oil. Varnishes are available in a variety of finishes, including satin, gloss, and semi-gloss. Varnish has no color or pigment. It is translucent, which allows the natural characteristics of a piece of wood to be seen. Carpenters, woodworkers and cabinet makers typically add varnish to pieces to give them a glossy sheen. The varnish also adds a barrier that protects the wood against damage, including scratches and dents.**



**Global Paint and Varnish Market is expected to grow significantly in the forecast period owing to the increasing development worldwide. Paint is the coating applied on the walls or surfaces for decoration. The material is either available in oil-based or water-based form; it prevents corrosion and completely hides the applied surface. Varnishes are the transparent liquids that offer protective surface coating like paints. They do not completely hide the surface but add glossy finish to it. Varnish normally contains resin, thinner or solvent and drying oil.**

**Wood varnishes are used to provide finishing to wooden surfaces. The application of varnish on wooden surfaces enhances their aesthetic appearance and provides resistance against moisture and other environmental agents. Wood varnishes are usually transparent in colour. They seal the pores on the wooden surface and thus, prevent the action of microorganisms, which could potentially damage the surface.**

## ➤ Washing Machine

**Washing machine (laundry machine, clothes washer, or washer) is a device used to wash laundry. The term is mostly applied to machines that use water as opposed to dry cleaning (which uses alternative cleaning fluids, and is performed by specialist businesses) or ultrasonic cleaners. The user adds laundry detergent which is sold in liquid or powder form to the wash water.**

**The washing machine enables you to wash your clothes automatically without having to supervise its operation. All you have to do is put the clothes in the machine and select the wash mode.**





**The washing machine automatically takes in the amount of water and detergent required and it also automatically sets the timer for washing, rinsing and drying as per the selected mode and the amount of clothes.**

**Washing machine is a complex appliance, and sometimes you may feel a little confused when it comes to washing machine installation or even dealing with washing machine problems. To help you understand your washer better, here's an introduction to washing machine parts as well as some basic information on how your machine works.**

**The washing machine has two steel tubs. The inner tube is the one that holds the clothes. It has an agitator in the middle of it, and the sides are perforated with holes so that when the tub spins, the water can leave.**





**The growing demand for products which bring convenience to consumers is a key factor fueling the demand for washing machines. The growing changes in lifestyles, increasing disposable income, and the availability of advanced technology are also boosting the growth of the global washing machines market. One of the trends seen in the washing machine market in recent times is the use of technology that reduces the use of water for washing.**

**Global Washing Machine Market was valued at \$36,648 million in 2016, and is projected to reach at \$53,193 million by 2023, growing at a CAGR of 5.5% from 2017 to 2023. Washing machines are widely used home appliances for washing laundry, as they save time and energy. A washing machine operates by spinning the laundry at high speed, thereby generating centrifugal force that removes water from the laundry along with dirt. Washing machine is a home appliance used for the laundry purpose. Economic growth in advanced and developing countries has favored the growth of the washing machine market. The use of a washing machine helps to save time and energy required to wash laundry. Product innovations have led to the development of advanced washing machines that increase comfort level and convenience for customers.**

## ➤ Rubber Processing Oil

**An oil composition which has a kinematic viscosity at 100 °C of from 32 to 50 cSt and which contains less than 3%. Polynuclear aromatic compounds is employed as a process oil for rubber compounds, especially aromatic rubbers. The process oil is compatible with aromatic rubbers but contains less toxic polynuclear aromatic compounds than conventional aromatic rubber process oil. Rubber products of acceptable quality are produced using the said oil composition.**

**Rubber process oil, both synthetic and natural are commercially used to produce products from rubber bands to a toy to the giant tires for various vehicles including aircrafts.**





**Rubber Process Oils are used during mixing of rubber compounds. These help in improving the dispersion of fillers and flow characteristics of the compound during further processing.**

**Rubber Process Oil, which is used in the processing of rubber manufacturing and is known for its superior quality. Widely used in various industries, this rubber process oil is safe to use and environment friendly.**

**Rubber materials are wide employed in human life. Rubbers, each artificial and natural are commercially used to manufacture product from rubber bands to a toy to the enormous tyres for varied vehicles together with aircrafts. Most typical usage is especially on tires, automotive provide trade, white product, constructions, textiles and medicine applications. The most parts of rubber compounds are rubber, reinforcing fillers, method oils and oil based mostly softeners. Alternative additives, like stabilizers, antioxidants, processing agents are enclosed in less quantity.**



**The rubber process oil market is projected to grow from USD 1.91 billion in 2018 to USD 2.33 billion by 2023, at a CAGR of 4.1%, from 2018 to 2023.**

**The growth of the rubber process oil market can be attributed to the increased consumption of rubber process oils in the manufacturing of tires. The growing number of automobiles across the globe has contributed to the increasing demand for tires, thereby leading to the growth of the rubber process oil market.**

**The rubber process oil helps in enhancing the flow characteristics of compounds and dispersion of fillers during the processing. Moreover, the main purpose of process oil is improving and enhancing the processing of rubber and rubber compounds, while at the same time increasing the bulk of the rubber in order to reduce the costs. Rubber process oil is used in a broad range of automotive products such as rubber parts of trucks, cars, and motorcycles.**

## ➤ Sterilized Bone Meal

**Bone meal is a mixture of finely and coarsely ground animal bones and slaughter-house waste products. It is used as an organic fertilizer for plants and as a nutritional supplement for animals. As a slow-release fertilizer, bone meal is primarily used as a source of phosphorus and protein.**

**Bone meal is made from the raw bones of animals that were slaughtered for human consumption. Meat, or muscles, and fat are removed from the bones. Then the bones are transported from the slaughterhouse to a facility that turns them into bone meal.**



## ➤ Strontium Carbonate

**Strontium Carbonate is generally immediately available in most volumes. Ultra high purity and high purity compositions improve both optical quality and usefulness as scientific standards. Nanoscale elemental powders and suspensions, as alternative high surface area forms, may be considered.**

**Strontium carbonate ( $\text{SrCO}_3$ ) is the carbonate salt of strontium that has the appearance of a white or grey powder. It occurs in nature as the mineral strontianite.**







**Strontium carbonate is a white, odorless, tasteless powder. Being a carbonate, it is a weak base and therefore is reactive with acids. It is otherwise stable and safe to work with. It is practically insoluble in water (1 part in 100,000).**

**Strontium carbonate, whose chemical formula is  $\text{SrCO}_3$ , is a fine, white powder whose properties are similar to those of calcium carbonate (lime).  $\text{SrCO}_3$  is very little soluble in water; it dissolves in acids, for example in hydrochloric acid, developing carbon dioxide as follows:  $\text{SrCO}_3 + 2 \text{HCl} \rightarrow \text{SrCl}_2 + \text{H}_2\text{O} + \text{CO}_2$ . Strontium is in the group of the alkaline earth metals (2. main group). It is non-toxic just like calcium, which is in the same group. The chemical similarity of strontium and calcium, however, accounts for the fact that the radioactive strontium isotopes that formed during the Chernobyl reactor accident have been able to deposit in the bones to trigger cancer. Strontium carbonate is generally preferred instead of any other compound owing to its low cost and the fact that it is not hygroscopic. Its ability to neutralize acid is also very helpful in pyrotechnics.**



**Growing demand for firecrackers and pyrotechnic activities during concerts, festivals or any sort of celebrations will inevitably augment the strontium market size in the forecast period. Additionally, it is also widely used in making flares and flare guns that has its applications in defense industry globally.**

**Strontium carbonate is the carbonate salt of strontium with chemical formula  $\text{SrCO}_3$ . It appears in the form of white or grey powder. It occurs in the form of strontianite mineral deposits in nature; however, only a few deposits discovered are suitable for development. Even though strontianite would be more useful of the two commonly found minerals (the other being celestine), as strontium carbonate is the largely used compound with a wide variety of applications; it is not available in quantities sufficient to make its recovery practical.**

**The Strontium Carbonate Market is segmented on the basis of the Type and Application. Geographically, the Strontium Carbonate Market has been segmented North America, Europe, APAC and row. Industries are propelling the demand for water softeners for various downstream applications.**

## ➤ Agar Oil from Black Agarwood

**Agarwood, aloeswood or gharuwood is a fragrant dark resinous wood used in incense, perfume, and small carvings. It is formed in the heartwood of aquilaria trees when they become infected with a type of mould (*Phialophora parasitica*). Prior to infection, the heartwood is odourless, relatively light and pale coloured; however, as the infection progresses, the tree produces a dark aromatic resin, called aloes or agar (not to be confused with the edible, algae-derived agar) as well as gaharu, jinko, oud, or oodh (not to be confused with bukhoo), in response to the attack, which results in a very dense, dark, resin embedded heartwood.**





**Agarwood oil, often referred to as oud oil and eagleswood oil, is a resinous, fragrant and highly valuable heartwood. Agarwood oil is more popularly called as Aloeswood oil. The essential oil is derived from the heartwood of the agarwood tree when they become infected with a type of mould. Post infection, the tree produces a dark aromatic resin, called aloes or agar. There are a number of popular species but typically aquilaria malaccensis, aquilaria agallocha or aquilaria crassna are used to make the oil.**

**Agarwood oil market is segmented on the basis of the end use which includes retail and industrial. The retail segment is further sub-segmented as distribution channel which includes online stores, hypermarkets/supermarkets, specialized drug stores, and convenience stores. The plantation of agarwood has been introduced and re-introduced in countries such as Sri Lanka, Malaysia, etc. which will catalyze the revenue created from the global agarwood essential oil market. Techniques have also been implemented to improve stimulation of agarwood production for enhanced quality of the oil produced which will favor the market growth and expansion.**

## ➤ Calcined & Activated Alumina

### *Calcined Alumina*

**Calcined (or alpha) alumina is made by calcining a source alumina powder at 1200-1300C to convert it to pure  $\text{Al}_2\text{O}_3$ . This is the densest and most stable crystalline form of alumina. It is insoluble in water but is soluble in hydrofluoric acid and potassium bisulfate. When nearly 100% of the material converts to the large hexagonal, elongated tablet shaped crystals associated with the alpha phase, the product is referred to as "Tabular Alumina". Calcined aluminas are available in numerous grades based on the heat treatment applied, crystal size, soda content, and degree of thermal conversion to alpha phase.**





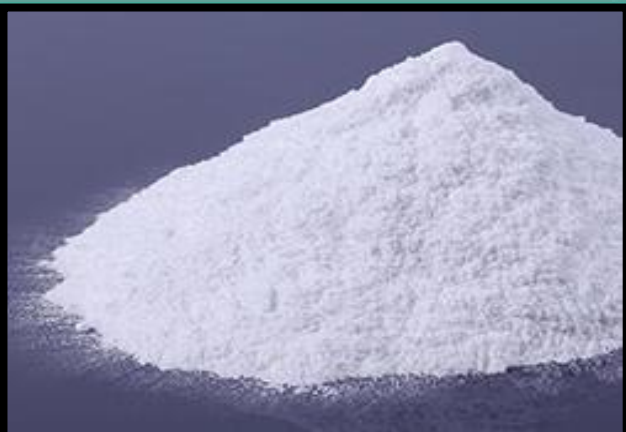
**Calcined alumina is made by firing a source alumina at various temperatures, depending upon desired level of calcination (burn), into alpha alumina varying from 5 – 100% moving it to its densest and most stable form. The calcined alumina particles appear as crystalline agglomerates which are larger when the degree of calcination is higher. Calcined alumina is generally used in the manufacture of refractories, glass and enamel, tile and porcelains and ceramics, including electronic ceramics, etc.**

**Calcined alumina is produced through the calcination (“heating”) of alumina to various temperatures. By controlling the calcination temperatures and time, the properties of the alumina can be controlled. Calcined alumina is therefore utilized in a variety of industrial applications including Structural ceramics, Technical ceramics, Polishing compounds for plastic, metal, and glass, Fillers for Rubber and Plastics, Friction - anti slip, Refractories, Paint & Coatings and Thermal Spray Powders.**



**Calcined alumina powder is produced by calcination of alumina. The manufacturing process is carried out at various temperatures, which control hardness and abrasive properties of calcined alumina powder, such as polishing and grinding. At temperature of 1200-1300°C, calcined alumina is easily converted into pure Aluminum Oxide ( $\text{Al}_2\text{O}_3$ ).**

**Demand for calcined alumina is driven by a number of factors. The major applications of calcined alumina include refractories & ceramics. The rising market penetration of high-quality steel accounts for the largest share in terms of application for refractories, in emerging economies, which drives the demand for high-end refractories, which are made from calcined alumina. The growing building & construction industry further substantiates the growth.**



## ***Activated Alumina***

**Activated alumina is manufactured from aluminium hydroxide by dehydroxylating it in a way that produces a highly porous material; this material can have a surface area significantly over 200 m<sup>2</sup>/g. The compound is used as a desiccant (to keep things dry by absorbing water from the air) and as a filter of fluoride, arsenic and selenium in drinking water. It is made of aluminium oxide (alumina; Al<sub>2</sub>O<sub>3</sub>). It has a very high surface-area-to-weight ratio, due to the many "tunnel like" pores that it has. Activated alumina in its phase composition can be represented only by metastable forms (gamma-Al<sub>2</sub>O<sub>3</sub> etc.).**





**Activated alumina is an excellent desiccant for drying a wide variety of liquids and gases. Activated alumina is a porous, solid form of aluminum oxide, otherwise known as  $\text{Al}_2\text{O}_3$  or alumina. This is the same mineral that makes up the precious gems ruby and sapphire, with impurities being the source of the stones' bright colors. After activated alumina has been evacuated of existing moisture by heating it, the high surface area and many pores of the material allow for the uptake of water and other molecules through adsorption.**

**The U.S. activated alumina market was estimated at USD 217.0 million in 2016 and is anticipated to grow at a CAGR of 4.8% from 2017 to 2025. The increasing research being conducted in the field of activated alumina has helped in increasing the application scope of activated alumina over the years. Activated alumina is a dry, granular chemical substance produced by de-hydroxylation i.e., the removal of hydroxyl group ion from aluminum hydroxide. This compound is treated as a desiccant, catalyst and used for filtering fluoride, arsenic and selenium in drinking water.**



**Activated alumina has a high surface area to weight ratio due to its extensive pore structure, which is resistant to thermal shock and abrasion, and will not shrink, swell or soften when placed in water.**

**Activated alumina is prominently used as a reaction catalyst, in the oil and gas sector, and for the treatment of water. Growing investments in water treatment infrastructure and the ever-rising demand for oil and gas have been fueling the demand for activated alumina over the past few years. These trends are expected to continue during the forecast period, driving the market to expand at a CAGR of 4.2% between 2016 and 2024. The sales of activated alumina amounted to US\$770.6 mn in 2015 and are projected to be worth US\$1,108.9 mn by 2024.**



## ➤ Acetone

**Acetone (propanone) is the organic compound with the formula  $(\text{CH}_3)_2\text{CO}$ . It is a colorless, volatile, flammable liquid, and is the simplest and smallest ketone. Acetone is miscible with water and serves as an important solvent in its own right, typically for cleaning purposes in laboratories.**

**Acetone is a powerful solvent that is used primarily in industrial and laboratory settings, but is safe enough for household applications such as removing nail polish. Acetone is currently produced from petrochemicals as a co-product of phenol, however there is a rich history of high purity acetone being made from the fermentation of sugars derived from corn and other agricultural products.**





**Acetone is a colorless, flammable liquid that evaporates easily. It is an organic compound because carbon atoms are present in acetone's chemical formula, which is  $(CH_3)_2O$ . It consists of three carbon atoms, six hydrogen atoms, and one oxygen atom. Acetone falls under the classification of ketones, which are organic compounds containing a carbonyl group bonded to two hydrocarbon groups.**

**The long-term outlook on the demand for acetone market remains positive, with acetone market value expected to increase at a CAGR of 5.0% during the forecast period (2016 – 2026). Acetone, also known as dimethyl ketone, is a colourless, clear, and volatile liquid mainly used as a chemical intermediate in the manufacture of bisphenol-A (BPA), methyl methacrylate (MMA), and aldol chemicals. The global acetone industry is driven by the solvents sector, which represents 34% of global demand. Global solvent demand from acetone will continue to maintain a healthy growth rate through 2022. Methyl methacrylate (MMA) is the second-largest end use for acetone.**



**The acetone market is expected to witness a CAGR of approximately 3.56% during the forecast period, 2018-2023. The market is driven by many factors, such as dynamic economic development in Asia-Pacific and a positive demand for MMA from the electronics industry.**

**Acetone is a derivative of petroleum production and rising crude oil usage across the globe is anticipated to be an important driver for acetone market during the review period. Increasing pharmaceutical production and sales along with rising consumption of medicines is estimated to fuel the growth of the market. Furthermore, rapid urbanization coupled with increasing disposable income in emerging economies is predicted to propel the growth of the market during the assessment period, 2017 to 2023.**





## ➤ Phosphoric Acid (Purification) from Crude Phosphoric Acid

**Phosphoric acid (also known as orthophosphoric acid or phosphoric (V) acid) is a weak acid with the chemical formula  $\text{H}_3\text{PO}_4$ . Orthophosphoric acid refers to phosphoric acid, which is the IUPAC name for this compound. The prefix ortho- is used to distinguish the acid from related phosphoric acids, called polyphosphoric acids. Orthophosphoric acid is a non-toxic acid, which, when pure, is a solid at room temperature and pressure.**





**Phosphoric acid, also called orthophosphoric acid, ( $\text{H}_3\text{PO}_4$ ), the most important oxygen acid of phosphorus, used to make phosphate salts for fertilizers. It is also used in dental cements, in the preparation of albumin derivatives, and in the sugar and textile industries. It serves as an acidic, fruitlike flavouring in food products.**

**Phosphorus is an essential plant nutrient and is taken up by plant roots, usually as the dihydrogen phosphate ion,  $\text{H}_2\text{PO}_4^-$ , derived from phosphoric acid,  $\text{H}_3\text{PO}_4$ . The manufacture of fertilizers that are used to rectify phosphorus deficiencies in soils depends on the availability of supplies of phosphoric acid. Phosphoric acid is an inorganic mineral acid and can be referred to as phosphoric (V) acid or orthophosphoric acid. Orthophosphoric acid molecules combine with themselves to form various compounds which are termed as phosphoric acids. Phosphoric acid is largest in terms of production and consumption value and follows sulfuric acid in terms of volume.**



**Phosphoric acid can be produced by two commercial methods: wet process and thermal process. Wet process phosphoric acid is used in fertilizer production. Thermal process phosphoric acid is of higher purity and it is used in the manufacture of high-grade chemicals, pharmaceuticals, detergents, food products, beverages, and other non-fertilizer products.**

**Phosphoric acid ( $\text{H}_3\text{PO}_4$ ) is the leading inorganic acid produced and consumed in terms of production value and it is the second largest in terms of volume after sulfuric acid. By far its greatest use is in the manufacture of phosphate chemicals consumed primarily as carriers of phosphorus values in fertilizers. Use in the production of animal feeds is of secondary importance. Phosphoric acid is also used in the manufacture of phosphate chemicals for use in water treatment and detergent builders, dentifrices, fire control chemicals, and a host of smaller markets.**

## ➤ **Micronutrients for Crop Production (Solid Form)**

**Micronutrients are essential elements required by organisms in small quantities throughout life to orchestrate a range of physiological functions to maintain health. Micronutrient requirements differ between organisms; for example, humans and other animals require numerous vitamins and dietary minerals, whereas plants require specific minerals. For human nutrition, micronutrient requirements are in amounts generally less than 100 milligrams per day, whereas macronutrients are required in gram quantities daily.**





**Micronutrients are essential to the production of enzymes, hormones, proteins, and other products created by your body. Some micronutrients have a specialized role, while others fulfill a broad range of functions. Micronutrients are incredibly important for health and wellness. Mineral deficiencies can have lasting, detrimental health consequences in children and adults of all ages.**

**Micronutrients are trace elements such as vitamins and minerals. They differ from macronutrients, like carbohydrates, protein and fat, because they are necessary only in very small amounts. Micronutrients include minerals such as fluoride, selenium, sodium, iodine, copper and zinc, and vitamins such as vitamin A, B, C, D, E, and K. Because our body is not able to produce all vitamins and minerals, it obtains them from the nutrient-rich foods we eat. Global micronutrients market is expected to grow over the forecast period on account of increasing demand from agriculture industry since they significantly improve uniformity and quality in crop yield. Micronutrients deficiency results in yellowing of leaves, withering of buds in crops, health hazards and eventually resulting in crop productivity decline.**

**Micronutrients are utilized by humans and other organisms in micro quantities for various physiological functions. As opposed to macronutrients, micronutrients are required in minute quantities in soil and humans, generally less than 100 milligrams per day.**

**Micronutrients such as copper, iron, zinc, boron are considered as essential micronutrients for plants. As the deficiency of micronutrients can lead to various diseases in plants that may reduce quality and quantity of plants. Increasing preference for Genetically Modified (GM) seeds across the globe is also likely to impact the growth of the global market for agriculture micronutrients. Increasing use of chemical fertilizer is also driving the growth of micronutrients, as it protects crops from insects, UV radiations, and also offer increased yield.**

**The global micronutrients market is expanding due to high demand for quality and uniform yield owing to rising population. Food security is one of the major challenges faced by the global agriculture industry. Depleting arable land is another major concern in most regions. The amount of nutrients in the soil has diminished due to adoption of new technologies and increasing pressure on agricultural land to deliver quality yields.**

## ➤ Zinc Chloride

**Zinc chloride is the name of chemical compounds with the formula  $\text{ZnCl}_2$  and its hydrates. Zinc chlorides, of which nine crystalline forms are known, are colorless or white, and are highly soluble in water.  $\text{ZnCl}_2$  itself is hygroscopic and even deliquescent. Samples should therefore be protected from sources of moisture, including the water vapor present in ambient air. Zinc chloride finds wide application in textile processing, metallurgical fluxes, and chemical synthesis.**

**Zinc Chloride has numerous applications in different industries, including health care, pharmaceuticals, and paper manufacturing industry. It is also used in the chemical products formulation and manufacturing industry too.**





**Zinc chloride ( $\text{ZnCl}_2$ ) is an important compound and it exists in its nine crystalline forms which are either colorless or white. It is actually a granular powder which we get by heating calcium chloride and zinc sulfate together. It has a specific gravity of 2.75, a pH of 4 and a burning taste. The anhydrous zinc chloride which is white is known for its solubility in water.**

**Zinc Chloride is an ionic salt essential for the synthesis of cholesterol, protein, and fats. Zinc plays an important role in the proper functioning of the immune system. Zinc is required for the enzyme activities necessary for cell division, cell growth, and wound healing as well as the release of vitamin A from the liver. It plays a role in the acuity of the senses of smell and taste and is required to maintain prostate reproductive health and insulin function. Zinc is also involved in the metabolism of carbohydrates. Zinc chloride is administered orally or parenterally as a nutritional supplement.**





**Zinc chloride is most commonly used for galvanizing, soldering and tinning fluxes, odor control, oil-gas wells, vulcanized fiber, reclaimed rubber, textile finishing, liquid fertilizer and dry cell batteries among others. Sales revenue of the zinc chloride market is pegged at approximately 270.9 Mn in 2018 and is projected to reach a value of US\$ 426.4 Mn by the end of 2028, expanding at a CAGR of 4.6% over the forecast period (2018 – 2028).**

**The global zinc chloride market can be segmented on the basis of grade type, application, end use sector and region. On the basis of grade type, the global zinc chloride market can be segmented into high purity grade, battery grade, technical grade and commercial grade. On the basis of application type, the global zinc chloride market can be segmented into dry cell batteries, water treatment, catalyst and others.**

## ➤ MS Binding Wires

**Wire binding is a popular commercial book binding method, and is known by a number of different names including twin loop wire, wire-o, double loop wire, double-o, ring wire and wire bind. With this binding method, users insert their punched pages onto a "C" shaped spine and then use a wire closer to squeeze the spine until it is round. Documents that are bound with wire binding will open completely flat on a desk and allow for 360 degree rotation of bound pages.**



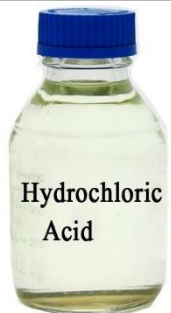
- **Binding Wire is used for the purpose of tying applications in the field of construction. It is used extensively in the construction sector for tying the rebars at the joints so as to keep the structure intact.**
- **The application of binding wire requires it to be flexible enough so as to tie easily and strong enough so as to hold the joint in place. There are various methods used for tying the joints.**

**Binding wires are made from high quality carbon steel making them highly resistant to corrosion and abrasion. In RCC work where we use MS steel bars either plain or ribbed or tor, binding wires are used to bind the steel bars to each other at appropriate place according to design at a spacing defined by the drawing. The steel bars should not be disturbed while lying cements concrete in any of member such as column, beam, slab wall etc.**

## ➤ Hydrochloric Acid

**Hydrochloric acid is naturally produced by cells in our bodies to help digest food in the stomach. Hydrochloric acid is also synthetically produced for a variety of industrial and commercial applications. For these applications, hydrochloric acid is formed by dissolving hydrogen chloride gas in water.**

**Hydrochloric acid is a colorless inorganic chemical system with the formula  $H_2O:HCl$ . Hydrochloric acid has a distinctive pungent smell. It is mainly produced as a precursor to vinyl chloride for PVC. It is classified as strongly acidic and can attack the skin over a wide composition range, since the hydrogen chloride practically dissociates completely in solution.**





**Hydrochloric acid is a strong, corrosive acid that can be used to make steel for bridges and cars. It is used in the chemical industry in the large-scale production of vinyl chloride for PVC plastic, and it is one of the chemicals that produces polyurethane foam and calcium chloride.**

**Hydrochloric acid, once referred to a muriatic acid, is a caustic liquid sometimes used to acidify water and soil to achieve a lower pH level for plant growth. However, this liquid can kill plants when used in high concentrations, so caution is needed. Hydrochloric acid is the salt of hydronium ion,  $\text{H}_3\text{O}^+$  and chloride. It is almost always prepared by treating hydrogen chloride ( $\text{HCl}$ ) with water.**

**The global hydrochloric acid market is projected to witness substantial growth throughout the forecast period, thanks to the increasing number of applications of hydrochloric acid. In addition, the rising focus of key players on the expansion of the product portfolio in order to enhance their market presence and create a niche across the globe is estimated to supplement the growth of the global hydrochloric acid market in the coming years. With these factors, the market is expected to register a healthy growth rate throughout the forecast period.**

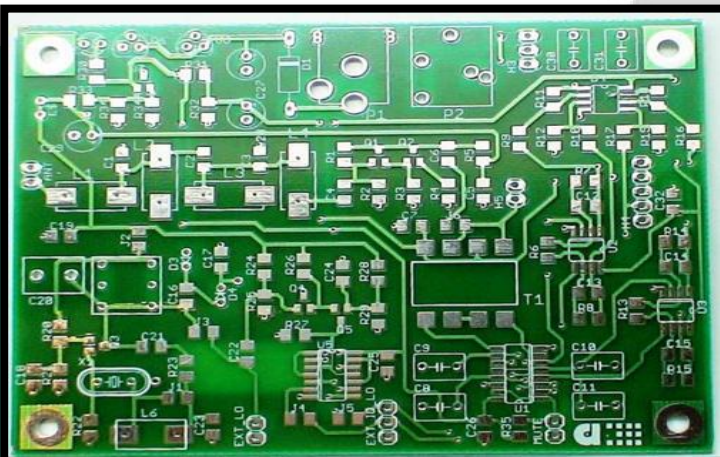


**Global hydrochloric acid (HCl) or muriatic acid market is poised to witness growth over the forecast period owing to increasing demand from application industries such as water treatment, food processing and oil & gas. In addition, growing HCl use in steel and pharmaceutical industry is expected to drive the market over the next six years.**

**The hydrochloric acid market is expected to register significant growth during the forecast period (2018 - 2023). The major driving force for the market is the increasing demand for acidization of oil wells in the oil & gas industry. The Global Hydrochloric Acid Market is expected to witness a significant growth of USD ~ 1869.559 million by 2023 with CAGR of ~5.0% between 2016 and 2023 Hydrochloric Acid is one of the names for muriatic acid with the chemical formula HCl. It is also known as acidumsalis or spirits of salt. Hydrochloric Acid is a, transparent, very strong solution of hydrogen chloride in water.**

## ➤ PCB (Printed Circuit Board) (Multilayer)

**A printed circuit board (PCB) mechanically supports and electrically connects electronic components or electrical components using conductive tracks, pads and other features etched from one or more sheet layers of copper laminated onto and/or between sheet layers of a non-conductive substrate. Components are generally soldered onto the PCB to both electrically connect and mechanically fasten them to it. Printed circuit boards are used in all but the simplest electronic products. They are also used in some electrical products, such as passive switch boxes.**





**Printed Circuit Boards (PCBs) form the backbone of all major electronics. These miraculous inventions pop up in nearly all computational electronics, including simpler devices like digital clocks, calculators etc. For the uninitiated, a PCB routes electrical signals through electronics, which satisfies the device's electrical and mechanical circuit requirements. In short, PCBs tell the electricity where to go, bringing your electronics to life.**

**The printed circuit board (PCB) acts as the linchpin for almost all of today's modern electronics. If the device needs to do some sort of computation — such as is the case even with simple items like a digital clock — chances are there's a PCB inside of it. PCBs bring electronics to life by routing electrical signals where they need to go to satisfy all of the device's electronic requirements. For this to happen, PCBs are laid with a network of paths outlined in the traces. It's these copper pathways that allow PCBs to direct electrical currents around their surface.**





**The future of the PCB market looks promising with opportunities in the computer/peripherals, communications and consumer electronics, industrial, automotive, and military/aerospace industries. The global PCB market is expected to reach an estimated \$80.1 billion by 2023 with a CAGR of 3.3% from 2018 to 2023. The major growth drivers for this market are increasing demand for PCB in the communication industry, growth in connected devices, and advancement in automotive electronics.**

**The global PCB and PCBA (Printed Circuit Board Assembly) market is expected to grow at a CAGR of 3–4 percent until 2020. This growth is driven by the likely rise in demand from the automotive and electronic industries in the Asian countries. The APAC region, contributing to more than 90 percent of the global production, is expected to be a key influencing factor for the PCBA market by 2020.**

## ➤ PVC Granules & Rigid Pipes

### *PVC Granules*

**PVC compounds also known as a dry blend are based on the combination of the PVC and additives that give the formulation necessary for the end-use application. The convention in recording the additive concentration is based on parts per hundred of the PVC resin (phr). The compound is generated by intimately mixing together the ingredients, which is subsequently converted into the gelled article under the influence of heat (and shear).**



**Depending on the type of PVC and additives, the compound prior to gelation, can be a free-flowing powder/dry blend or a liquid in the form of a paste or solution. PVC compounds can be formulated for flexible materials using plasticisers, called PVC Plasticized Compounds and for rigid application without plasticizer called UPVC compound.**



## ***Rigid Pipes***

**Rigid pipes are usually made of plain concrete, reinforced concrete, vitrified clay, cast iron and asbestos cement. Rigid pipes have sufficient strength to support loads even if no side support, such as backfill, is provided. However; this load carrying capacity can be significantly increased by providing proper bedding and backfill. Rigid pipes made of plain concrete are considered as failed if a crack or fracture is observed, however; for reinforced concrete pipes, cracks up to 0.01-inch are considered permissible. The market is segmented based on the end-use applications and type of materials, diameter size of pipes, and regions with different criss-cross.**





## Tags

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## Major Queries/Questions Answered in Our Report?

- 1. How has the industry performed so far and how will it perform in the coming years?**
- 2. What is the Project Feasibility of the Plant?**
- 3. What are the requirements of Working Capital for setting up the plant?**
- 4. What is the structure of the industry and who are the key/major players?**



- 5. What is the total project cost for setting up the plant?**
- 6. What are the operating costs for setting up the plant?**
- 7. What are the machinery and equipment requirements for setting up the plant?**
- 8. Who are the Suppliers and Manufacturers of Plant & Machinery for setting up the plant?**
- 9. What are the requirements of raw material for setting up the plant?**

- 10. Who are the Suppliers and Manufacturers of Raw materials for setting up the plant?**
- 11. What is the Manufacturing Process of the plant?**
- 12. What is the total size of land required for setting up the plant?**
- 13. What will be the income and expenditures for the plant?**
- 14. What are the Projected Balance Sheets of the plant?**

- 15. What are the requirement of utilities and overheads for setting up the plant?**
- 16. What is the Built up Area Requirement and cost for setting up the plant?**
- 17. What are the Personnel (Manpower) Requirements for setting up the plant?**
- 18. What are Statistics of Import & Export for the Industry?**
- 19. What is the time required to break-even?**

- 20. What is the Break-Even Analysis of the plant?**
- 21. What are the Project financials of the plant?**
- 22. What are the Profitability Ratios of the plant?**
- 23. What is the Sensitivity Analysis-Price/Volume of the plant?**
- 24. What are the Projected Pay-Back Period and IRR of the plant?**
- 25. What is the Process Flow Sheet Diagram of the plant?**
- 26. What are the Market Opportunities for setting up the plant?**
- 27. What is the Market Study and Assessment for setting up the plant?**
- 28. What is the Plant Layout for setting up the plant?**



## Reasons for Buying Our Report:

- The report helps you to identify a profitable project for investing or diversifying into by throwing light to crucial areas like industry size, market potential of the product and reasons for investing in the product
- The report provides vital information on the product like it's characteristics and segmentation
- The report helps you market and place the product correctly by identifying the target customer group of the product



- **The report helps you understand the viability of the project by disclosing details like machinery required, project costs and snapshot of other project financials**
- **The report provides a glimpse of government regulations applicable on the industry**
- **The report provides forecasts of key parameters which helps to anticipate the industry performance and make sound business decisions**



## **Our Approach:**

- **Our research reports broadly cover Indian markets, present analysis, outlook and forecast for a period of five years.**
- **The market forecasts are developed on the basis of secondary research and are cross-validated through interactions with the industry players**
- **We use reliable sources of information and databases. And information from such sources is processed by us and included in the report**



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- *We adopt a systematic approach to provide the strong fundamental support needed for the effective delivery of services to our Clients' in India & abroad*



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- *We help catalyze business growth by providing distinctive and profound market analysis*
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- *We use authentic & reliable sources to ensure business precision*



# Our Approach

Requirement collection

Thorough analysis of the project

Economic feasibility study of the Project

Market potential survey/research

Report Compilation



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