

**Non-Ferrous and  
Precious Metals  
with Electroplating  
Chemicals**

# Introduction

**Non-ferrous metals are much more malleable than ferrous metals. Non-ferrous metals are also much lighter, making them well-suited for use where strength is needed, but weight is a factor, such as in the aircraft or canning industries. Because they contain no iron, non-ferrous metals have a higher resistance to rust and corrosion, which is why you'll find these materials in use for gutters, water pipes, roofing, and road signs.**



**The most commonly used non-ferrous metals are aluminium, copper, lead, zinc, nickel, titanium, cobalt, chromium and precious metals. Millions of tonnes of nonferrous scrap are recovered annually and used by smelters, refiners, ingot makers, foundries, and other manufacturers. Some non-ferrous materials are also used in the iron and steel industries.**

**Important non-ferrous metals include aluminium, copper, lead, nickel, tin, titanium and zinc, and alloys such as brass.**

**Precious metals such as gold, silver and platinum and exotic or rare metals such as cobalt, mercury, tungsten, bismuth, cerium, cadmium, niobium, indium, tantalum and vanadium are also non-ferrous. Precious metals have long been valued as stores of wealth and for use in producing coinage, jewelry and decorative arts. Today, precious metals are used in a wide range of applications including electronic and communications equipment, spacecraft, and jet aircraft engines and can be found in everything from cell phones to catalytic converters.**



**Gold serves as the most vital element in international banking and over 90 per cent of the world's total gold production is used in the monetary system. A large quantity of gold is used in India, for the manufacture of jewellery, dentistry and decorative articles.**

**Indian Precious Metals demand has always been very active especially Gold and Silver as Indian's are known worldwide for their love for Gold, be it simply Bars or Ornaments or Coins. This has been the case ever since Gold was first discovered or introduced into India. Investment to silver in India would nearly double world silver jewellery demand.**

**Electroplating Chemicals** that is basically used for metal finishing and electroplating. This chemical is widely demanded in automotive, electronics, telecommunications, aerospace and precision engineering industries.

**Electroplating** is a process in which electrical current is used to reduce dissolved metal cation so that they form a coherent metal coating on an electrode. Additionally, this chemical is used to change the surface properties of an object such as abrasion and wear resistance, corrosion protection, lubricity, etc.

**India is among top 20 major producers copper globally. Falling prices of copper in international markets would benefit India, as it is one of the world's biggest importers of the metal, alongside China, Japan, South Korea and Germany. Nickel demand is derived demand based on the growth of different industrial sector thus exhibits high volatility. Nickel market in India is of total import dependent. India imports around 50,000 mt of Nickel. One of the emerging trends spurring the growth prospects of this market is the extensive applications of titanium. Titanium is used in anodic spark deposition, a technology that has the potential for expanding titanium's suitability for automotive, biomechanical, marine, and industrial applications.**



**Demand for non-ferrous metals comes from sectors such as agriculture, automobiles, railways, telecommunications, construction and chemicals. The Make in India campaign coupled with enhanced thrusts to sectors like Defence, Railways, Metro, Power, Housing; which all need huge quantity of Non-Ferrous Metals; will be a great catalyst to spur the demand in India.**

**Basic precious and non-ferrous metals' turnover expected to see 13% CAGR over 2014-2020 due to expected growth in construction industry.**

This handbook explains different extraction and production processes with flow diagrams of various non ferrous and precious metals. Major contents of the book are Silver, Gold, Copper, Complex salts of copper, silver and gold, magnesium, chromium, platinum group of metals, nickel, zinc, lead, aluminium, mercury, cobalt, sodium, sodium chloride, soda ash, sodium sulfate, glauber salt, hydrochloric acid, sodium silicate, sodium sulfides, sodium thiosulfate, sodium bisulfate, anhydrous, sodium hyposulfite, liquid chlorine, hydrides of boron, silicon, sulfuric acid, nitric acid, ammonium nitrate, hydrazine, hydrogen cyanide, melamine, amines, aniline, isocyanates, phosphorus, tin, ferroalloys, manganese, bismuth, cerium, phosphoric acid, tungsten, niobium and tantalum etc.

It will be a standard reference book for professionals, entrepreneurs, engineers, those studying and researching in this important area and others interested in the field of non ferrous, precious metals and electroplating chemicals.

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Application of Zinc Refining Process, Book of Non-Ferrous Metal, Book on Non-Ferrous and Precious Metals with Electroplating Chemicals, Chemical Extraction of Precious Metals, Chemicals are used for the preparation of precious metal plating, Chromium Chemistry, Chromium occurrence, principles of extraction, Chromium uses, Copper extraction and purification, Copper extraction techniques, Copper refining process, Electrolysis of Magnesium Chloride, Electrolysis Production of Magnesium, Electrolytic processes for the extraction of nickel, Electroplating Chemicals & Non Ferrous Metals, Electroplating Chemicals, Essential Guide to Investing in Precious Metals, Extracting Lead Materials from Ore, Extracting precious metals from electronics, Extraction of Copper, Extraction of Lead, Extraction of nickel from its ore, Extraction of nickel from sulphide ore, Extraction of Nonferrous Metals book, Extraction of nonferrous metals, Extraction of Platinum Group Metals, Extraction of precious metals, Extraction of zinc by electrolysis, Extraction of Zinc, Extraction purification lead zinc titanium chromium mineral ores, Gold Extraction in India, How electroplating works, How is lead processed?, How is nickel extracted?, How lead is made - material, used, processing, product, industry, How Nickel is produced, How to remove precious metals, How to start Non-ferrous Businesses,

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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 empower our customers with the prerequisite know-how to take sound business decisions*
- *We help catalyze business growth by providing distinctive and profound market analysis*
- *We serve a wide array of customers , from individual entrepreneurs to Corporations and Foreign Investors*
- *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



# Who do we serve?

- *Public-sector Companies*
- *Corporates*
- *Government Undertakings*
- *Individual Entrepreneurs*
- *NRI's*
- *Foreign Investors*
- *Non-profit Organizations, NBFC's*
- *Educational Institutions*
- *Embassies & Consulates*
- *Consultancies*
- *Industry / trade associations*

# Sectors We Cover

- *Ayurvedic And Herbal Medicines, Herbal Cosmetics*
- *Alcoholic And Non Alcoholic Beverages, Drinks*
- *Adhesives, Industrial Adhesive, Sealants, Glues, Gum & Resin*
- *Activated Carbon & Activated Charcoal*
- *Aluminium And Aluminium Extrusion Profiles & Sections,*
- *Bio-fertilizers And Biotechnology*
- *Breakfast Snacks And Cereal Food*
- *Bicycle Tyres & Tubes, Bicycle Parts, Bicycle Assembling*

## Sectors We Cover Cont...

- *Bamboo And Cane Based Projects*
- *Building Materials And Construction Projects*
- *Biodegradable & Bioplastic Based Projects*
- *Chemicals (Organic And Inorganic)*
- *Confectionery, Bakery/Baking And Other Food*
- *Cereal Processing*
- *Coconut And Coconut Based Products*
- *Cold Storage For Fruits & Vegetables*
- *Coal & Coal Byproduct*



## Sectors We Cover Cont...

- *Copper & Copper Based Projects*
- *Dairy/Milk Processing*
- *Disinfectants, Pesticides, Insecticides, Mosquito Repellents,*
- *Electrical, Electronic And Computer based Projects*
- *Essential Oils, Oils & Fats And Allied*
- *Engineering Goods*
- *Fibre Glass & Float Glass*
- *Fast Moving Consumer Goods*
- *Food, Bakery, Agro Processing*



## Sectors We Cover Cont...

- *Fruits & Vegetables Processing*
- *Ferro Alloys Based Projects*
- *Fertilizers & Biofertilizers*
- *Ginger & Ginger Based Projects*
- *Herbs And Medicinal Cultivation And Jatropha (Biofuel)*
- *Hotel & Hospitability Projects*
- *Hospital Based Projects*
- *Herbal Based Projects*
- *Inks, Stationery And Export Industries*



## Sectors We Cover Cont...

- *Infrastructure Projects*
- *Jute & Jute Based Products*
- *Leather And Leather Based Projects*
- *Leisure & Entertainment Based Projects*
- *Livestock Farming Of Birds & Animals*
- *Minerals And Minerals*
- *Maize Processing(Wet Milling) & Maize Based Projects*
- *Medical Plastics, Disposables Plastic Syringe, Blood Bags*
- *Organic Farming, Neem Products Etc.*



## Sectors We Cover Cont...

- *Paints, Pigments, Varnish & Lacquer*
- *Paper And Paper Board, Paper Recycling Projects*
- *Printing Inks*
- *Packaging Based Projects*
- *Perfumes, Cosmetics And Flavours*
- *Power Generation Based Projects & Renewable Energy Based Projects*
- *Pharmaceuticals And Drugs*
- *Plantations, Farming And Cultivations*
- *Plastic Film, Plastic Waste And Plastic Compounds*
- *Plastic, PVC, PET, HDPE, LDPE Etc.*

## Sectors We Cover Cont...

- *Potato And Potato Based Projects*
- *Printing And Packaging*
- *Real Estate, Leisure And Hospitality*
- *Rubber And Rubber Products*
- *Soaps And Detergents*
- *Stationary Products*
- *Spices And Snacks Food*
- *Steel & Steel Products*
- *Textile Auxiliary And Chemicals*

## Sectors We Cover Cont...

- *Township & Residential Complex*
- *Textiles And Readymade Garments*
- *Waste Management & Recycling*
- *Wood & Wood Products*
- *Water Industry(Packaged Drinking Water & Mineral Water)*
- *Wire & Cable*

# Contact us

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# THANK YOU!!!

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