TZD Global
beyond boundaries

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Procurement

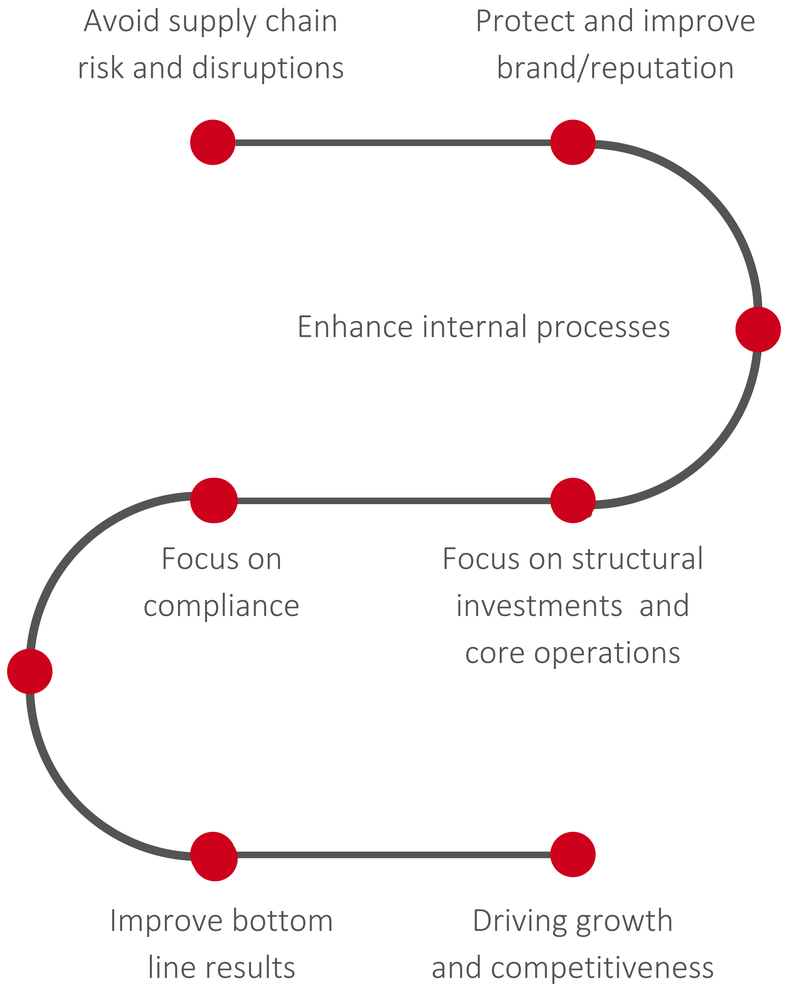
Success in business has simple rules. Spend less than you earn is the first.

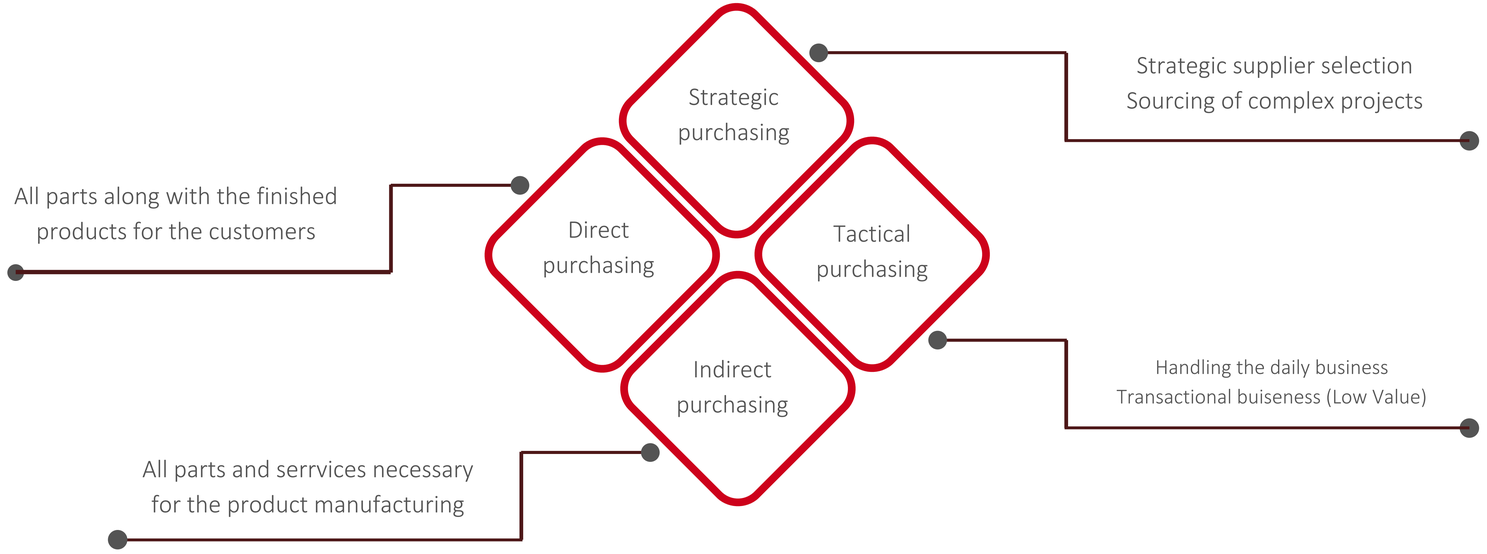
Overview

Procurement optimization plays an important role in business in achieving sustainable growth and ensuring competitiveness. Thus, seeking help from procurement experts offers your company a strategic advantage: You can circumvent challenges related to procurement strategy selection and supplier management issues. Additionally, you can reduce cost and mitigate risk.

Consequently, outsourcing of procurement functions can act as extension of your purchasing department and will help your organization to:

As you can see, you will sidestep focusing too much on the operational tasks in your company – a mistake that so many businesses make. Rather, you will use your time to pay attention to strategic and core business tasks. In this way, you will stand out in comparison to your competition and surpass them.





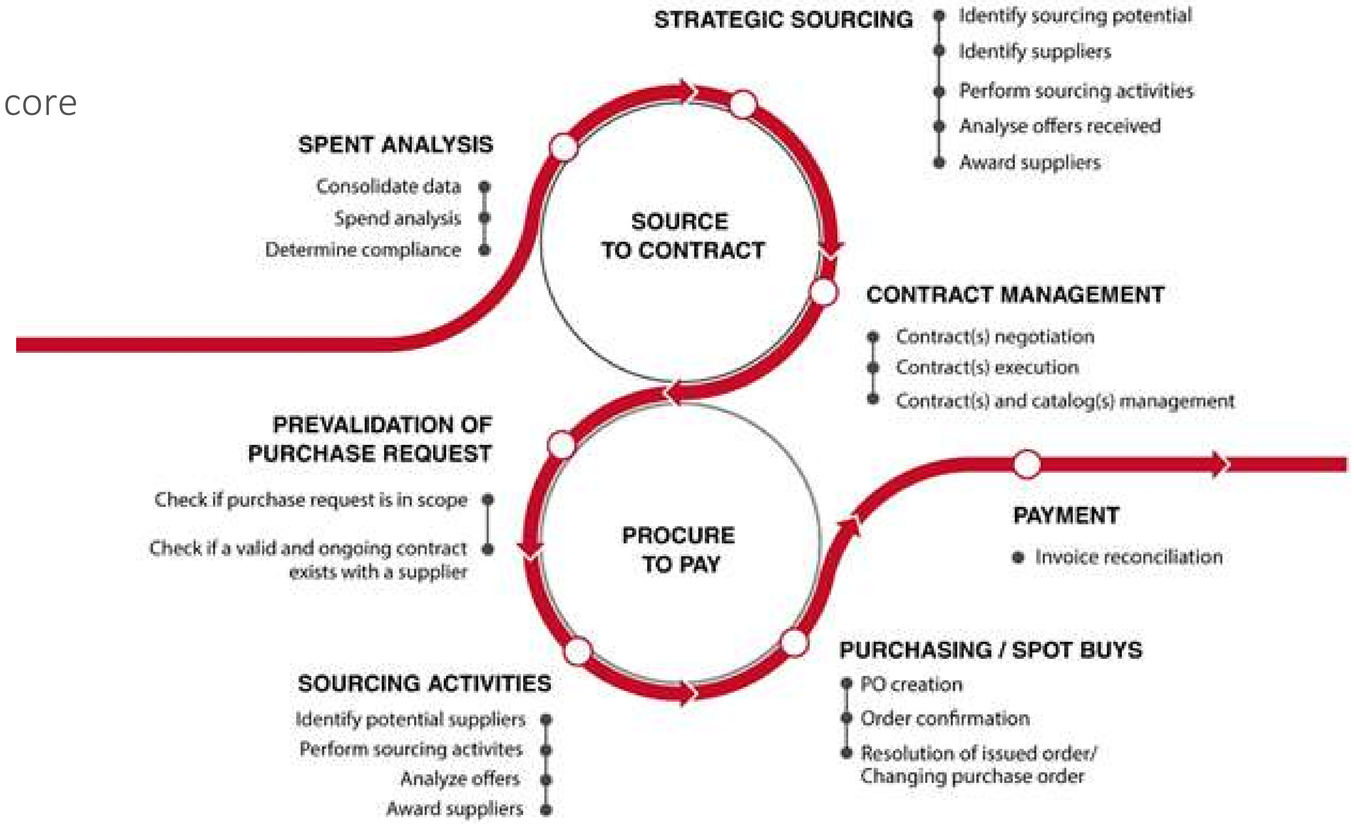
To address the market's needs, our procurement services model can cover both direct and indirect purchasing, expending to strategic and transactional purchasing:

We know how important it is to stick to the budget and provide the necessary goods and materials on time. We focus on efficient sourcing through appropriate channels to identify and select the most competitive suppliers in terms of cost, time resources and the quality standard required.

Services and Solutions

To ensure the success of our procurement services, our core competencies include:

- Strategic Sourcing
- Spend Analysis
- Tactical Purchasing
- Material Master Management and Data Classification



Caring about strategic sourcing enhances cost-efficiency and offers various other advantages like;

- Cost avoidance and cost containment
- Effective and successful supplier and customer management
- Risk mitigation
- Detailed forecast of revenues and savings

Your business can benefit from
higher competitiveness in terms of purchasing strategy by partnering up with
us. We help you achieve this by offering your company;

- Our commodity experts, strongly oriented on savings
- Embedded plant budget savings
- Purchasing administration cost reduction
- Supplier maintenance cost reduction through supplier consolidation

Process Steps

We can translate strategic sourcing into consolidating high runner items in blankets and maintained catalogues. Automated transactions refer to;

- Blankets, which are considered as highly efficient due to the fact that they reduced the need for administrative resources for perpetual.
- Catalogues, along with mandatory catalogue management setup, which are a solution for non-regular/non-perpetual use for low value items to be set in place.

To avoid an underperforming of contracts, our strategic sourcing team can support with post award activities such as;

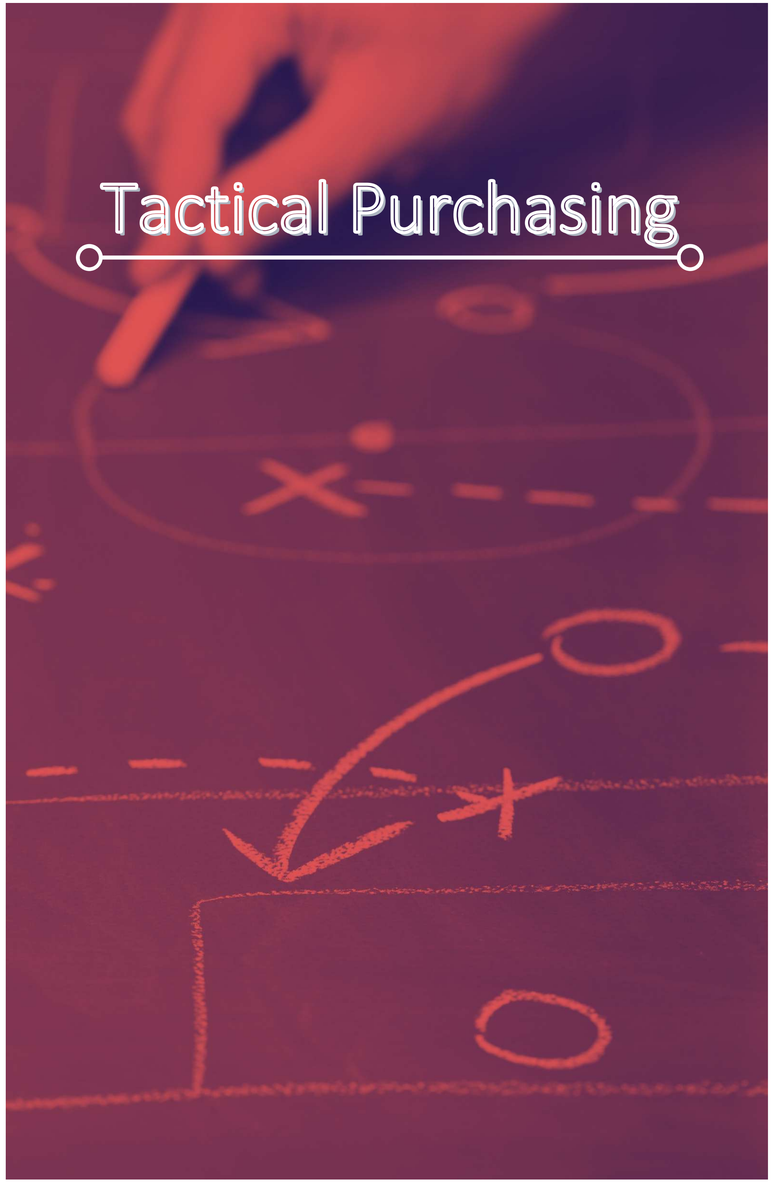
- Contract compliance
- Contract amendment
- Contract renewal
- Contract closure

Spend Analysis

Conducting a spend analysis allows your business to adapt your spending behavior to your company's needs. Seeking and experts help allows you to focus on your core operations and strategic planning as it gives great insights on classification and structure of spend.

Spend analysis can provide your company with great insights on classification and visibility of spend. Therefore, it helps you in strategic planning and then lets you focus on your core operations. It can significantly increase the classification accuracy and can provide your business with;

- Category and commodity classification of spend
- Review of category maturity
- Understanding of historical spend and supplier performance and development
- Solutions for identifying patterns and creating forecast models
- Maverick spend overview
- Fast analysis and reporting
- Greater compliance
- Drill-down" and "Roll-up" analysis
- Clear contract creation solutions



Tactical Purchasing

Tactical Purchasing mainly refers to non-automated transactions for non-regular use, which have the objectives to reduce delivery time and cost reduction and increase savings. We are experts in supporting your business with one-time buys, urgent buys and low-complexity purchases.
Due to all of these aspects, we can ensure significant savings and an effective tail-spend management tactical purchasing.

Process Steps

Stakeholers
- Release purchase aquisition

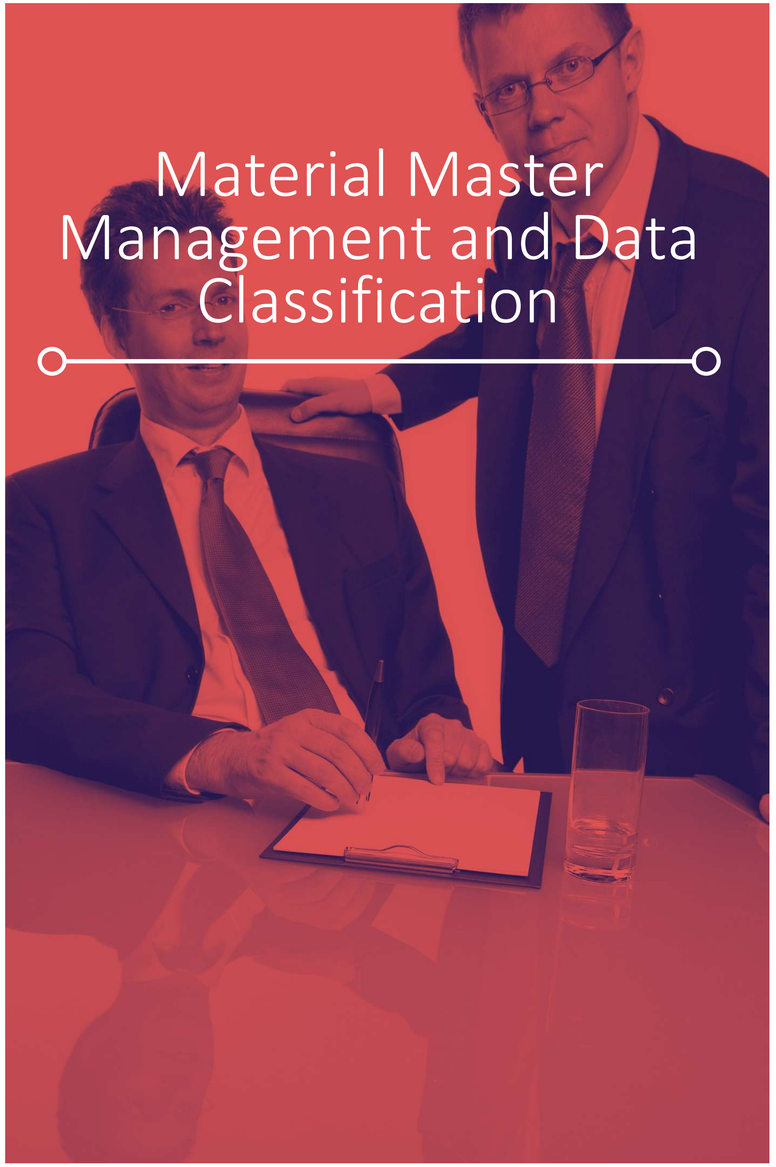
1 Pre-validation
- check if item is included in a valid contract
- check if request is in BPO's scope

2 Internal Analysis
- analyse spend characteristics
- analyse historical spend
- baseline current spending

3 Sourcing execution
- implement sourcing strategy
- run RFQ
- develop negotiation strategy
- conduct negotiation (by e-mail or F2F)
- run technical evaluation together with stakeholder
- bid summary

4 Purchase order
- create PO
- support supplier onboarding
- report savings
- compare order confirmation to PO
- resolution of issued order / change PO

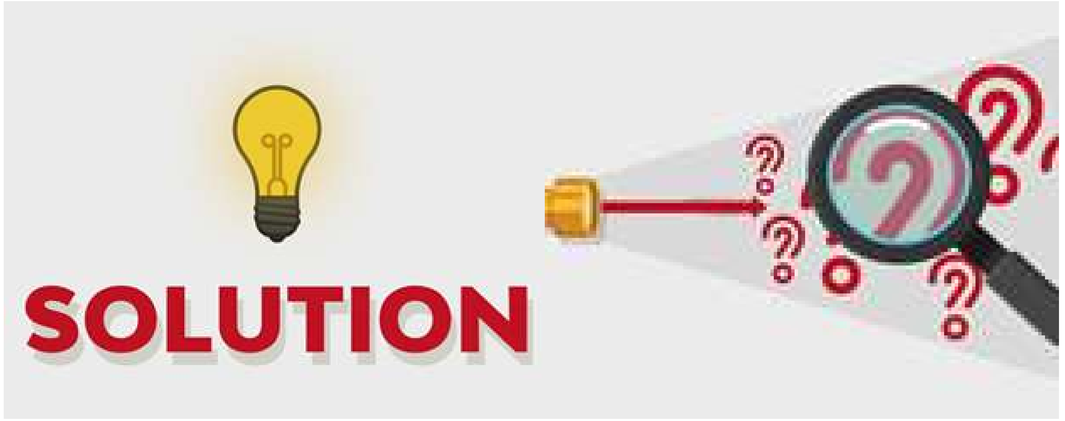
5 Payment
- invoice reconciliation



Material Master Management and Data Classification

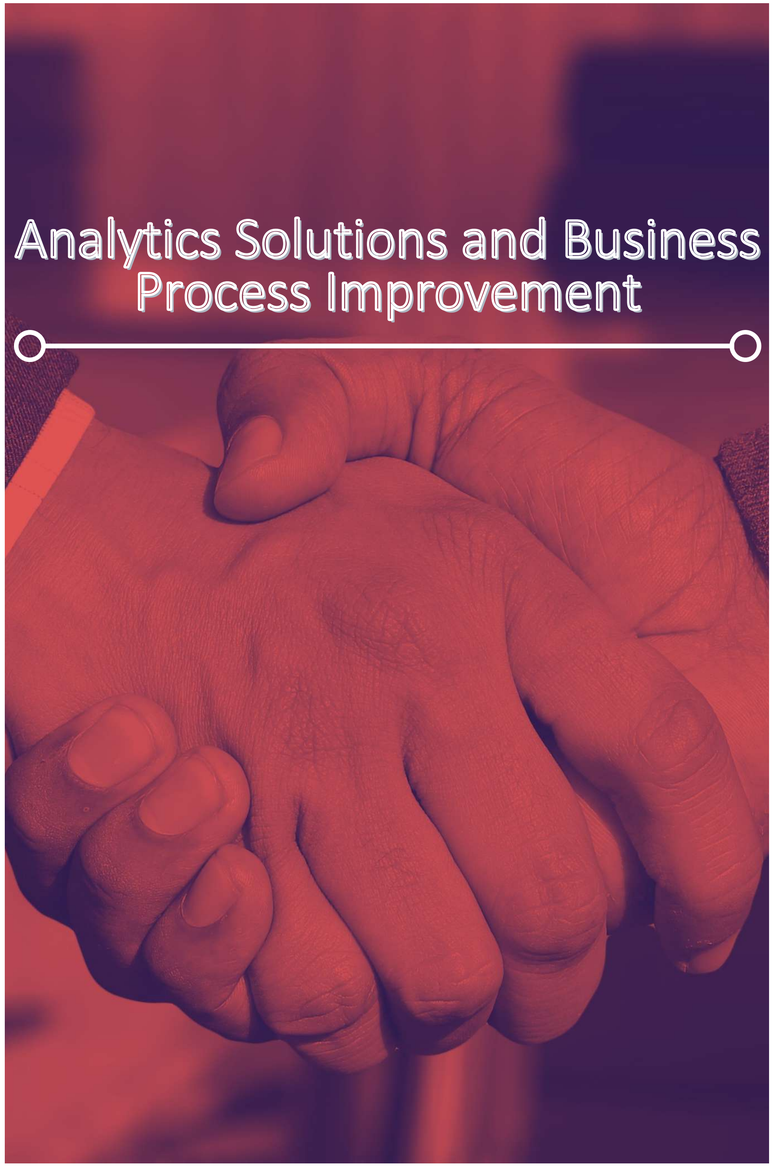
From a purchasing perspective, the material master database holds all items purchased by a company or items existing in stock. Therefore, it supports you in time management when it comes to procurement decisions. The database includes unique codes assigned to each material regarding, but not limited to, manufacturer, part number, description, UNSPSC and eCl@ass codes, commodity, etc.

Having such a database helps in expanding to and benefiting from e-commerce. On top of all that, having material master management and data classification also brings about advantages in the fields of material planning and control, accounting, budget planning, forecasting and much more.



A commodity-oriented structure allows for building a customized architectural model in line with the particularity of each industry. Meanwhile, coding provides standardization and optimization of materials by using a smart codification system according to UNSPSC and eCl@ass International Standards.

- Data standardization across departments/plants, resulting in data consistency and uniqueness of records
- Efficient and effective management of purchasing and sourcing processes
- Allows for detailed spend analysis, cost-effective procurement and better supplier management
- Allows “Drill Down” and “Roll Up” analysis
- Maintenance of data quality in a real time
- Intra and interplant material visibility
- Visibility of inventory
- Efficient strategic sourcing and procurement



Monitoring and evaluation are key aspects in any business and help achieve the overall goals of the organization. Using key metrics helps a business recognize where it stands, define objective as to where it wants to go and measure its progress. Thus, they support sustainable growth. We conduct internal assessments of processes, control data and check quality, implement changes and streamline processes and constantly monitor the entire process. These steps help us to ensure a lean and efficient process, to monitor the compliance with client's policies, requirements and processes and to secure SLAs and KPIs

Such an approach enables us to perform

- Data integration by offering general integration methods and process of data warehousing
- Data analysis focusing on data and process mining
- Improvements and innovations by offering customized business models and automation solutions

Purchasing module

Your business can benefit from TZD Global tailored reporting formats, analysis and tracking tools for purchasing which are customized to client's business particularities. The main functionalities of the tools, to mention but a few are:

- Managing all PRs/ SCs downloaded daily from the ERP system
- PRs / SC follow up
- Manages automatic escalation to stakeholders and suppliers
- Analysis for buyers (spend. Perpetual buys, suppliers)
- Bid summaries (quotes comparision, cherry picking results, sourcing decision making tool)
- RFQ analysis
- Contract overview and expiration date
- Audit tracking and reporting functionality
- Real time workload processing status
- Savings analysis per period/commodity/plant
- Spend analysis
- Storgae of the relevant documents

Material data and classification

- Managing all requests for generating codes based on UNSPSC and eCl@ss international Standards
- Reporting on-coding process and statuses
- Assign codes to requests

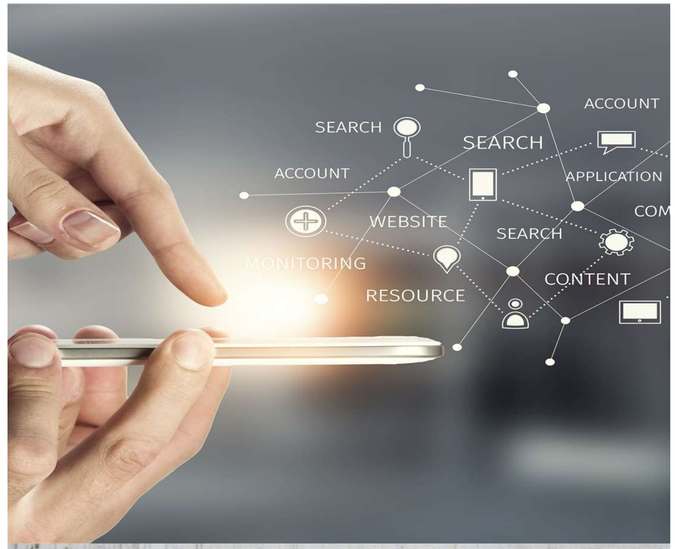
Management reports Web-access for clients Tracking System

- Reporting tool for project defined KPIs and SLAs
- Metrics like i.e. : Audit results, Query Management, Escalation

Through supplier data management we provide accurate and consistent information about supplier performance to reduce payment and purchasing errors as well as supplier related risks and improve sourcing cycle time.

We provide support for the following processes,

- Supplier onboarding
- Supplier block/unblock/extend
- Supplier information update
- Supplier performance data management and analysis



Discover the insights of Procurement

Our competencies and capabilities provide us the possibility to be flexible, but consistent in our approach to offer harmonized and sustainable services and solutions for worldwide clients.

TZD Global serve the following industries

Infrastructure
- Oil & Gas
- Utilities
- Construction
- Mining
- Agriculture

Manufacturing
- Industrial Equipment
- Chemicals
- Automotive
- Consumer Packaged Goods

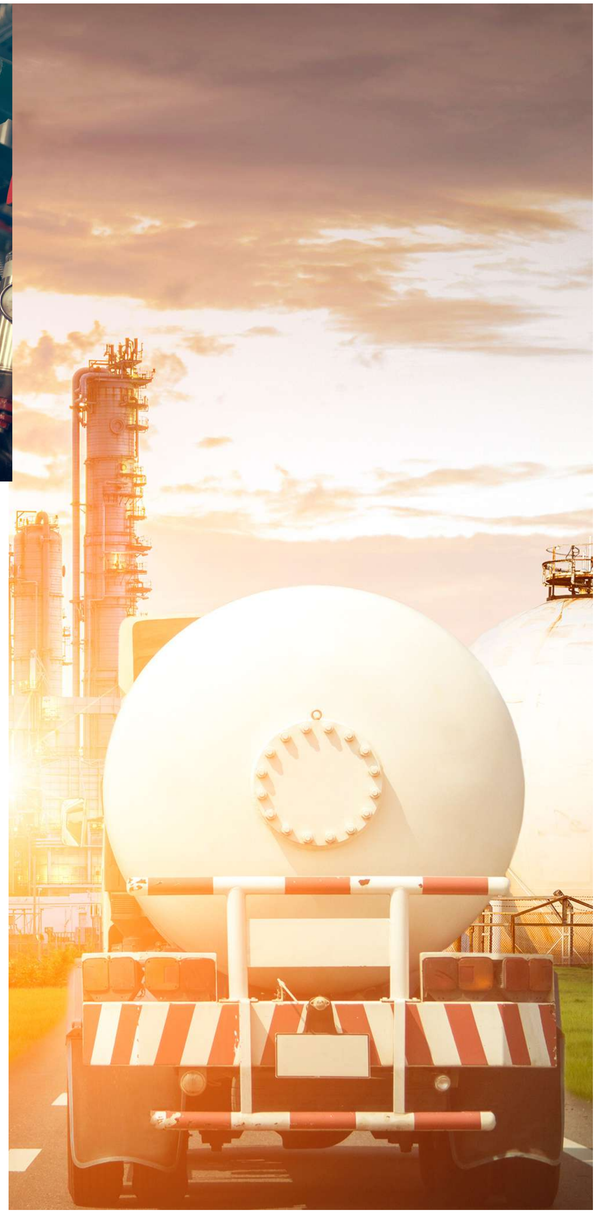
Healthcare and Life Sciences
- Hospitals
- Pharmaceuticals
- Medical Devices
- Laboratory-Diagnostics

Transportation and Logistics
- Third Party Logistics
- Trucking
- Railway
- Airlines

Oil & Gas Industries

We have been working with clients from various industries, helping them to improve processes, increase effectiveness and efficiency and reduce unnecessary spending of resources. We believe that industries can actively shape their development. Therefore, it is important to rethink the role of procurement and to see it as an important lever for optimizing spend or achieving sustainable growth and development.

In an era of climate change, numerous climatic issues and loads of news reporters and politicians talking about these issues, the oil and gas industry is under a lot of pressure. This as well as the many regulations make it a difficult industry to work in and require high expertise as promise for success.



Products TZD Global deals with;

- Actuators
- Air filters
- Air heater equipment
- Air systems
- Antennas
- Ball valves
- Bearings
- Belts
- Brakes
- Brushes
- Cables
- Car washing equipment
- Chains
- Chemical plant engineering
- Cold rolls
- Collects
- Control implements
- Control Systems
- Control units
- Couplings
- Drilling machines
- Electric hydraulic implements
- Electric implements
- Electric motors
- Electrical valves
- Electronic implements
- Encoders
- Energy chains
- Engines
- Fans

- Burners
- Butterfly valves
- Cable equipment’s
- Flowmeter
- Gas counter
- Gas equipment
- Gas protection equipment
- Gaskets
- Gauges
- Gears
- Generators
- Glass
- Crane equipment
- Cylinders
- Detectors
- Fuses
- Hoist equipment
- Hoists
- Hoses
- Hot rolls
- Hydraulic implements
- Hydraulic machines
- Hydraulic systems
- Interrupter
- Filters
- Fittings
- Flanges
- Gas controlling
- Measuring instruments
- Measuring systems
- Mechanical implements
- Metal implements
- Mining machines
- Motors
- Nozzles
- Open controllers

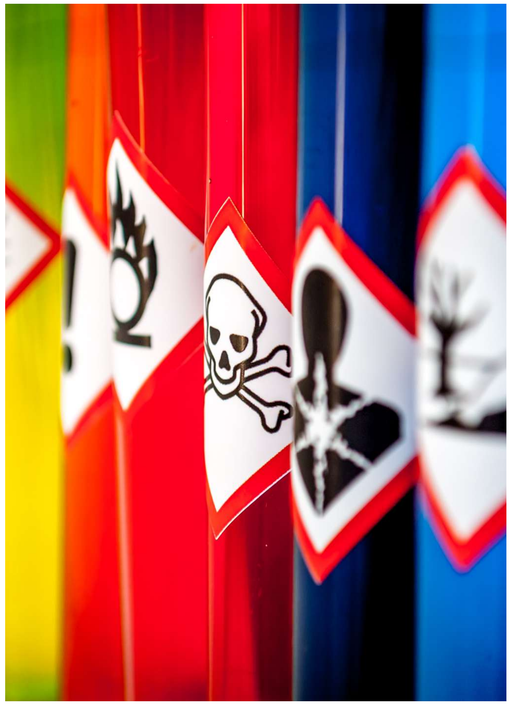
- Grease machines
- Grinding material
- Grinding machines
- Grinding wheels
- Heating cable
- High pressure fittings
- Registration equipment
- Relays
- Rollers
- Rolls
- Power clamps
- Isolators
- Low measuring systems
- Marking machines
- Marking systems
- Measuring equipment’s
- Measuring implements
- Temperature equipment
- Thermoelements
- Transducer
- Transformators
- Saw blades
- Ovens
- Packing machine
- Planting equipment
- Painting machines
- Particle counter
- Pipes
- Plastic injection machines
- Plate heat exchangers
- Plates
- Pneumatic implements
- Transformer

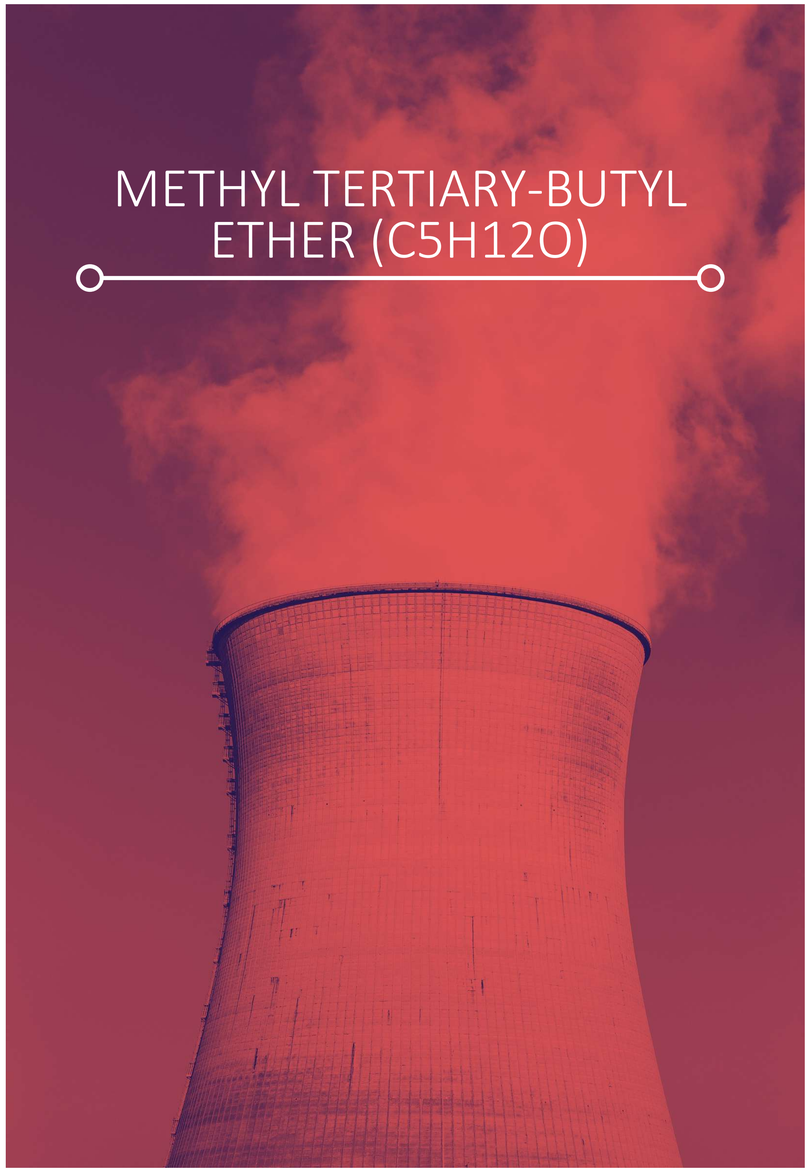
- Seals
- Power controls
- Power plant equipment’s
- Power suppliers
- Pressure equipment’s
- Pressure switches
- Pumps
- Pyrometer
- Transmissions & reducers
- Sensor systems
- Sparking plugs
- Special implements
- Special machines
- Special steel
- Special steel plant equipment’s
- Special steel plant machines
- Switches
- Tyristories
- Vacuum machines
- Ovens
- Valves
- Welding equipment’s & rods
- Refrigeration tools

Chemicals

The diversified range of chemical products we offer are produced with state-of-the-art technology and are used as raw material to produce a variety of goods and services used in everyday life. With so many applications, our products help people around the globe lead cleaner, healthier and more colorful lives

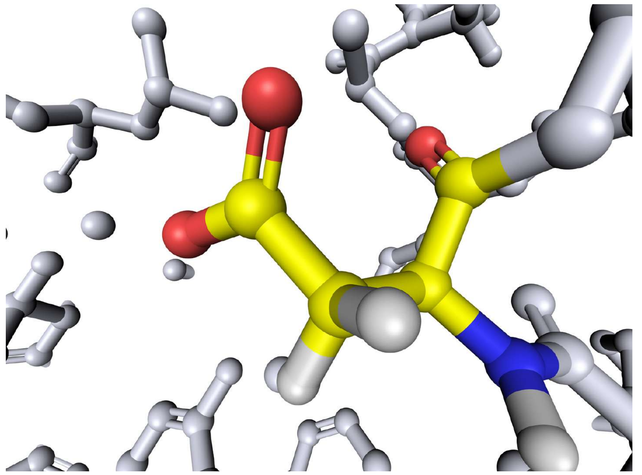
Methanol is a clear, colorless,flammable liquid with a characteristic odor. It is clean energy source as well as a raw material for some of the everyday items we use. Within the petrochemical industry, methanol is used as a raw material in the manufacturing of solvents, Formaldehyde, Methyl Halide, Methyl Amine, Acetic Acid, Ethyl Alcohol, Acetic Anhydride, DME and MTBE.





METHYL TERTIARY-BUTYL ETHER (C5H12O)

Methyl Tertiary-Butyl Ether (MTBE) is a colorless flammable liquid with a characteristic odor and an average octane number of 108. It is used a gasoline additive that provides cleaner burning fuel to reduce the tail gas pollution generated by motor vehicles whilst also eliminating the need to add Tetra Ethyl Lead to the gasoline.



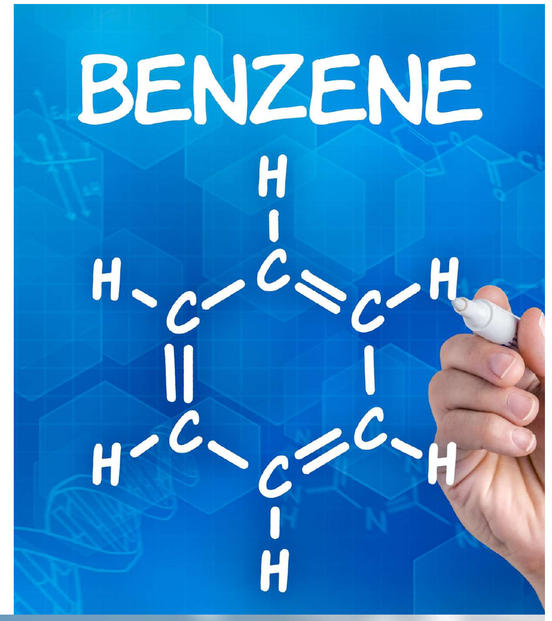
LINEAR ALKYLBENZENE SULFONIC ACID (LABSA)

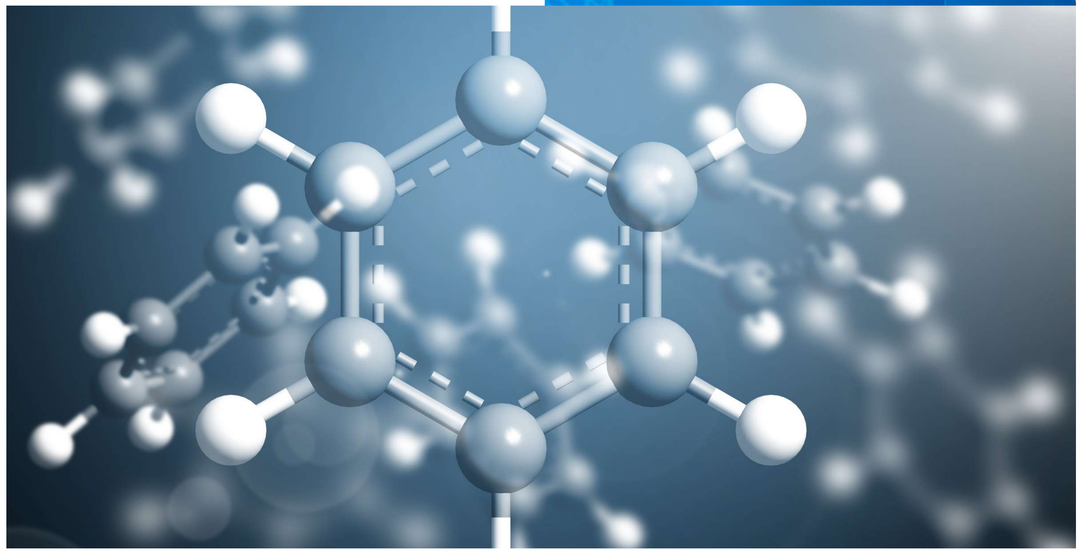
Linear Alkyl Benzene Sulfonic Acid is the largest-volume synthetic surfactant because of its relatively low cost, good performance, the fact that it can be dried to a stable powder and the biodegradable environmental friendliness as it has straight chain

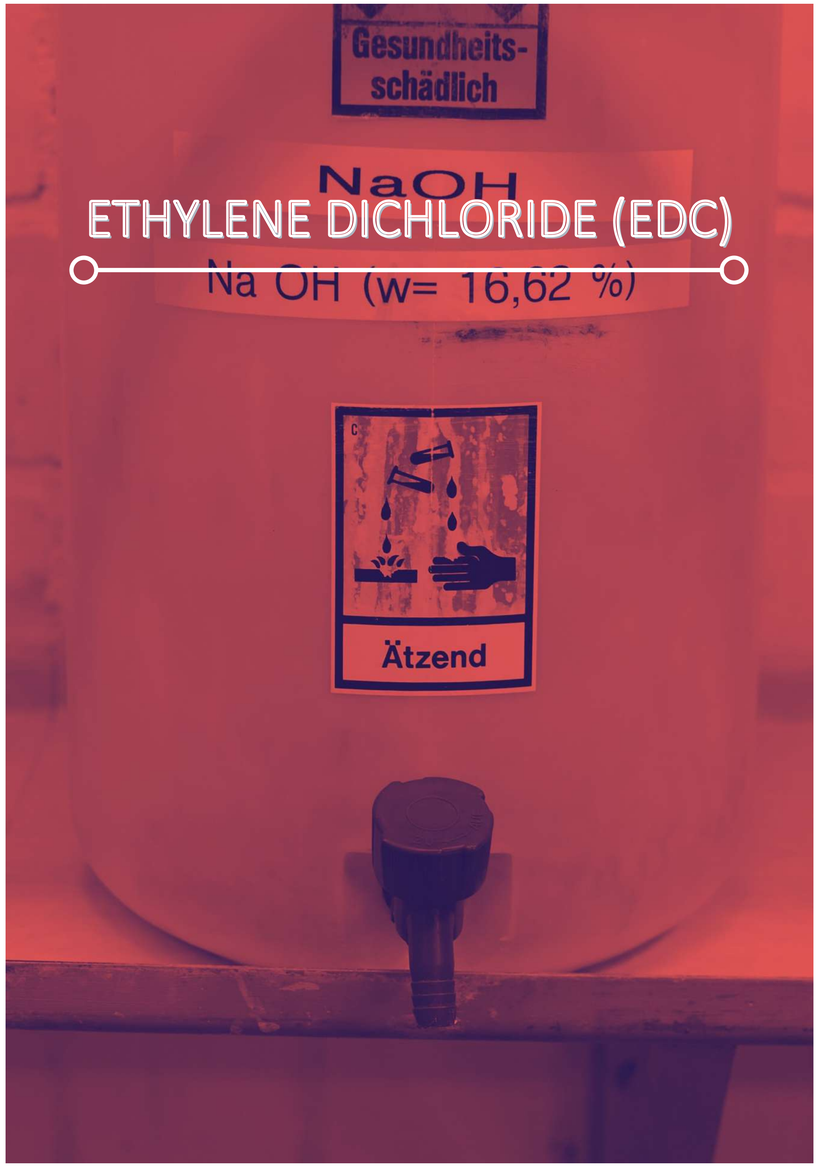
Linear Alkyl Benzene (LAB) is a family of organic compounds with the formula C6H5CnH2n+1. Since the 1960's, LAB has emerged as the dominant precursor in biodegradable detergents, in particular laundry detergents, dishwashing liquids, industrial cleaners and household cleaners. The superior product quality LAB leads to high sulfonability, improved surfactant properties and excellent detergent performance which ultimately enhances customer profitability.

HEAVY ALKYL BENZENE (HAB)

Heavy Alkyl Benzene (HAB) or Heavy Alkylate is used in the manufacture of lube oil, thermic fluids, refrigeration oil, electrical oil and textile auxiliaries. Sodium and Calcium sulphonated derivatives of heavy alkylate are reckoned for high shelf life, are stable under different climatic conditions and work as surface active agents.



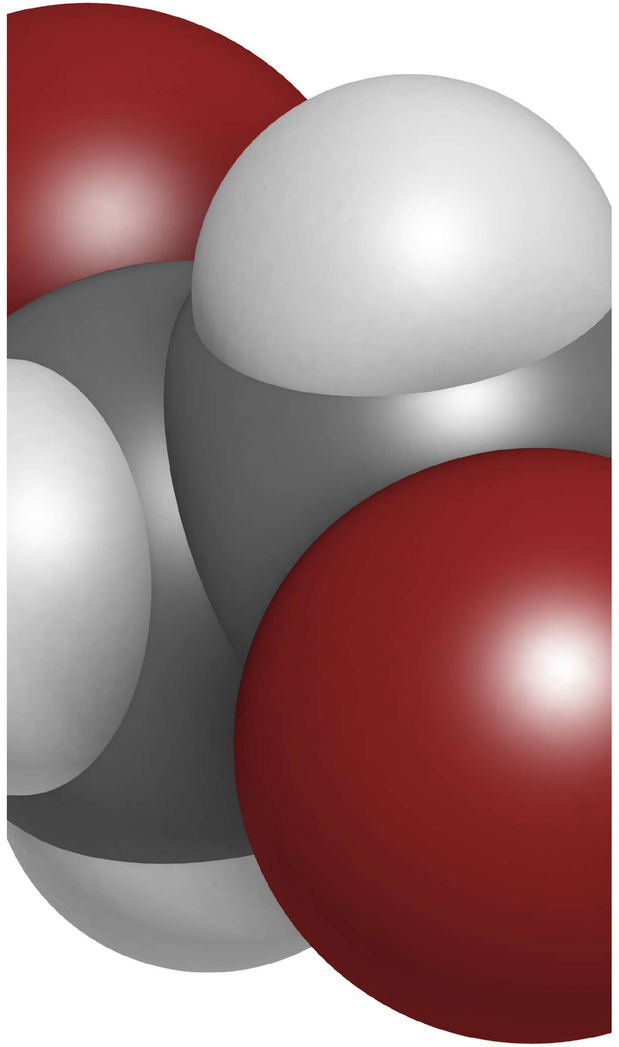




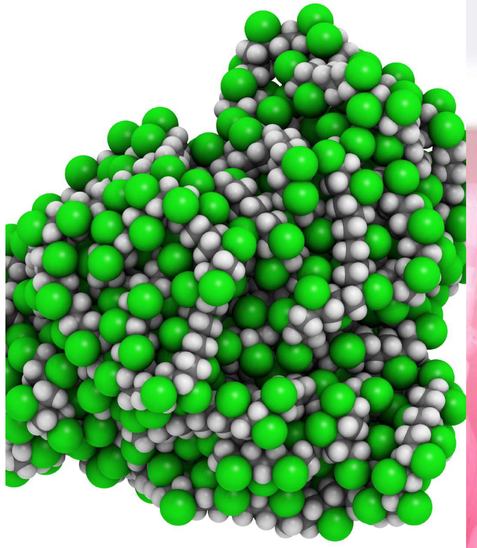
Ethylene Dichloride (EDC) is a chlorinated hydrocarbon that is mainly used to produce Vinyl Chloride Monomer (VCM), the major precursor for PVC production. It is a colorless liquid with a chloroform-like odor. EDC is also used as an intermediate for other organic chemical compounds and as a solvent.

CAUSTIC SODA (NaOH)

Caustic Soda is a solution of Sodium Hydroxide (NaOH) in water. It is used in many industries such as alumina as a strong chemical base and also in the manufacture of pulp and paper, drinking water, soaps and detergents and as a drain cleaner.



Vinyl Chloride Monomer (VCM) is produced by cracking Ethylene DiChloride (EDC). Nearly all VCM is converted into PVC or vinyl copolymers. PVC is among the largest volume plastics produced around the world, widely used in the manufacture of products in the construction, medical, automotive, electronics and packaging industries

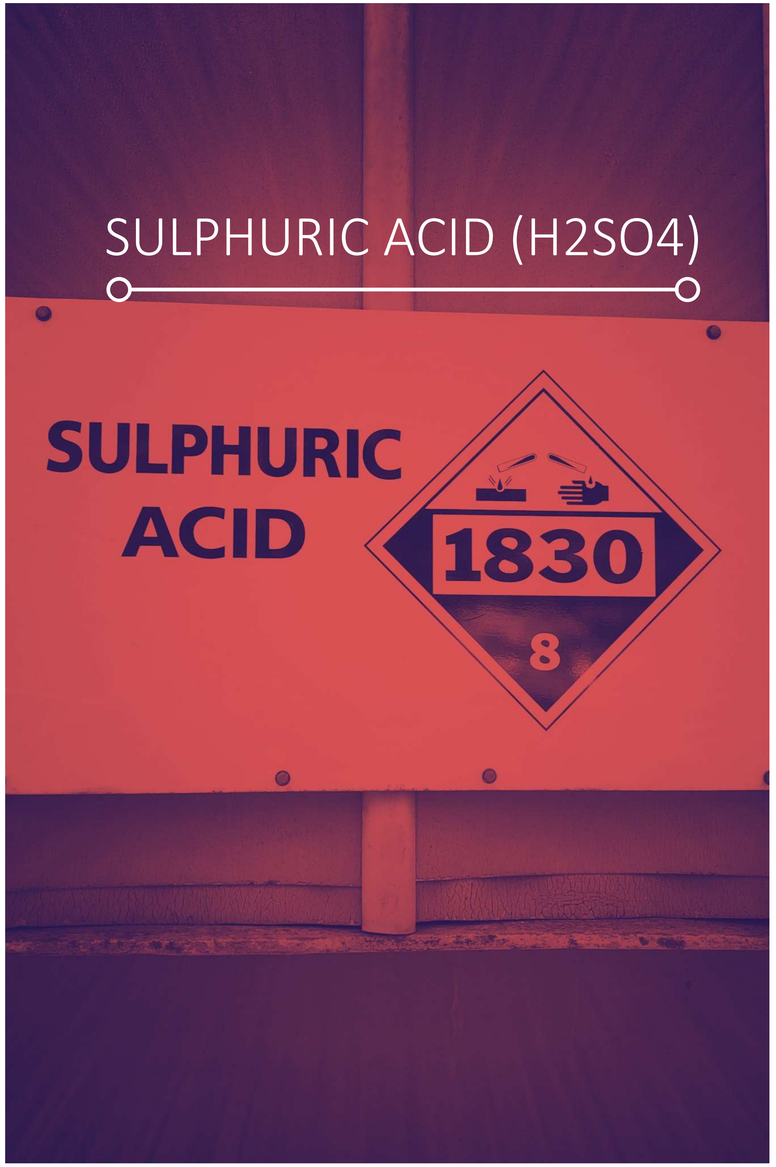


HYDROCHLORIC ACID (HCL)

Hydrochloric Acid (HCL) is a colorless to yellowish-green, clear corrosive liquid with a pungent, irritating odor. It is completely soluble in water and HCl gas mixed with water generate a violent exothermic reaction. Contact with most metals results in formation of flammable hydrogen gas. HCl is used in numerous applications from water treatment to food processing

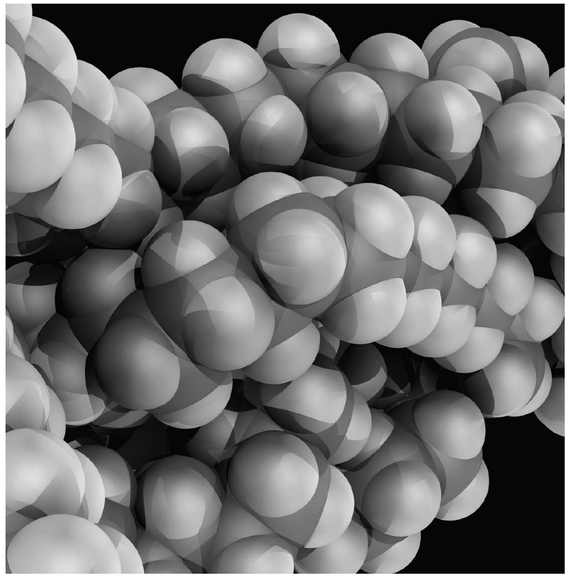
PYROLYSIS GASOLINE (PYGAS)

Pyrolysis Gasoline, a naphtha-range product with high aromatics content, is a by-product of ethylene production from ethane cracking. It is a yellow liquid with an aromatic, gasoline-like odor that is primarily used either as a source for recovering benzene and other hydrocarbons or for gasoline blending to boost octane.



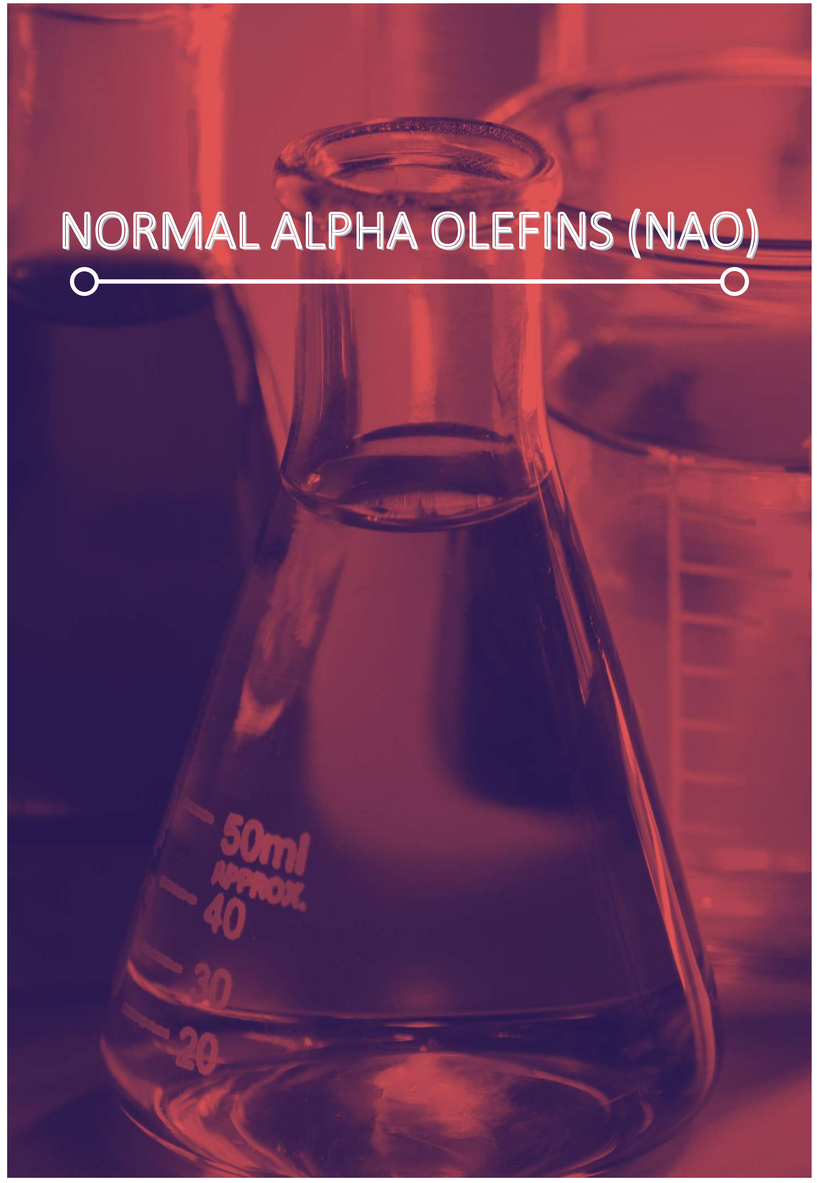
SULPHURIC ACID (H2SO4)

Sulphuric Acid is one of the largest volume industrial chemical produced in the world. Around 60% of Sulphuric Acid world production is used for fertilizers, particularly superphosphates, ammonium phosphate and ammonium sulfates. About 20% is used in the chemical industry for production of detergents, synthetic resins, dyestuffs, pharmaceuticals, petroleum catalysts, insecticides and antifreeze, as well as in various processes such as oil well acidizing, aluminum reduction, paper sizing and water treatment. Other uses are dispersed into a multitude of applications such as pigment, paints, cellophane, acetate and viscose textiles, lubricants, non-ferrous metals and batteries



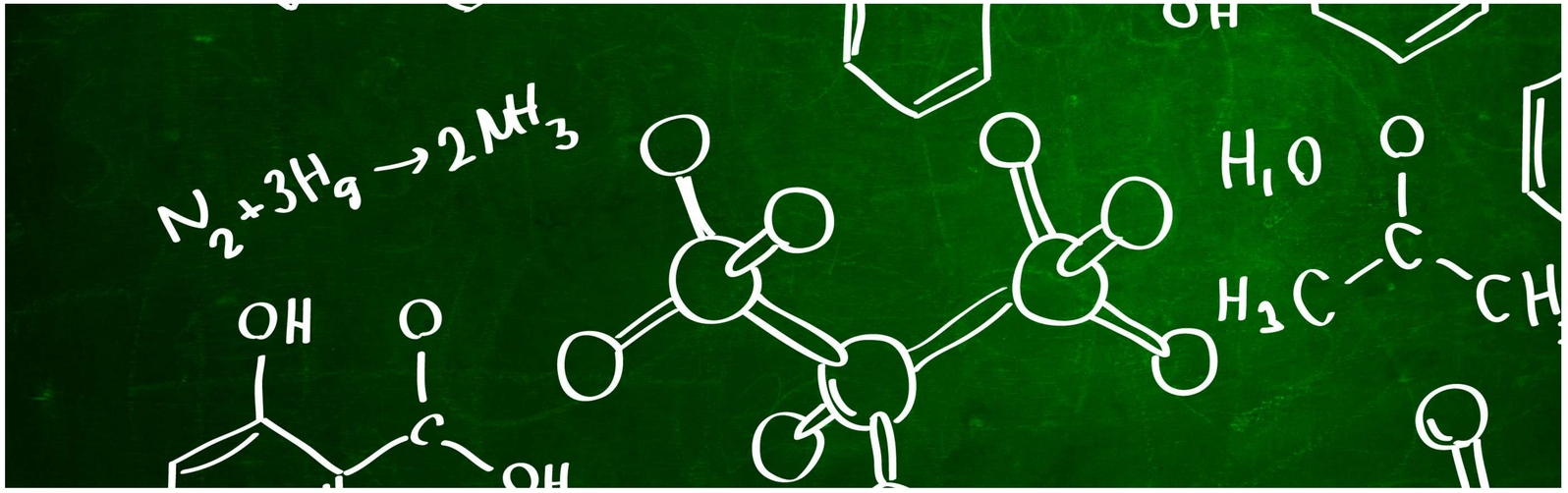
ETHYLENE

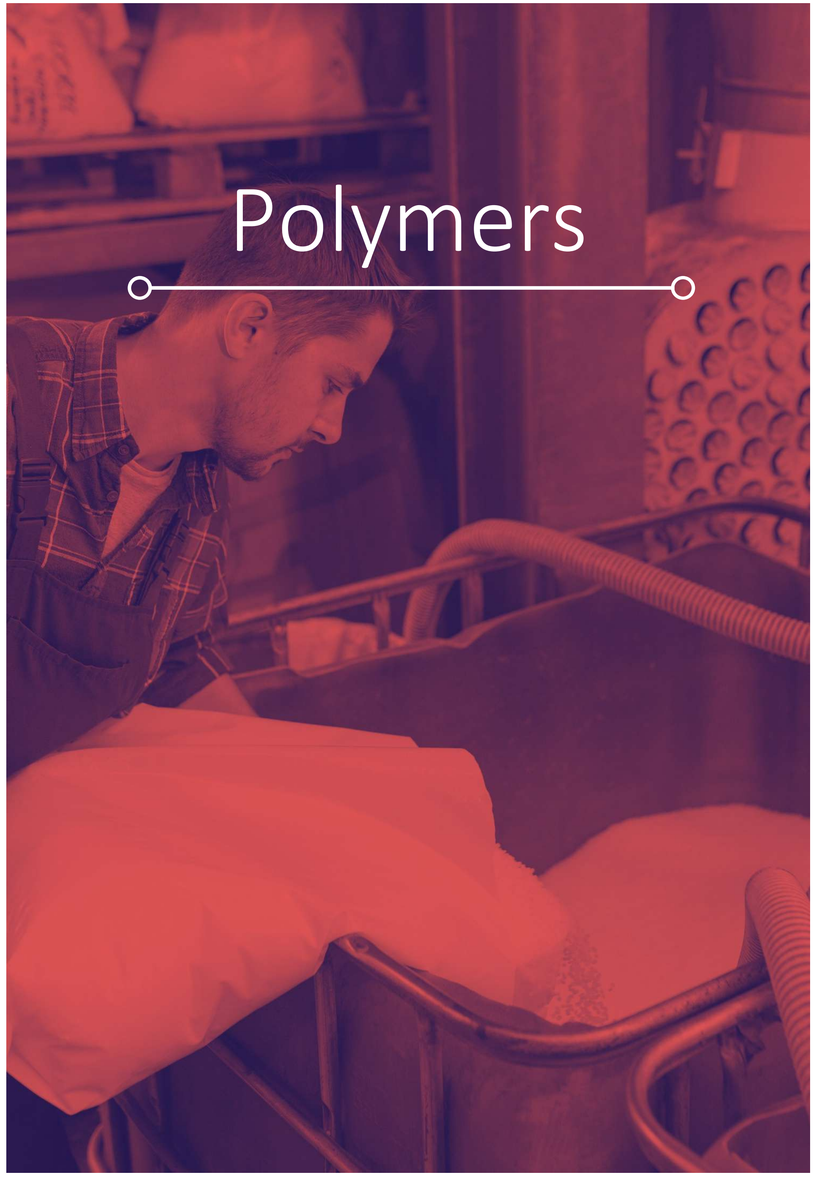
Ethylene is one of the building blocks of hydrocarbon and petrochemicals. It is a colorless flammable gas. Ethylene is widely used in the chemical industry and its worldwide production exceeds that of any other organic compound. Approximately 90% of ethylene is used to produce polyethylene, ethylene oxide, ethylene dichloride and ethyl benzene



Normal Alpha Olefins are liner hydrocarbons having highly accessible terminal double bonds which make them ideal materials for manufacturing numerous products. NAO products are used extensively to manufacture common household and personal care consumer goods such as plastics, liquid soaps, sunscreen, detergents, synthetic lubricants, adhesives, drilling fluids, high quality paper products and a wide range of other items. With product range from C4 to C30+ carbon lengths, they can be put to unlimited use in the development of new chemical products

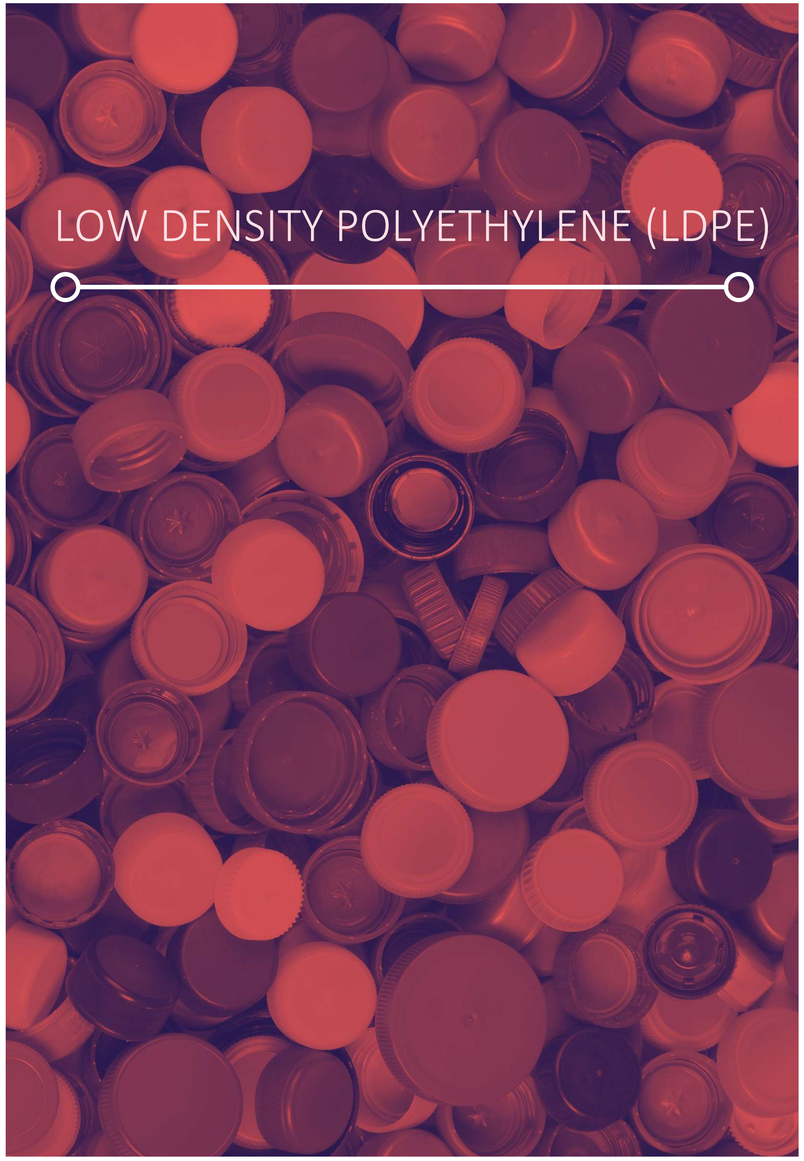
Under ambient conditions, C4 is gaseous product and C6 through C18 are clear water-white liquids with a distinctive olefinic odor. The C20+ products are solid at room temperature and have a waxy appearance





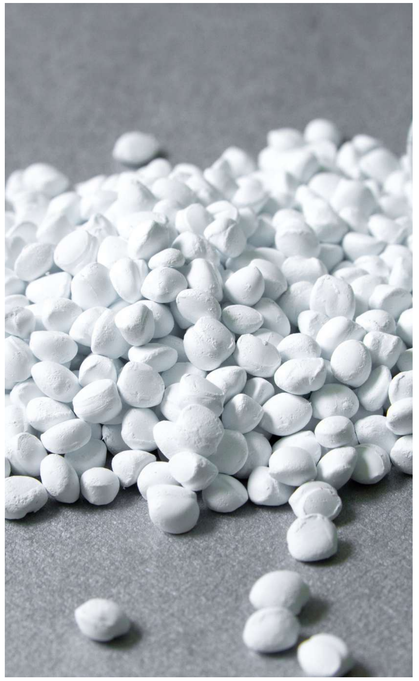
Polymers

We offer a full range of premium, high quality polyethylene products with highest quality brands with diverse range of plastics for a variety of industrial and domestic applications. Our customers use our products to make everything- from bags and plastic bottles to car parts and toys.



LOW DENSITY POLYETHYLENE (LDPE)

With a worldwide consumption of around 20 million tonnes per year, LDPE is one of today's major thermoplastics. LDPE is a polymer made from the monomer ethylene. It is transparent, robust and at the same time relatively flexible. LDPE has excellent resistance to water, moisture and various organic solvents and chemicals. LDPE is mainly used for the manufacture of films and sheets, but is also used for extrusion-coating, injection-moulding, injection-moulding, wires and cables. Examples of applications are heavy duty bags, pallet shrink films, collations shrink films, pouches, freezer bags, shopping bags and laundry bags.



LINEAR LOW DENSITY POLYETHYLENE (LLDPE)

LLDPE is one of the major thermoplastics, with a total worldwide production of around 25 million tonnes per year. LDPE is a copolymer made from ethylene and from an alpha-olefin. LLDPE is a polyethylene with good impact and puncture resistance, good flexibility and high elongation under stress. Like LDPE, the main application for LLDPE is films and sheets. LLDPE is also used in injection-moulding, rotomoulding, wire and cables. Examples of applications are bags, packaging film, agricultural film, stretch film, cling-film and lamination films.

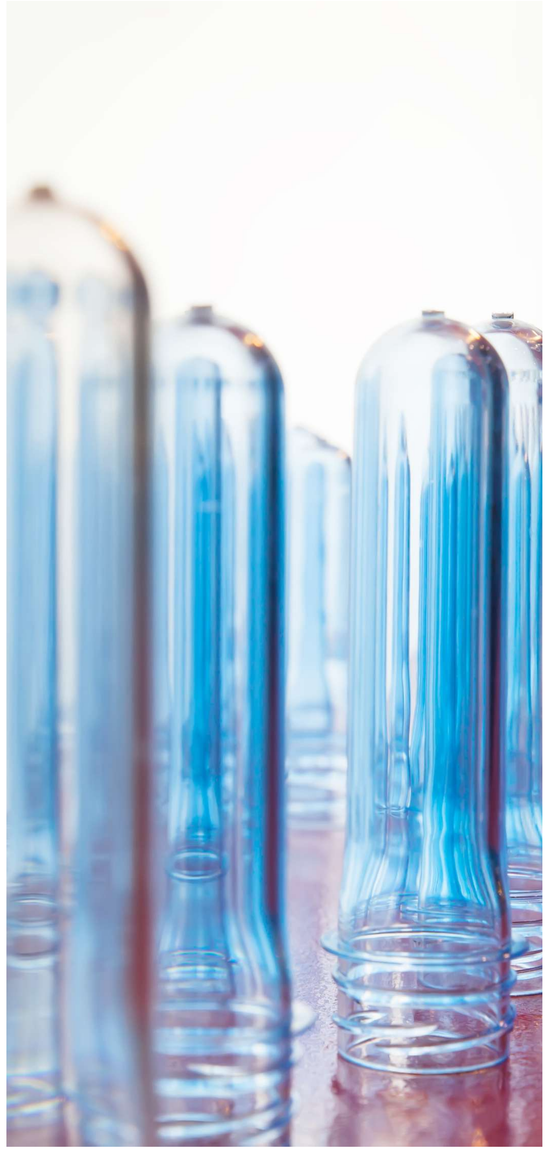
HIGH DENSITY POLYEHYLENE (HDPE) / MEDIUM DENSITY POLYETHYLENE (MDPE)

With a worldwide consumption of around 40 million metric tonnes per year, HDPE is one of today's major thermoplastics and the most widely used type of polyethylene (PE). HDPE resins include ethylene homopolymers as well as copolymers of ethylene and alpha-olefin monomers such as 1- butane, 1-hexene and 1-octene, HDPE has higher crystallinity (density) compared to low density polyethylene (LDPE) and liner low density polyethylene (LLDPE), which results in higher mechanical properties such as stiffness, modulus and tensile strength, higher temperature resistance, improved barrier properties as well as improved chemical resistance to a variety of solvents and chemicals. HDPE properties can be adjusted by controlling the molecular weight, molecular weight distribution, degree and type of short chain branching and amount of long chain branching to design resins with optimum performance for different end-use applications.

HDPE is used worldwide in a very large variety of applications such as rigid containers, toys, film products, sheet products, injection-molded articles, pressure and non-pressure pipes, geomembranes, automotive parts and fuel tanks, to name just a few. Examples of specific end-use applications are household and industrial chemical containers, large blow-molded drums, industrial liners, bags and packaging film, geomembranes, pond liners, pipe and fittings.

MELAMINE (C3H6N6)

Melamine is well known as High Pressure Grade-A Melamine which is produced by synthesizing Urea with State-of-the-art high pressure technology. Melamine is flame-retardant and heat tolerant. It is used to make thermosetting resins for use in laminates, protective coatings and textile treatment and for molding compounds. These items are essential for wood processing, furniture, paper, textile, automotive and dinnerware industries.



Fertilizers

The range of Urea and Ammonia products we offer are used primarily as fertilizers to produce high-yielding crops, from staple crops like wheat and rice to fresh fruits and vegetables, feeding millions of people around the world. Our range of fertilizer products also find other applications in the Chemical, Healthcare and Automobile industries among others.

Urea, which contains 46.6% Nitrogen, is a popular and cost-effective Nitrogen-based fertilizer. More than 90% of the Urea produced worldwide is destined for us in agriculture. When applied as a fertilizer, soil bacteria transform Urea into ammonium and nitrate, which are then absorbed by plants and help fuel their growth. Urea is produced when Ammonia and Carbon Dioxide react under high pressure. During the final stage of production, our plants transforms liquid Urea into spherical granules (2-4mm) and prills (1-2.8mm) for easier transport and application. Urea also has a range of other industrial uses and is the primary component in melamine.

Nitrogen 46% (min), Biuret 1%(max), Moisture 0.5% (max), Particle size 1-2.8 mm 90% (min), White, Granular, Free flowing and free from harmful substances at time of loading. Availability in bulk and bagged in 50kg & 1000kg

AMMONIA

Ammonia is a chemical compound made of 82% Nitrogen and 18% Hydrogen. It is produced using natural gas as the main feedstock. The other reactants required are steam and air. The feed materials undergo a series of reactions in the ammonia plant, which produces ammonia in its gaseous form. It is liquefied under pressure by cooling. Ammonia stored at a temperature of -33˚C in specially refrigerated ammonia storage tank. Ammonia is exported worldwide through us. Availability of materials in bulk and Cryogenic vessels.

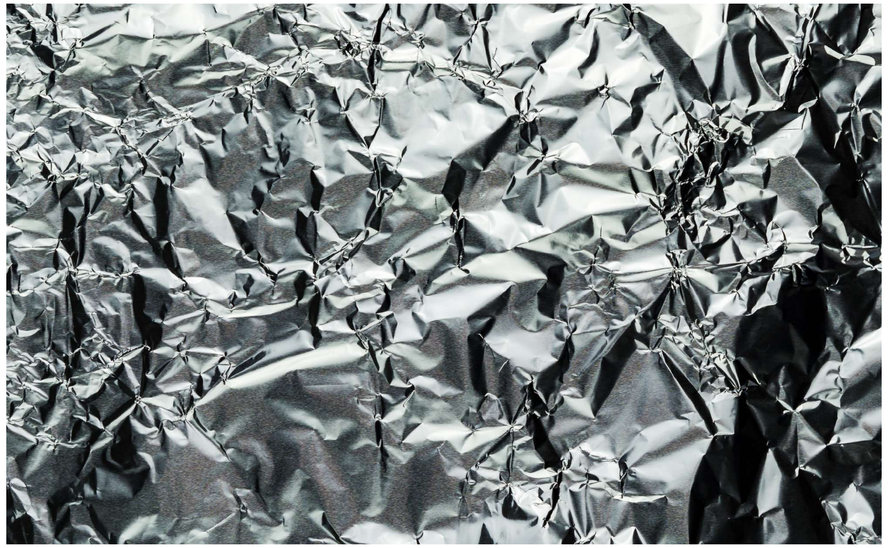
The Metal products we offer are produced with state-of-the-art technology. Steel, Aluminum are the most widely used and most recycled material on earth with a wide range of applications. It is mostly used in the construction of roads, railways, building, appliances, largest modern structures, such as stadiums, skyscrapers, bridges, airports, automobile industries, aircrafts etc

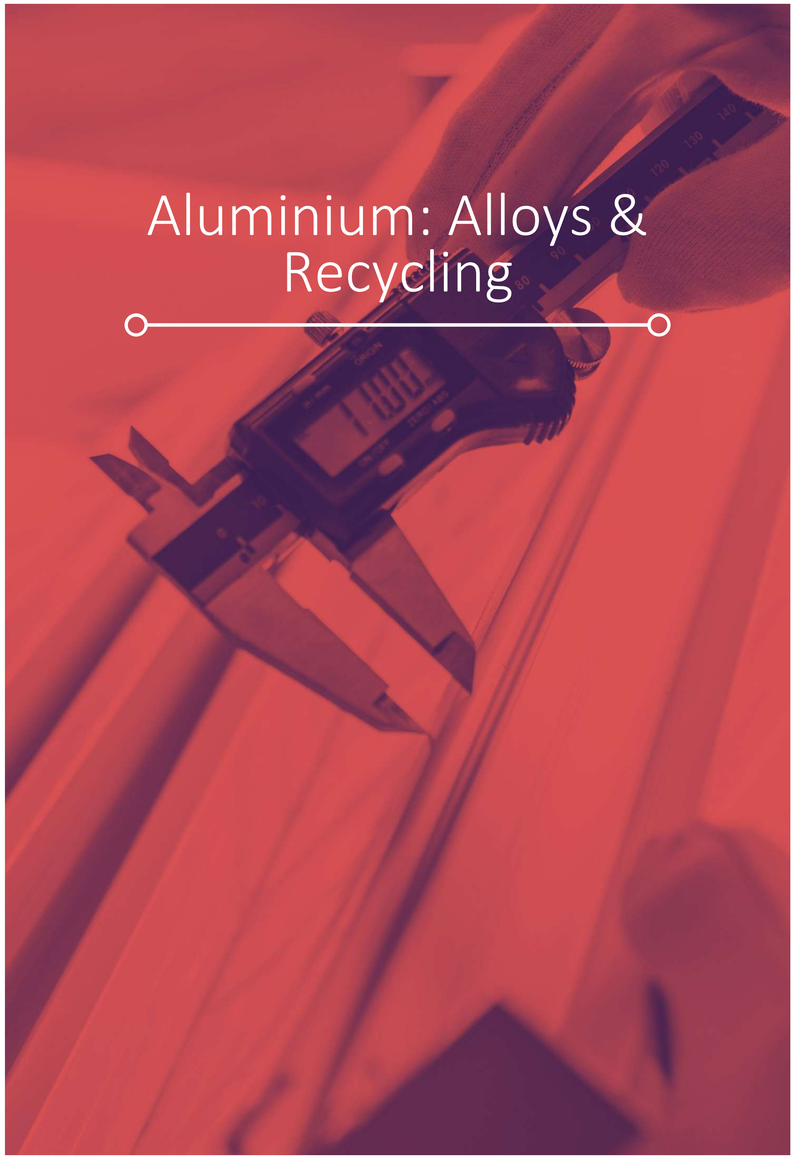
All products, including reinforcing bars, are manufactured from selected raw materials with defined chemical compositions pre-tested utilizing the most stringent quality control systems at different stages of the supplier manufacturing plant. We are committed to offering value-added products, working alongside our customers to meet their needs and anticipate future trends. Innovation is key and we strive to offer products that provide our clients with efficiency gains along with increased profitability.

- COLD DIRECT REDUCED IRON (DRI) – SPONGE IRON
- HOT Briquetted Iron – HBI
- Steel Billets
- Reinforcement Steel Bars (Rebar)
- Coils
- Dololime
- Calcined Lime
- By products
- Mill Scale
- Iron Ore – Pellet Chips & Fines
- Undersize Limestone
- Undersize Dolostone

Aluminium: History and key facts

Aluminium (meaning "bitter salt" in Latin; called Aluminum in the USA) is a bright-silver-colored non-ferrous metal with characteristics of softness, ductility, durability conductivity and non-magnetism. Aluminium (chemical symbol Al) is after Oxygen and Silicon the third element on Earth in terms of abundance, the most abundant metal in the Earth's crust (composing about 8% of its mass) and the most-widely used non-ferrous metal. With a global production exceeding 40 million tonnes a year, Aluminium is a lightweight metal with such key properties as a high resistance to corrosion, making it a vital resource for many applications. Already used by the ancient Greeks and Romans, aluminium experienced historical rises that brought it to be more valuable than gold during the XIX Century, being difficult to manufacture.





Aluminium: Alloys & Recycling

Aluminium is almost always alloyed with other metals to improve its mechanical properties and multiply its strength. Aluminium alloys are vital to the Automotive, Aerospace and Construction industries especially. Other fields of application are Food, Household, Lighting, Electronics, Pyrotechnics, etc. Aluminium's importance for many industries is given by its recyclability and the fact it does not lose its natural properties after re-processing. Recycling of aluminium started growing in the late sixties, when beverage cans spread. 95% of the Aluminium employed for the production of vehicles in Europe is today secondary (recycled).

Aluminium Ingots, Sows & T-Bars: Pure Aluminium

Pure Aluminium: Al min. 99.5% | Al min. 99.7% | Al min. 99.8% | etc

Aluminium Ingots, Sows & T-Bars: Pure Aluminium Alloys

Primary Aluminium: EN AB 2100- AlCu4MgTi | EN AB 42100 - AlSi7Mg | EN AB 43000 - AlSi10Mg | EN AB 44100 - AlSi12 | EN AB 48000 - AlSi12CuNiMg | EN AB 51100 - AlMg3 | EN AB 71000 - AlZn5Mg | etc.

Secondary Aluminium: EN AB 46000 - 226D - AlSi9Cu3 | EN AB 47100 - 231D - AlSi12Cu1 | EN AB 43400 - 239D - AlSi10Mg | EN AB 44300 - 230D - AlSi12 | etc.

DE oxidation Aluminium

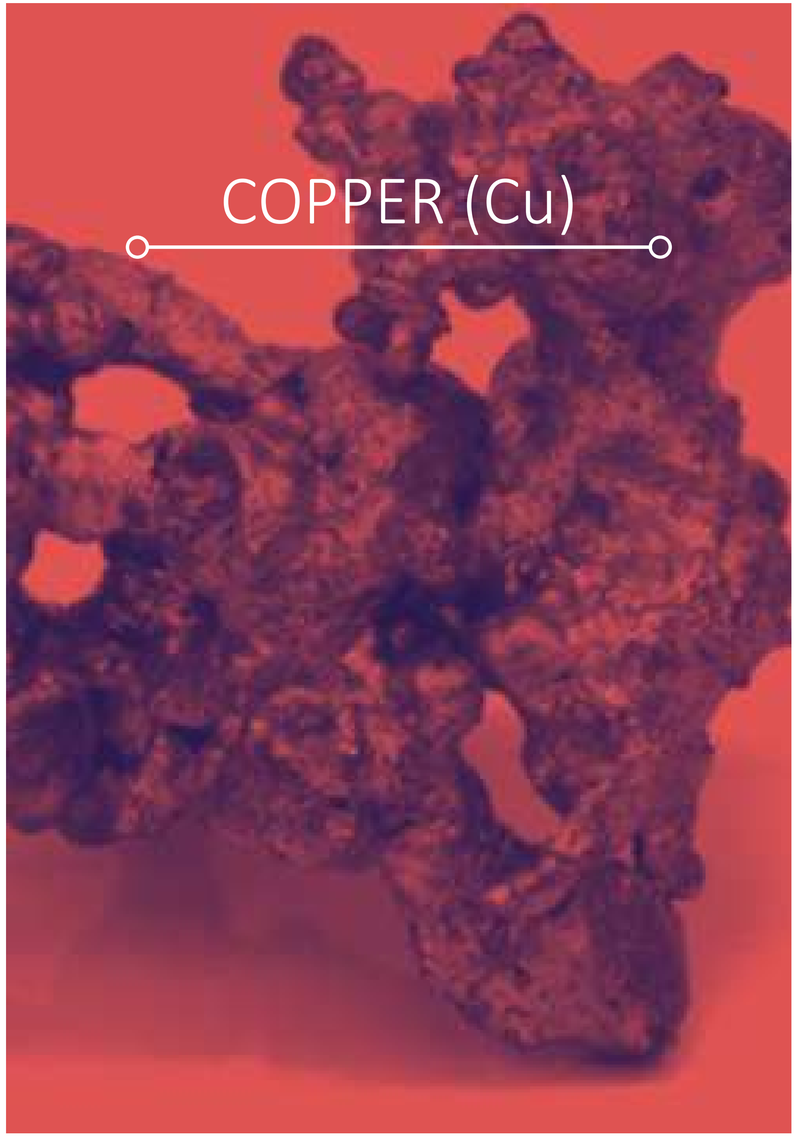
DE oxidation Granules, Pyramides, DE oxidation Half-Balls, DE oxidation Ingots
Al min. 82% | Al min. 85% | Al min. 96% | Al min. 97% | etc.

Aluminium Billets

Secondary Billets: EN-AW 1070 | EN-AW 6060 | EN-AW 6061 | EN-AW 6063 | etc.

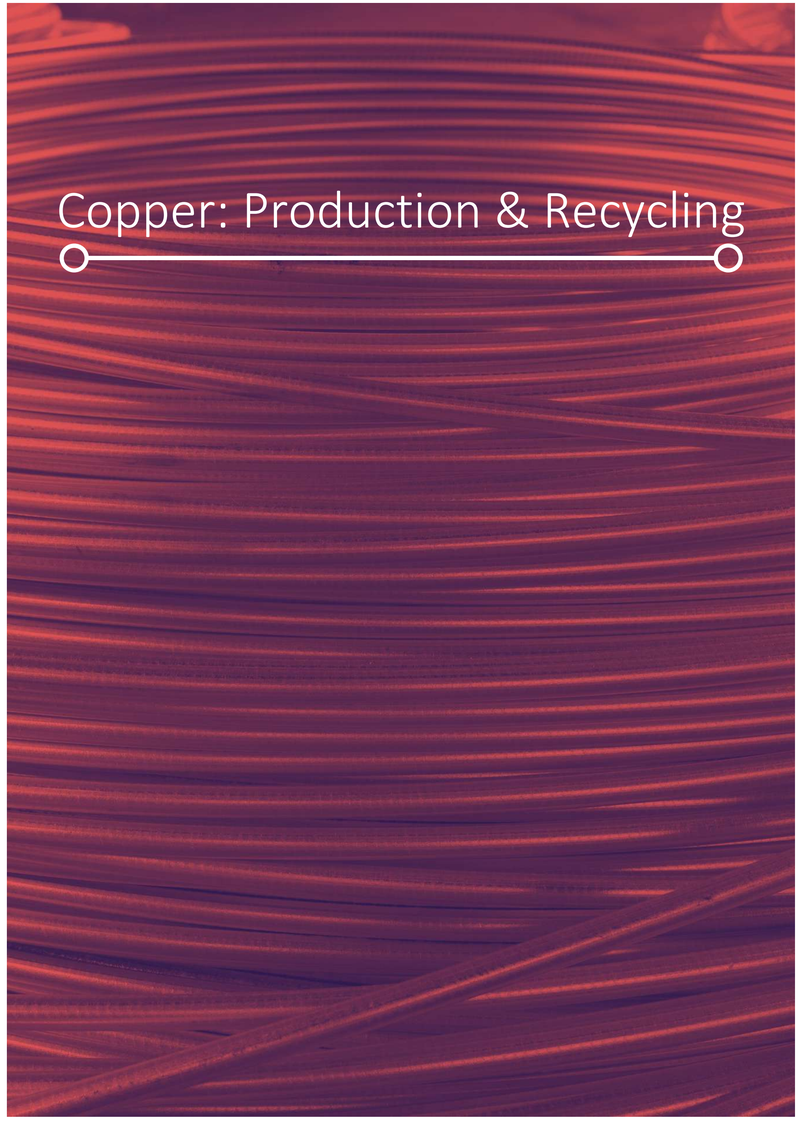
Aluminium Scrap

Aluminium Castings,
Wheels, UBC Cans, Turnings, Profiles, Sheets, Wires etc.



Copper: History and Etymology

Copper (from the Latin word “cuprum” is a soft, malleable, ductile and highly conductive metal. Name is given to the fact the metal was principally mined in Cyprus in the Roman era. With its symbol Cu and its characteristic red-orange color. Copper was the first metal to be used by men (over 10,000 years ago) and the first to be alloyed with another metal to create Bronze (more than 5000 years ago). Copper is today used as a conductor of heat and electricity, as a building material and as a constituent of various metal alloys.



Chile is the major producer of Copper with one-third of the global share (over 15 million tonnes per year) and its demand is in continuous growth. The extraction of Copper at the current rate is still worth about 5 million years. Despite that, Copper recycling is a major source in modern markets. Copper does not lose its properties after recycling and its today the third most recycled metal after iron and Aluminium, with 80% of all Copper ever mined still in use today. Apart from Copper's use as a pure element (to produce such goods as electrical wire) the metal is alloyed into Brass and Bronze to increase hardness and craft many items, as for example musical instruments.

Copper: Products

Semi-finished Copper

Copper Cathodes & Anodes | Copper Ingots | Copper Coiled Wire
Copper Tubes: 50-300mm diameter, R220 | EN 13600 | EN 12449 | etc.

Copper Scrap

Cu Wire for remelt, Cu Mix, others

Brass

Brass Rods: W5000 | W5006 | etc.

Lead: Properties & History

Lead is a soft, malleable and heavy metal with symbol Pb (from Latin word plumbum) and a dull grayish color when exposed to air, while it burns with a bluish-white flame. Lead has the highest atomic number of any stable non-radioactive element: Lead-208 is the heaviest know stable nuclide. Lead has been commonly used for thousands of years for being widespread, easy to extract, highly malleable and easily smeltable. Metallic Lead's first uses are attributed to Ancient Egyptians and Chinese and date back to 7000 BC, making Lead the first metal to be ever smelted, to deserve the name of "father of all metals". During the classical era, Rome had a yearly output of 80,000 tonnes.

World resources of lead exceed 2 billion tons, with massive presence in Austrialia, China, Ireland, Mexico, Peru etc. With its high density, softness, ductility, malleability, poor electrical conductivity and high resistance to corrosion, Lead is nowadays used in construction, batteries, bullets and firearms, weights, radiation shields etc. Lead was used during the Renaissance to produce the printing press and firearms and Britain became and remained the leading Lead producer until half the 19th century. Lead consumption is currently increasing worldwide and an attention for the recycling of this material has been growing. Today almost 60% of Lead is secondary, namely produced from scrap.

Lead: Products

Lead ingots

Pb min. 99,7% Antimony Lead: L52500 | L53799

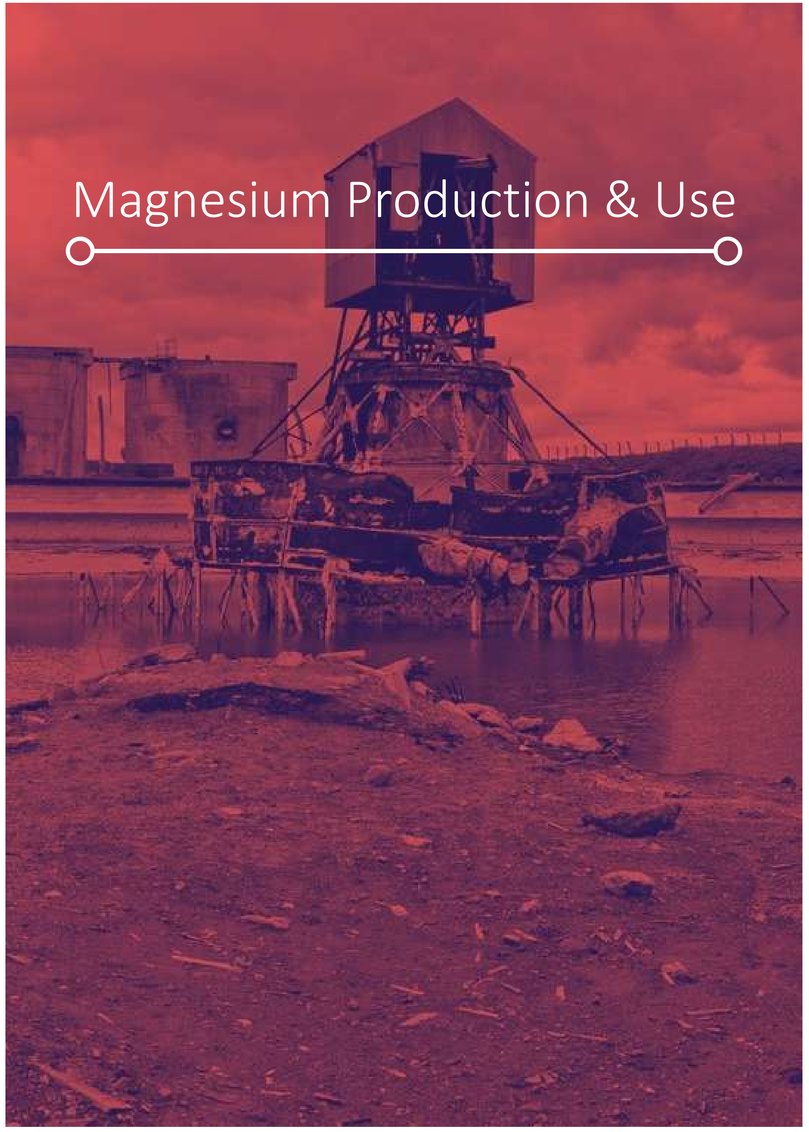
Semi-finished Lead

Lead Wire / Rod | Lead Wool

Lead Scrap

About Magnesium

Magnesium is a shiny gray metal with symbol Mg, covering the place of ninth most abundant element in the universe and making almost 15% of the Earth's mass. Magnesium is mainly produced due to stars' chemical reactions and burns with a characteristic brilliant-white light. The name of Magnesium originates from the Greek district called Magnesia. Magnesium has a better strength-weight ratio compared to Aluminium and defined" lightest useful metal", it is the third-most-commonly used structural metal after iron and Aluminium



Magnesium global reserves are about 50 times smaller than Aluminium ones and approximately 80% of Magnesium is produced in China (almost 700,000 tonnes a year), followed by USA which currently holds a 7% share, after a history as a dominant supplier that lasted until the late nineties. Magnesium metal is mainly employed as an alloying element in aluminium-magnesium alloys and was being applied to automotive and aerospace products already during World war II. Other applications include photography flashes, fireworks and electronic devices' shells.

Magnesium: Products

Magnesium Ingots: 7-8kg | 11-12kg

Magnesium Cubes: 100-300gr

Magnesium Granules:

Mg min. 99.8% | Mg min. 99.9% Antimony Lead: L52500 | L53799

Magnesium Alloys:

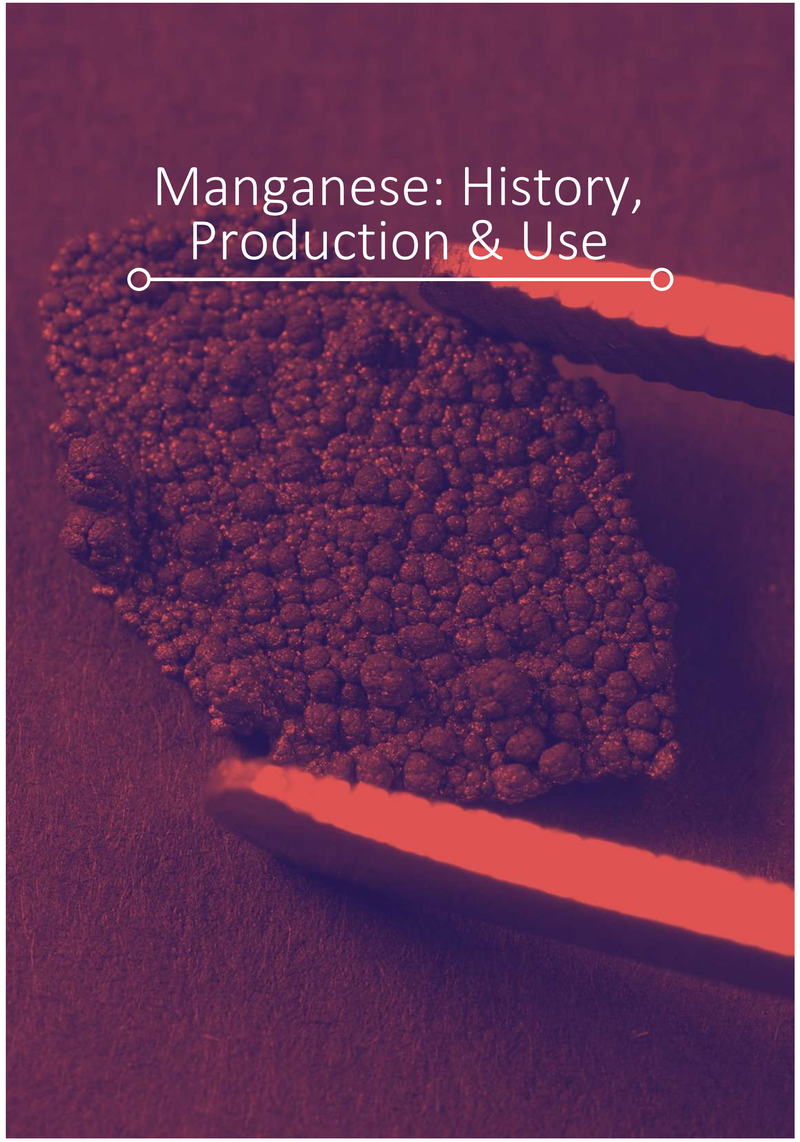
AZ91 | AM50 | AM60 | AS31 | etc.

Magnesium Scrap

MANGANESE (Mn)

Manganese Properties & Key Facts

Manganese is a silvery-gray metal that resembles iron. Its name comes from Magnesia, the same Greek region giving names to other materials like Magnesium and Magnetite. Manganese compounds were used by Egyptian and Roman glassmakers to add or remove color from glass. With its symbol Mn, Maganese is the 12th most abundant element on the Earth's crust and its is difficult to fuse, easy to oxidize and paramagnetic. Maganese is synthesized in large starts, by the impact of cosmic rays on iron, shortly before the supernova explosion.



Manganese: History, Production & Use

The iron ores used in Ancient Greece to produce war tools led to the conviction that their Manganese content was able to make the Spartan Steel exceptionally hard. Despite some estimations state the ocean floor has 500 billion tonnes of Manganese nodules, viable Manganese resources are way smaller and irregularly distributed, with about 80% of the known world Manganese resources located in South Africa (over 3 million tonnes yearly). Manganese demand proceeds for about 90% from Steelmakers because of its sulfur-fixing, deoxidizing and alloying use. Another important application field is the one of Aluminum Alloys.

Manganese: Products

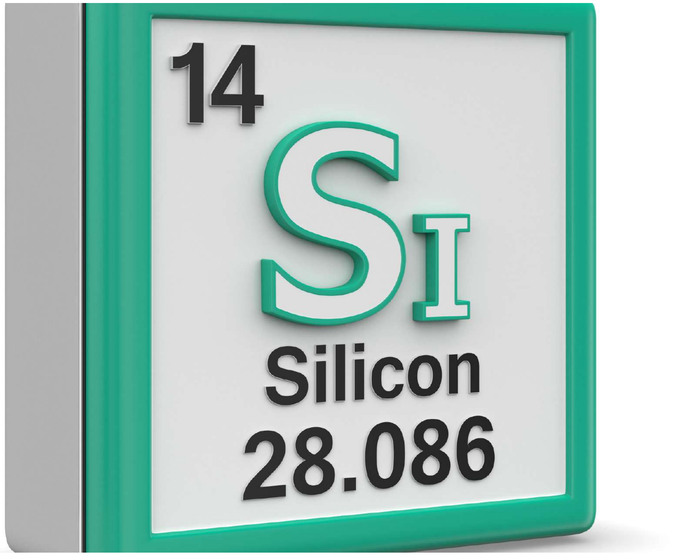
Manganese Flakes

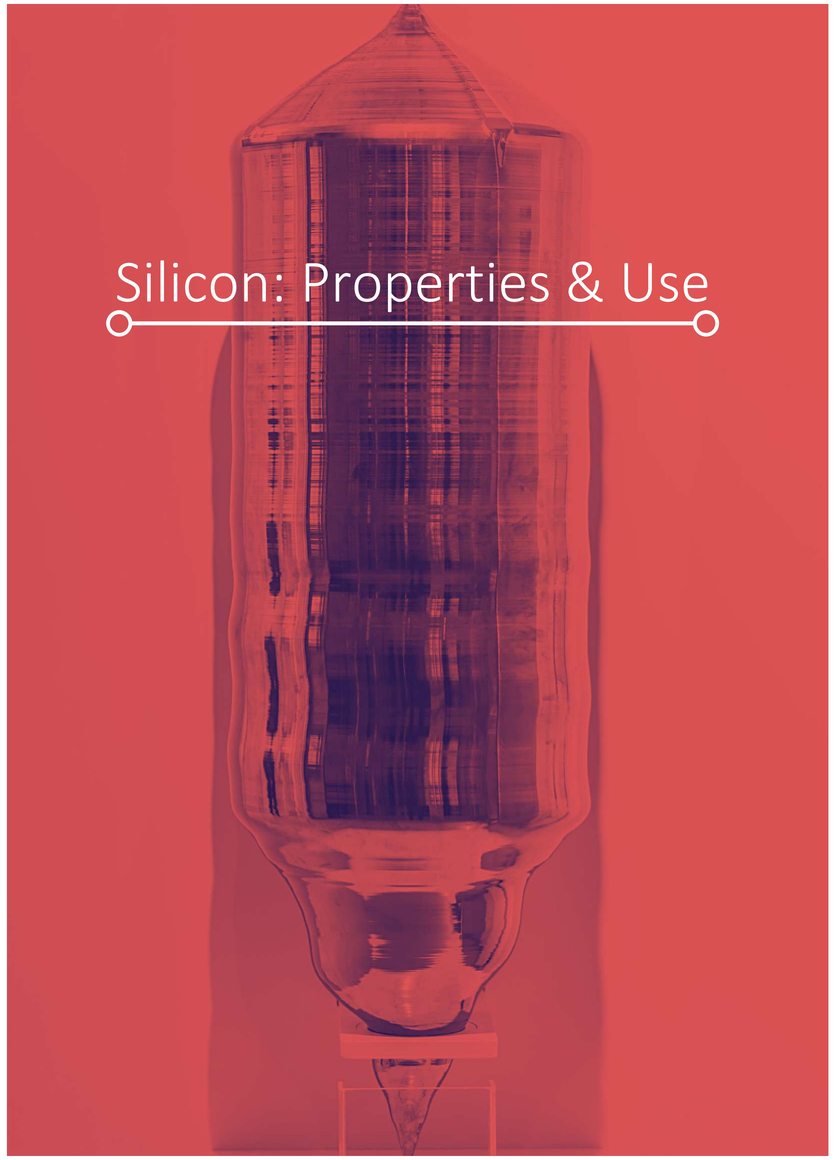
Manganese Tablets

Manganese Powder

Silicon: Ethimology & Key Facts

Silicon is a metalloid with symbol Si. It was first isolated as a pure element at the beginning of XIV Century and its name was created from the Latin “silex” (hard stone). Over 90% of the Earth’s crust is composed of silicate minerals, making Silicon the second most abundant element in the Earth’s crust (about 28%). Most Silicon is used commercially without being separated and often with little processing of the natural minerals. Elemental silicon also has a large impact on the modern world economy. Silicon is in fact used in the Steel refining, Aluminium casting, Solar, electronics and chemical industries. Almost 70% of the world’s Sillicon is produced in China. Other large producers are Russia, Norway, Brazil and USA.





Silicon: Properties & Use

Aluminium-Silicon alloys (called Silumin Alloys) are heavily used in the Aluminium alloy casting industry, where Silicon is the most important additive to Aluminium improving its casting properties. Since Aluminium castings are widely used in the automobile industry, this application is thus the largest industrial use (about 55% of the total) of “metallurgical grade” pure Silicon. Silicon’s importance in Aluminium casting is given by its significant presence (about 10%) inside Aluminium alloys and its power to improve such properties as hardness, flexibility, thermal resistance, etc.

Silicon: Products

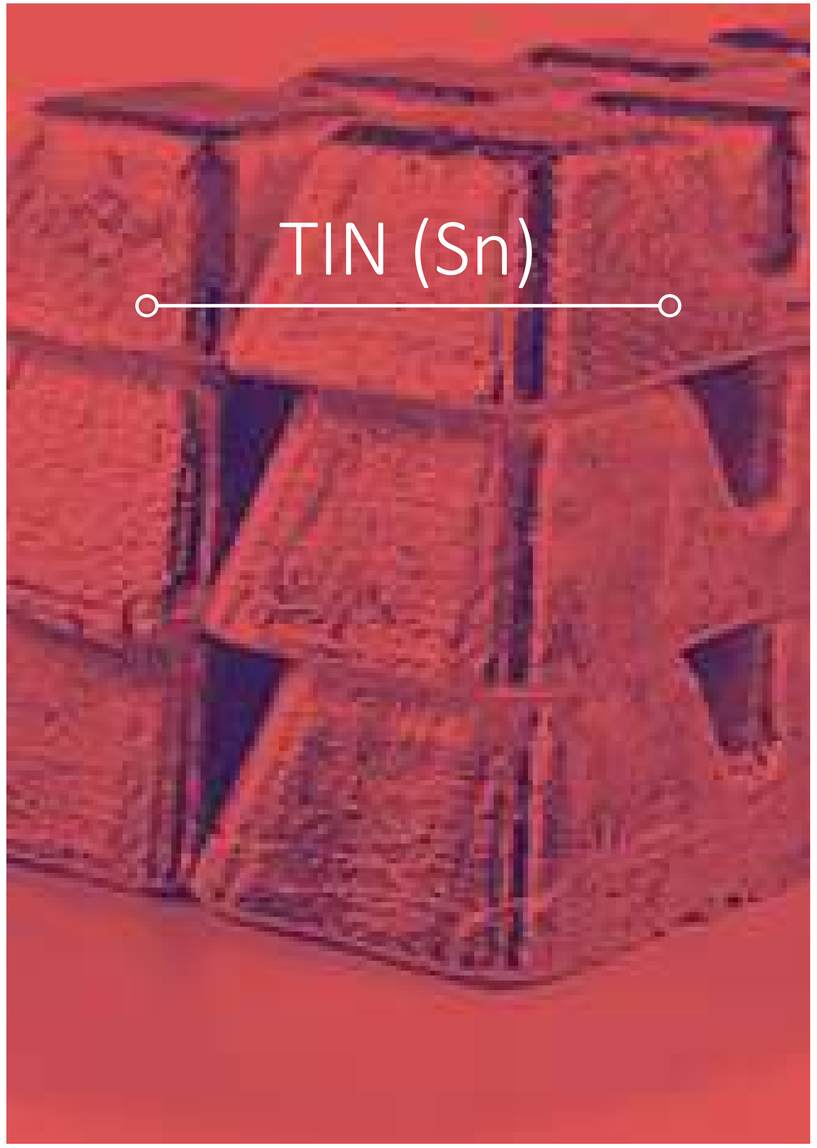
Silicon Metal

Standard Silicon:

553|441|3303|2202|1101 Off-Grade Silicon: 97|96|554|5503|3302|etc
10-100mm, 1-1.5MT bulk bags

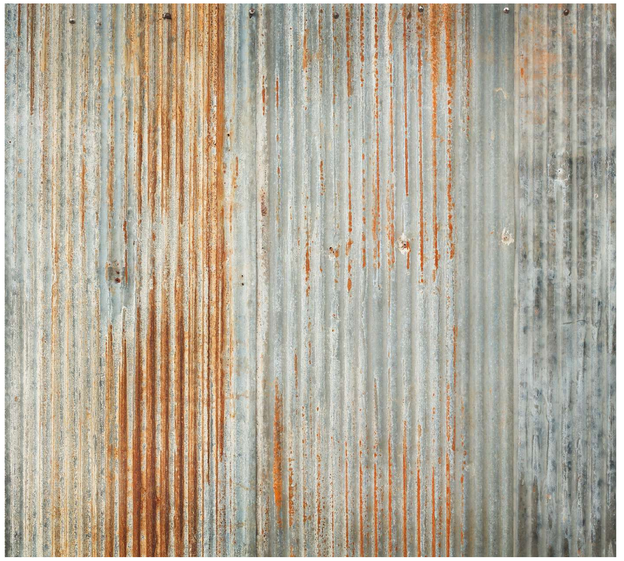
Silicon Powder

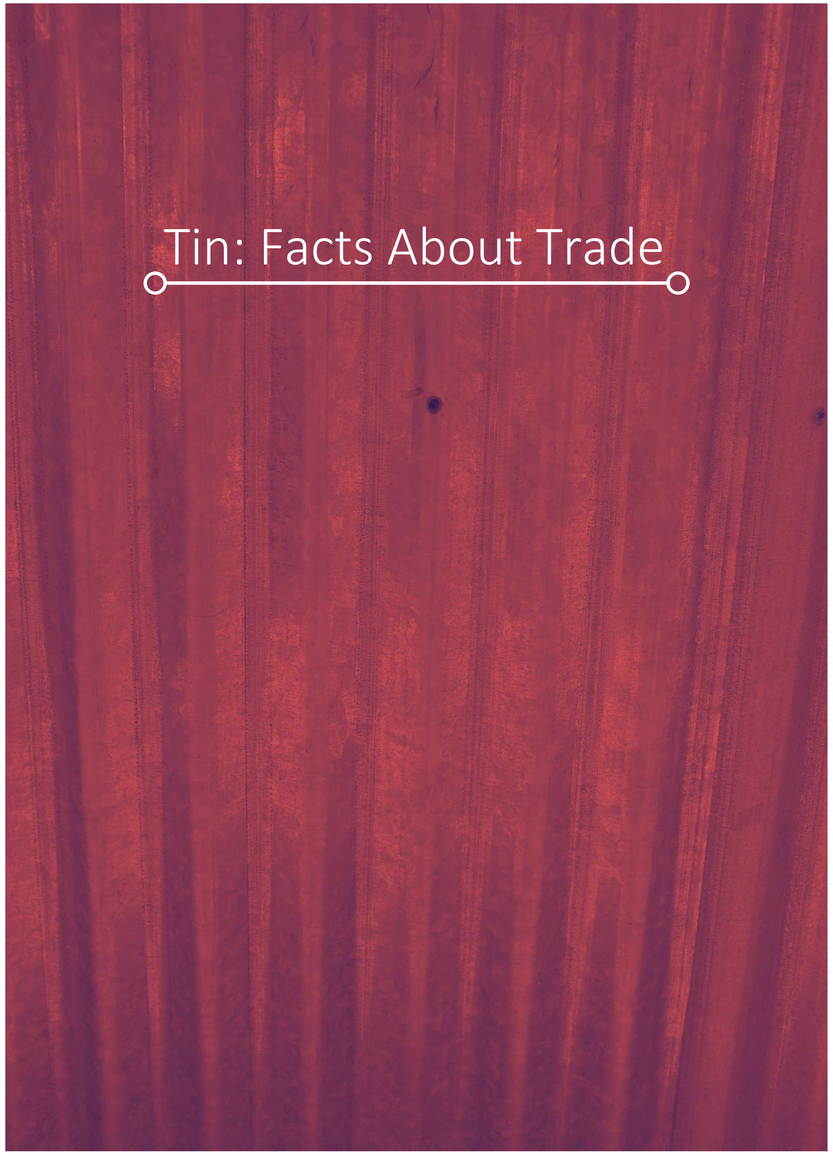
Silicon Quartz



Tin’s Properties & Use

Tin is a silvery-white, malleable metal, hard to oxidise. Its symbol is Sn (from Latin: stagnum) and its used to be called plumbum candidum (white Lead) in ancient times. Tin melts at a low temperature of about 232 ˚C and also for this reason over 50% of its is used today in solder. Other applications include plating, chemicals, Brass and Bronze alloys etc. Tin extraction and use can be dated to the beginnings of the Bronze Age around 3000 BC.





Tin: Facts About Trade

Most of the world's Tin is traded on the London Metal Exchange and prices are affected by International Tin Council's decisions since 1956. Tin is unique for the complex agreements that have characterized its trade in the last 100 years. A mine in Bisie (Congo) with a 15,000 tonnes output is indeed currently controlled by a renegade militia.

Tin: Products

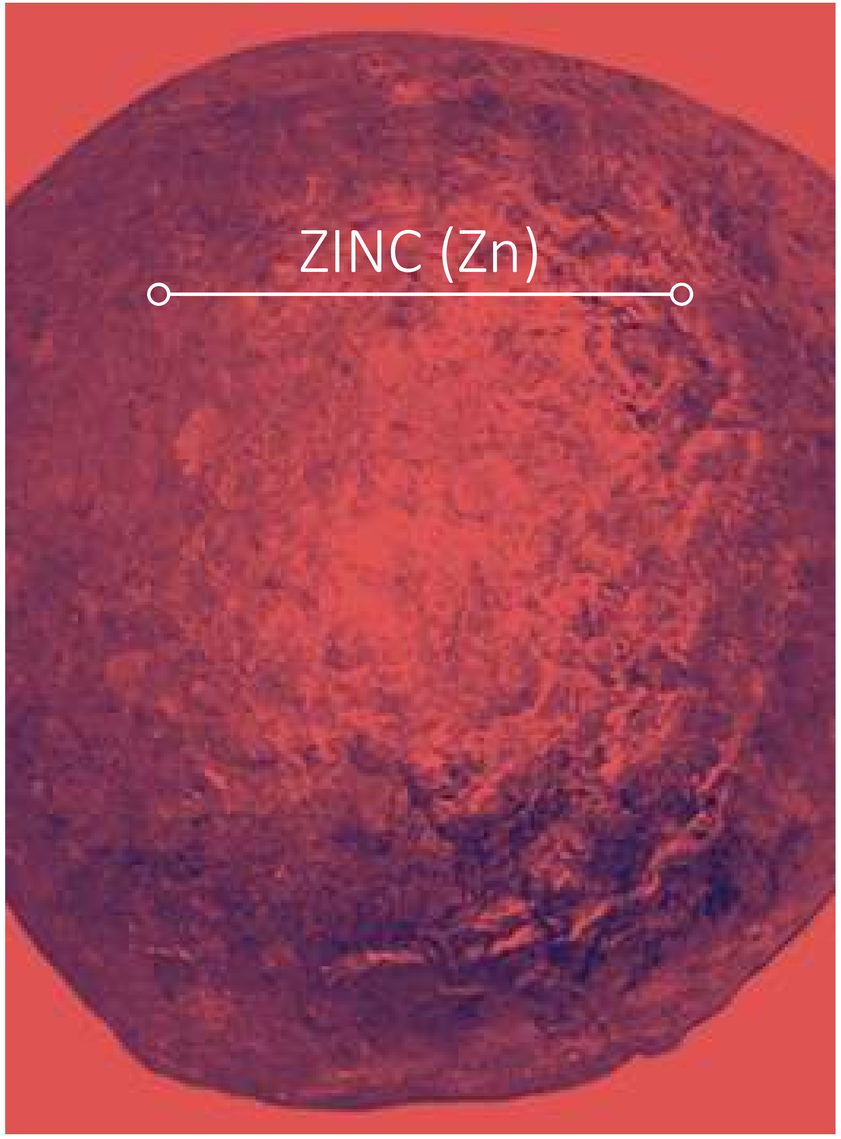
Primary Tin:

Sn min. 99.99 % Tin ingots | Tin Granules

Secondary Tin:

Sn min. 99.5 % Tin ingots

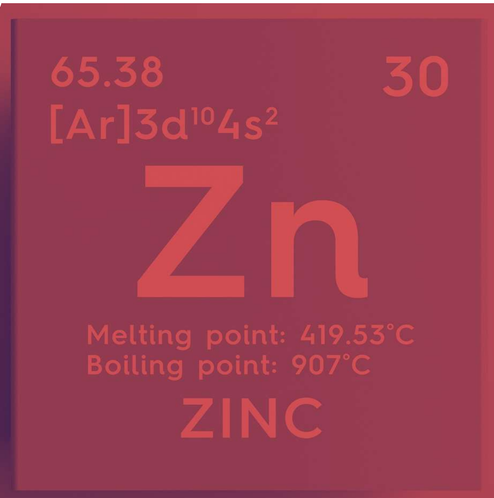
Tin Scrap



Zinc’s Properties & History

Zinc is a metal with symbol Zn, with low toughness and high malleability, but highly resistant to impacts and moderately conductive. Alchemists burned Zinc in air to form what they called “philosopher’s wool” or “white snow”. The element was probably named by the alchemist Paracelsus after the German word Zinke (prong, tooth). Zinc alloy handcrafts have been dated back to 500 BC and even 2-3 centuries earlier Zinc was already used together with Copper to produce Brass. During the Roman Empire, Zinc was employed as an alloying element for Bronze to cast coins, weapons and art crafts. Alessandro Volta crated the first battery in the XIX Century using Copper and Zinc plates, bringing the world forward to a new technological age.

Zinc Production & Use



The main countries mining Zinc are China, Peru, Australia, The United States and Canada, for a total volume of almost 15 million metric tonnes per year. Zinc is primarily used in order in galvanization, to protect Steel again corrosion. Alloys produced with the use of Zinc such as Brass are applied in such manufactures as stainless marine components and musical instruments. Over two billion pennies are now circulating on US market and they are made of Zinc by 98% of their weight. Despite their Copper appearance these coins only have a Copper coating representing just 2% of the total weight.

Zinc: Products

Zinc Ingots

Pure Zinc:

Zn 99.995% min

Zinc Alloys:

Zamak 3 (Zn3)|Zamak 5 (Zn5)|Zamak 12 (Zn12)|Zamak 13 (Zn13)
Zamak 15 (Zn15)

Zinc Scrap