CHEMICALS DIVISION OF
AGRI BRAZIL CHAMBER OF COMMERCE

CÂMARA DE COMÉRCIO
AGRO BRASIL
C.C.A.B.

Export & Import

Manufacturing

Product Development

Safety Quality Inspection

CÂMARA DE COMÉRCIO
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CHEMICALS DIVISION OF AGRI BRAZIL CHAMBER OF COMMERCE

CÂMARA DE COMÉRCIO AGRO BRASIL

C.C.A.B.

PRODUCTS BROCHURE

We represent a Limited Wholly State Owned Company wich is an international trading company established by the (YETD-MC) Yulin Economic and Technological Development, Management Committee.

Our represented company has all government approval for chemical and other products we want to run.The facility is easily accessible, as well as full logistics capabilities.

Our Industrial Park 2022 annual output:

- 551,540,000 tons of coal. 31,000,000 tons of semi-coke.
- 510,000 tons of magnesium ingots and alloys.
- 1,200,000 tons of ferrosilicon.
- 600,000 tons of urea.
- 80,000 tons of ammonium sulfate.
- 100,000 tons of compound fertilizer.

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CÂMARA DE COMÉRCIO AGRO BRASIL C.C.A.B.

IMPROVING YOUR BUSINESS WITH US

1

Yulin is very rich in all kinds of chemical products especially magnesium and quality world first. Yulin accounts for 551,540,000 tons of coal per year.

2

Our Industrial Park in Yushen accounts for 60% of the world output of magnesium, as well as semi-carbon, urea and more.

3

Yulin semi-coke production accounts for 50% of China, with an annual output of about 31 million tons, is the world's highest.

4

Yulin, Shenmu is China's only national energy and chemical base, coal production ranks second in the world, quality world first.

5

Yulin also has the energy advantage and energy enrichment, and the local conversion is low.

6

Yulin, Shenmu County is one of the most important recycling projects of coal power refining. And one of the important recycling projects of chemical industry, high quality and low price.

CÂMARA DE COMÉRCIO AGRO BRASIL

C.C.A.B.

FACTORIES

PROFESSIONAL CHEMICALS MANUFACTURING

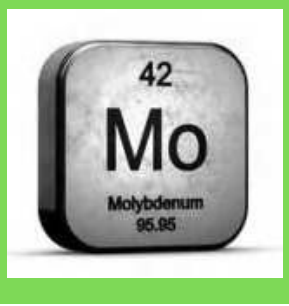
MOLYBDENUM 99.95%

Molybdenum is a silvery-white metal that is ductile and highly resistant to corrosion. It has one of the highest melting points of all pure elements —only the elements tantalum and tungsten have higher melting points. Molybdenum is also a micronutrient essential for life.

As a transition metal, molybdenum easily forms compounds with other elements. Molybdenum comprises 1.2 parts per million (ppm) of the Earth's crust by weight, but it is not found free in nature. The main molybdenum ore is molybdenite (molybdenum disulfide), but can also be found in wulfenite (lead molybdate) and powellite (calcium molybdate).

Density (g/cc):	10.22
Melting Point (K):	2890
Boiling Point (K):	4885
Atomic Radius (pm):	139
Atomic Volume (cc/mol):	9.4
Fusion Heat (kJ/mol):	28
First Ionizing Energy (kJ/mol):	684.8
Lattice Constant (Å):	3.150

- It is suitable for machine tools and equipment, military equipment, oil refinery tubing, load-bearing components and rotary exercises. Molybdenum is also used in cars, trucks, locomotives, ships and so on.
- In addition, molybdenum is used in stainless steel and heat-resistant steel is employed in synthetic fuel and chemical plants, heat exchangers, generators, oil refining equipment, pumps, turbine tubes, Marine thrusters, plastics and acid storage containers.
- Tool steel has a high proportion of molybdenum in the range and is used for high speed mechanical processing workpiece, cold working tools, drill, screwdriver, die, chisel, heavy castings, ball and mill, roll, cylinder block, piston ring large drill bits.



Ferro MOLYBDENUM 60%

Ferromolybdenum is an alloy formed by combining iron and molybdenum. It is an extremely versatile alloy used primarily in high-strength low alloys and stainless steels. It has numerous beneficial properties and can be used even in cast irons, some high-speed tool steels, and superalloy applications. Adding ferromolybdenum to a material helps to improve weldability, corrosion and wear resistance as well to increase ferrite strength.

The largest application area of ferromolybdenum is in the manufacture of ferrous alloys. Based on the range of molybdenum content, ferromolybdenum can be applied in the manufacture of machine tools and equipment, military hardware, refinery tubing, load-bearing parts and rotary drills.

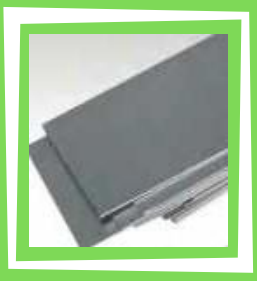



Property	Value
Chemical Formula	FeMo
Molybdenum Content	60% min
Carbon Content	0.10% max
Silicon Content	1.50% max
Phosphorus Content	0.05% max
Sulfur Content	0.05% max
Size Range	10-100 mm
Density	7.8 g/cm³
Melting Point	2150-2450°C
Applications	Steel making, cast iron production, welding electrodes, and hardfacing alloys
Production	Smelting roasted molybdenum concentrate and iron scrap in electric arc furnaces at temperatures between 2000 and 2500°C
Properties	Hard and brittle alloy with a high melting point, good thermal and electrical conductivity, and excellent corrosion resistance
Storage and handling	Store in a dry and cool place, away from sources of heat, moisture, and direct sunlight. Handle with care to prevent damage to the packaging and contamination of the material.

MAGNESIUM INGOTS, PLATES & ROD BARS

Elemental magnesium is a gray-white lightweight metal, two-thirds the density of aluminium. Magnesium has the lowest melting (923 K (650 °C)) and the lowest boiling point 1,363 K (1,090 °C) of all the alkaline earth metals.

Mg ingot is a new type of lightweight corrosion-resistant metal material, mainly used in mg alloy production, aluminum alloy production, steelmaking desulfurization, aviation and military industry and other fields. In 2022, our Industrial Park Mg production was 510,000 tons, accounting for 50% of the world's production.



Standard: GB/T3499-2003 Per Unit: %												
Model	Mg purity	Fe	Si	Ni	Cu	Ai	Mn	Cl	Ti	Pb	Zn	Other impurities
Mg9998	99.98	0.002	0.003	0.0005	0.0005	0.004	0.002	0.002	0.001	0.001	0.001	0.005
Mg9995	99.95	0.003	0.01	0.001	0.002	0.01	0.01	0.003	-	-	-	0.005
Mg9990	99.90	0.004	0.02	0.001	0.004	0.02	0.03	0.005	-	-	-	0.01

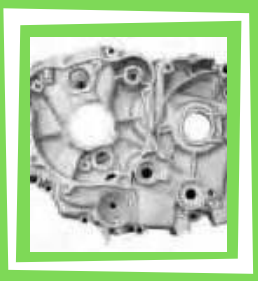
- We are the largest magnesium manufacturer in the world and produce Mg ingots, plates, rod bars and alloy.

Where is Magnesium used?
- Aerospace, defense and satellite applications where weight reduction is critical.
- Electronic components where shock absorbing qualities are crucial.
- Automotive/Motor sports applications where weight reduction and strength are required.

Why Magnesium?
- Magnesium is the lightest industrial metal in the world.
- One third lighter than aluminum and as strong as aluminium.
- Magnesium is shock absorbing and dampens vibrations.

MAGNESIUM ALLOY

Magnesium is a base material for numerous alloys. AZ91D is the most common magnesium alloy for die casting. It offers very good castability and toughness, and is an ideal material for light weight, highly durable parts.



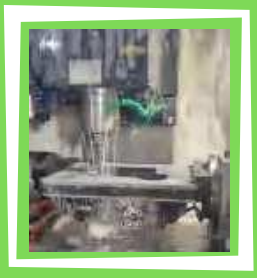
Standard: GB/T 19078-2003												
Description	1-Al	8-Be	7-Cu	5-Fe	3-Mn	6-Ni	Rare Earth	4-Si	Strontium	2-Zn	Other metalic impurities Maxezch	Other impiurities
AZ91D	8.5-9.5	0.0005-0.0015	0.025	0.004	0.17-0.40	0.001	...	0.08max	...	0.45-0.9	0.01	...
AM60B	5.5-6.4	0.0005-0.0015	0.008	0.004	0.26-0.50	0.001	...	0.08max	...	0.20max	0.01	...
AM5OA	4.5-5.3	0.0005-0.0015	0.008	0.004	0.28-0.50	0.001	...	0.08max	...	0.20max	0.01	...
AZ63A	5.5-6.5	...	0.20	0.00035	0.15-0.35	0.01	...	0.20	...	0.27-3.3	...	...
AS41B	3.7-4.8	0.0005-0.0015	0.015	0.00035	0.35-0.60	0.001	...	0.60-1.4	...	0.10max	0.01	...
AZ91A	8.5-9.5	...	0.08	...	0.15-0.40	0.01	...	0.20max	...	0.45-0.9	...	0.30
AZ91B	8.5-9.5	...	0.25	...	0.15-0.40	0.01	...	0.20max	...	0.45-0.9	...	0.30
AJ62A	5.6-6.6	0.0005-0.0015	0.008	0.004	0.26-0.50	0.001	...	0.08		0.20max	0.01	...
AS21A	1.9-2.5	0.0005-0.0015	0.008	0.004	0.20-0.50	0.001	...	0.7-12		0.20max	0.01	...
AS21B	1.9-2.5	0.0005-0.0015	0.008	0.00035	0.05-0.15	0.63-0.25	...	0.7-12		0.20max	0.01	...
AS41A	3.7-4.8	...	0.04	...	0.22-0.48	0.01	...	0.6-1.4	...	0.10max	...	0.30
AZ91C	8.3-9.2	...	0.08	...	0.15-0.35	0.01	...	0.20	...	0.45-0.9	...	...
AZ91E	8.3-9.2		0.015	0.005	0.17-0.50	0.001	...	0.20	...	0.45-0.9	...	...

MAGNESIUM ALLOY Die Casting Process - Part A

We are more than a die casting supplier. We offers a full array of custom, quality services.

- We offer a complete die casting solution that includes turnkey cast, machined, finished, coated, and assembled die castings that are optimized for your application.
- We assist in die casting design and use high-end technology to make sure your custom die casting project is given the best possible price matched by the best possible quality. As a leading die casting supplier, we strive towards solutions that work on every aspect of production.
- Our motto, ”Excellence is Expected," is reflected in everything we do and that’s only the beginning of our story.
- Have design questions? Explore our company design center, which provides a detailed technical resource for component designers, product engineers, purchasing, and quality engineers.






Magnesium Die Casting	Primary Benefit of Mg	Secondary Benefit of Mg
vs. Steel Weldment	75% Lighter	Less Expensive
vs. Aluminium Die Casting	33% Lighter	Longer Tool Life
vs. Plastic Molding	Stronger, stiffer	Environmentally Stable

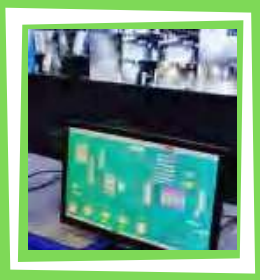
Why Choose Magnesium for your Die Casting Project?

- Compared to steel, magnesium is 75% lighter with no significant loss of strength. It is a far better material for complex, thin-walled, net shape or near-net shape castings and offers greater dimensional stability. Magnesium castings can meet tight tolerances that would be difficult or impossible to achieve with steel. Tooling costs can be lower for magnesium castings, as multiple parts can be easily consolidated into a single component. This also improves component rigidity and reduces welding and assembly costs.

- Compared to aluminum, magnesium is 33% lighter, with similar or improved mechanical properties, and machines easier. Magnesium provides greater corrosion resistance, and is better suited to large, thin-wall, net shape complex parts.

MAGNESIUM ALLOY Die Casting Process - Part B

- We use hot-chamber die casting to produce die cast magnesium parts. In this process, the metal injection components are submerged in a reservoir of molten magnesium. A hydraulically-powered piston forces the magnesium into the die, taking advantage of magnesium's excellent flow characteristics to accurately produce complex shapes.
- This precision digital projector enclosure required high strength, rigidity, and low weight. The initial unit was produced as two magnesium Thixomold parts, assembled into one with seven bolts. We worked with the customer to redesign the enclosure as a single unit for Mg die casting production. The redesign resulted in a 40% final part cost reduction, a unit weight saving of 8%, and assured dimensional accuracy for improved projector focusing performance.

Magnesium Die Casting	Primary Benefit of Mg	Secondary Benefit of Mg
vs. Steel Weldment	75% Lighter	Less Expensive
vs. Aluminium Die Casting	33% Lighter	Longer Tool Life
vs. Plastic Molding	Stronger, stiffer	Environmentally Stable

- Our die castings offer exceptional design freedom while at the same time achieving excellent mechanical properties for a product component. Selected features should be designed to enhance casting quality and avoid unnecessary casting costs.

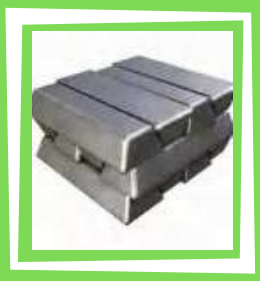
- Although die casting component design can be complex, following a few fundamental principles will help minimize die casting issues during the production phase and subsequent performance in the end product.

- Among key design and production factors covered: Matching material properties; Die design & construction; Minimizing part porosity; Optimizing part heat transfer; Preplanning post-casting machining, if required; Dimensioning and tolerancing; Flash considerations; Prototyping; and as-cast finish guidelines.

ALUMINIUM INGOT

Aluminum ingots is non-ferrous product that is produced by pouring molten aluminum into special molds. These molds come in a variety of sizes and shapes, and the ingots created by this variety have different types in appearance. Today, aluminum is the second most widely used metal in the world after iron.

The density of aluminum is only 2.7103g/cm ^{3}. About 1/3 of the density of steel, copper or brass. Due to its light material, aluminum is often used to manufacture land, sea and air vehicles such as automobiles, trains, subways, ships, aircraft, rockets and spaceships to reduce the dead weight and increase the loading capacity.



ALUMINUM INGOT PROPERTIES:

MOLECULAR WEIGHT: 26.98
APPEARANCE: SILVERY
MELTING POINT: 660.37 ℃
BOILING POINT: 2467 ℃
DENSITY: 2700 KG/M3
SOLUBILITY IN H2O N/A
ELECTRICAL RESISTIVITY: 2.6548 MICROHM-CM @ 0 ℃
ELECTRONEGATIVITY: 1.5 PAULINGS
HEAT OF FUSION: 2.55 CAL/GM MOLE
HEAT OF VAPORIZATION: 67.9 K-CAL/GM AT OM AT 765 ℃
POISSON'S RATIO: 0.35
SPECIFIC HEAT: 0.215 CAL/G/ K @ 25 ℃
TENSILE STRENGTH: 6800 PSI COLDROLED 16,000 PSI.
THERMAL CONDUCTIVITY: 2.37 W/CM/ K @ 298.2 K
THERMAL EXPANSION: (25 ℃) 23.1 MM·M-1·K-1
VICKERS HARDNESS: 167 MPA
YOUNG'S MODULUS: 70 GPA

Applications of aluminum ingots:

- Re-melting industries
- Transportation industries (aircraft, automobile, truck, shipbuilding, railway, etc.)
- Packaging Industry
- Production of cans and foils
- Manufacture of building doors and windows
- Production of building wall coverings
- home appliances
- Electrical transmission lines
- Glass industry
- Manufacture of casting parts

- According to the national standard ”aluminum ingots for remelting are divided into 8 grades according to chemical composition, namely al99.90, al99.85, al99.70, al99.60, al99.50, al99.00, al99.7e and al99.6e" (Note: the number after al is the aluminum content). The so-called ”A00" aluminum is actually aluminum with 99.7% purity, which is called ”standard aluminum" in the London market.

CALCIUM METAL, Powder and Wire

- Calcium Metal is an alkaline earth metal and has been known since prehistoric times. It is available as disc, granules, ingot, pellets, pieces, powder, rod, wire, and sputtering target. Ultra high purity and high purity forms also include metal powder, submicron powder and nanoscale, quantum dots, targets for thin film deposition, pellets for evaporation and single crystal or polycrystalline forms. Elements can also be introduced into alloys or other systems as fluorides, oxides or chlorides or as solutions.

Model	Chemical Composition									
	Ca	Al	Mg	Fe	Mn	N	Si	Cl	Cu	Ni
Ca-1	99.9	0.001	0.0044	0.0014	0.0072	0.05	0.001	0.005	0.001	0.001
Ca-2	99.5	0.019	0.19	0.006	0.06	0.014	0.026	0.095	0.0004	0.014
Ca-3	98.5	0.43	0.48	0.028	0.013	0.016	0.018	0.015	0.01	0.004
Ca-4	97.0	0.30	0.04	0.031	0.012	0.017	0.028	0.020	0.02	0.01

Products	Size	Packing
Ca Lump	Dia: 50mm-200mm	125kgs/drum
Ca Powder	Dia: 2mm-4mm	175kgs/drum
Ca Turning	Lg: 20-50mmW: 20mmThk: 2-5mm	90kgs/drum
Extruded Ca Wire	Dia: 7.5mm+/-0.1mm Wt: 68g/m+/-2g/m	175kgs/drum

Ca
calcium

One application is in some chemical processes to refine thorium, uranium and zirconium as well as being used to remove oxygen, sulphur and carbon from certain alloys.
Calcium can be alloyed with aluminium, beryllium, copper, lead and magnesium and is also used in vacuum tubes as a ‘getter’, a material that combines with and removes trace gases from these tubes.

FERROSILICON

Yulin accounts for over 1,200,000 tons of ferrosilicon. Ferrosilicon is a ferroalloy composed of iron and silicon. Ferrosilicon is an iron-silicon alloy made of coke, steel chips, quartz (or silica) as raw materials and smelted from an electric furnace. Ferrosilicon is often used as a deoxidizer in steelmaking, and it is also beneficial to increase the temperature of molten steel while deoxidizing.

At the same time, ferrosilicon can also be used as an alloying element additive, widely used in low-alloy structural steel, spring steel, bearing steel, heat-resistant steel and electrical silicon steel, ferrosilicon in alloy production and chemical industry, commonly used as a reducing agent



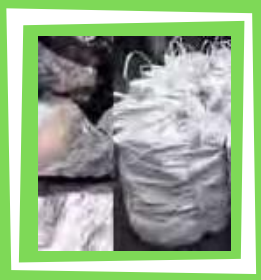

Standard: GB/T2272-2020						Per Unit: %		
Model	Si	Ai	Ca	Mn	Cr	P	S	C
	≥	≤						
FeSi75	75	1.5	1	0.5	0.5	0.04	0.02	0.2
FeSi72	72							
FeSi70	70			0.6				
FeSi65	65			0.7				

- Ferrosilicon, or ferrosilicium, is a ferroalloy an alloy of iron and silicon with between 15 and 90% silicon. It contains a high proportion of iron silicides. Its melting point is about 1200 °C to 1250 °C with a boiling point of 2355 °C. It also contains about 1to 2% of calcium and aluminum.
- The melting points of ferrosilicon alloys are lower than that of iron, mostly below 1673 K [28]. Because the reduction temperature is well above the liquidus, there is generally no difficulty in pouring these alloys, and it is normal to tap the metal into a ladle and to pour it into molds.
- Ferrosilicon alloys absorb gases, especially hydrogen during manufacture, and when cast it is usual to find that ingot has blow holes due to the alloy having given up some of its gas content on solidification.

SILICON MANGANASE SiMn

Silicon manganese (SiMn) is a ferroalloy composed chiefly of silicon and manganese; it is smelted by carbon reduction in ore hen at-treating furnaces. Silicomanganese with 10–26% Si (the remainder is Mn, Fe, and impurities) is obtained manganese ore, manganese slag, and quartzite and is used as a deoxidizer and alloying additive in the smelting of steel, as well as in the smelting of ferromanganese with reduced carbon content by the silicothermic process.



Silico manganese grade code	Chemical composition(%)						
	Si	Mn	C	P	P	P	S
				I	II	III	
			≤	≤	≤	≤	≤
FeMn64Si27	25.0-28.0	60.0-67.0	0.5	0.10	0.15	0.25	0.04
FeMn67Si23	22.0-25.0	63.0-70.0	0.7	0.10	0.15	0.25	0.04
FeMn68Si22	20.0-23.0	65.0-72.0	1.2	0.10	0.15	0.25	0.04
FeMn64Si23	20.0-25.0	60.0-67.0	1.2	0.10	0.15	0.25	0.04
FeMn68Si18	17.0-20.0	65.0-72.0	1.8	0.10	0.15	0.25	0.04
FeMn64Si18	17.0-20.0	60.0-67.0	1.8	0.10	0.15	0.25	0.04
FeMn68Si16	14.0-17.0	65.0-72.0	2.5	0.10	0.15	0.25	0.04
FeMn64Si16	14.0-17.0	60.0-67.0	2.5	0.20	0.20	0.30	0.05

Silicon manganese with 28-30 percent Si, for which specially prepared high-manganese low-phosphorous slag serves as raw material, is used in the production of metallic manganese.

The standard grade silicomanganese contains 14 to 16% of silicon, 65 to 68% of manganese and 2% of carbon. The low carbon grade SiMn has carbon levels from 0.05 to 0.10%.

NC4A CG High Purity Quartz Sand

NC4A CG is manufactured from uniqueQuartz deposits in Spruce Pine, USA. Spruce Pine quartz is the leading natural raw material for quartz glass products for the solar and semiconductor industries globally.

NC4A CG is calcined at higher temperatures for applications that beneft from this and can be used for the manufacture of high performance Czochralski crucibles for the photovoltaic industry and for large diameter quartz tubes and ingots.




Chemical Content (ppm)			Particle Size Distribution (µm)		
	Typical Value	Maximum		Typical Value	Limit
Al	13	18.0	D10	120	≥95
B	≤0.1	0.1	D50	230	170-320
Ca	0.5	1.0	D90	400	≤550
Co	≤0.01	0.01			
Cr	≤0.01	0.03			
Cu	≤0.01	0.03			
Fe	0.2	0.6			
K	0.5	0.9			
Li	0.4	1.0			
Mg	<0.1	0.1			
Mn	<0.1	0.2			
Na	0.8	1.2			
Ni	≤0.01	0.03			
Ti	1.2	1.5			
Cas No.		99439-28-8			

UREA - Agricultural Grade, controlled release (46 /45)

YETD-MC has a production line of 400,000 tons of synthetic ammonia and 600,000 tons of urea. High-quality raw coal is used as raw material to ensure product quality. The recycling project also provides about 80,000 tons of ammonium sulfate, which in turn is an important raw material for 100,000 tons of compound fertilizer. We can provide ammonium sulfate (N≥20.5%), urea (N≥46%), various types of compound fertilizers (N+P+K=57% MAX).

Standard: GB/2440-2017				
Model	Nitrogen	Biuret	Moisture	Size(d0.85-2.8mm)
Urea-A	≥46.4%	≤0.9%	≤0.5%	≥93%
Urea-B	≥45.0%	≤1.5%	≤1.0%	≥90%
Appearance	Granular, No mechanical impuritied			

- Urea, also called carbamide, the diamide of carbonic acid. Its formula is H2NCONH2. Urea has important uses as a fertilizer and feed supplement, as well as a starting material for the manufacture of plastics and drugs. It is a colorless, crystalline substance that melts at 132.7° C (271° F) and decomposes before boiling.

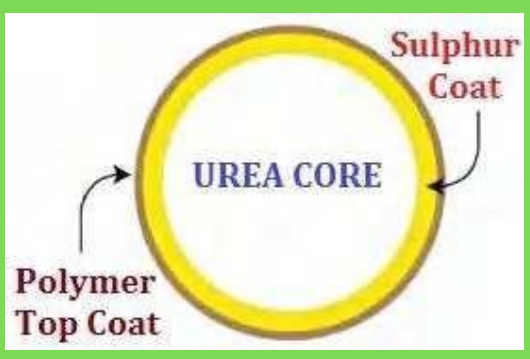
- Because its nitrogen content is high and is readily converted to ammonia in the soil, urea is one of the most concentrated nitrogenous fertilizers. An inexpensive compound, it is incorporated in mixed fertilizers as well as being applied alone to the soil or sprayed on foliage. With formaldehyde it gives methylene–urea fertilizers, which release nitrogen slowly, continuously, and uniformly, a full year's supply being applied at one time.

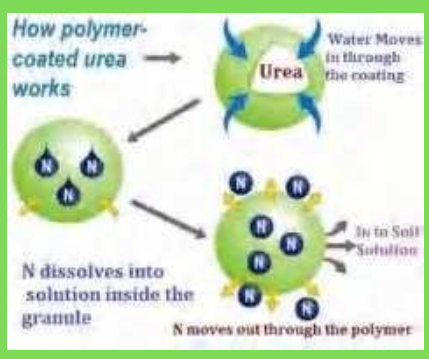
UREA - Agricultural Grade, Sulfur Coated SCU, controlled release

Coating particles or granules of urea with sulphur and a sealant results in the formation of a membrane that regulates the availability of nitrogen for plant growth. Sulphur Coated Urea (SCU) fertilizer is a slow-release fertilizer that is made by coating urea with sulphur and wax that increases nitrogen efficiency, improves plant growth and reduces water pollution, compared with water soluble fast-release urea.

Urea Assay (wt %)	98.0 min	99.1
Granulate size	0.85-2.80mm	91%
Moisture (wt %)	0.5 max	0.3
Nitrogen(wt %)	46	46.4
Biuret (wt %)	1.4 max	1
Aldehydes (ppm)	5.0 max	3.0
Free Ammonium (wt %)	0.01	0.01
Sulfur(≥) as request it	8-20%	8-20%
Insolubles (ppm)	20	13
Phosphate(ppm)	0.5 max	Less than 0.2
Heavy Metal(ppm)	0.5	0.3

Sulphur Coated Urea Avoid soil compaction; reduce frequency of application and reducing total cost; effectively reduce salt index, improving quality of crops; sulphur is a middle element, to provide nutrition for crops. As a hi-tech controlled/slow release fertilizer, Sulphur coated urea (SCU) has both effects of nitrogen and sulphur fertilizers.





UREA - Automotive Grade, for manufacturing of AdBlue®/DEF/AUS32 - ISO 22241

It is the only type of Urea that meets the ISO 22241 specification (Uncoated, Aldehyde, heavy metals free) and the only suitable Urea for the production of AdBlue®/DEF/AUS32/SCR solutions. For meeting the ISO 22241 the Urea needs to be of highest purity/quality.

Urea Assay (wt %)	98.0 min	99.1
Granulate size	0.85-2.80mm	91%
Moisture (wt %)	0.5 max	0.3
Nitrogen(wt %)	46	46.4
Biuret (wt %)	0.7 max	0.6
Aldehydes (ppm)	4.0 max	2.1
Free Ammonium (wt %)	0.01	0.01
Insolubles (ppm)	20	13
Fe (mg/kg)	0.5 max	Less than 0.2
Al (mg/kg)	0.5max	Less than 0.2
Cu (mg/kg)	0.5 max	Less than 0.2
Zn (mg/kg)	0.5 max	Less than 0.2
Cr (mg/kg)	0.5 max	Less than 0.2
Ni (mg/kg)	0.5 max	Less than 0.2
Mg (mg/kg)	0.5 max	Less than 0.2
Na (mg/kg)	0.5max	Less than 0.2
K (mg/kg)	0.5 max	Less than 0.2
Ash (ppm)	100 max.	Less than 10
Phosphate(ppm)	0.5 max	Less than 0.2
Heavy Metal(ppm)	0.5	0.3
Additive	NONE	NONE

Automotive grade urea dissolved within deionized water is resulting in an aqueous urea solution, supporting the reduction of mono-nitrogen oxides exhaust emissions by injection into selective catalytic reduction systems of heavy duty engines. This aqueous urea solution is standardized as AUS 32 in ISO 22241 and consequently the technical specifications for automotive grade urea are derived from this standard.

UREA - Industrial / Technical Grade

High-purity Urea Industrial / Technical Grade well known for accurate composition, impurity-free Urea Industrial Grade using superior purity chemicals and the latest manufacturing equipment according to International Industry standards. Urea Industrial Technical Grade is a nitrogenous compound containing a carbonyl group attached to two amine groups with osmotic diuretic activity. Urea Industrial Technical Grade derives from a carbonic acid and is a tautomer of a carbamimidic acid.

Urea Assay (wt %)	98.0 min	99.1
Granulate size	0.85-2.80mm	91%
Moisture (wt %)	0.6 max	0.3
Nitrogen(wt %)	46	46.4
Biuret (wt %)	0.8 max	0.64
Aldehydes (ppm)	4.8 max	2.1
Free Ammonium (wt %)	0.01	0.01
Insolubles (ppm)	20	13
Fe (mg/kg)	0.5 max	Less than 0.2
Al (mg/kg)	0.5max	Less than 0.2
Cu (mg/kg)	0.5 max	Less than 0.2
Zn (mg/kg)	0.5 max	Less than 0.2
Cr (mg/kg)	0.5 max	Less than 0.2
Ni (mg/kg)	0.5 max	Less than 0.2
Mg (mg/kg)	0.5 max	Less than 0.2
Na (mg/kg)	0.5max	Less than 0.2
K (mg/kg)	0.5 max	Less than 0.2
Ash (ppm)	100 max.	Less than 10
Phosphate(ppm)	0.5 max	Less than 0.2
Heavy Metal(ppm)	0.5	0.3
Additive	NONE	NONE

Urea industrial / technical grade applications:

As a component of animal feed, ingredient in dish soap, browning agent in factory-produced pretzels, tooth whitening products, flavour-enhancing additive for cigarettes, cloud seeding agent along with other salts, in hair removers, nitrocellulose explosive, flame-proofing agent, non-corroding alternative to rock salt for road de-icing, with ammonium phosphate as a yeast nutrient for fermentation of sugars into ethanol, additive to extend the working temperature and open time of hide glue, reactant in some ready-to-use cold compresses for first-aid use, for resurfacing of snowboarding half pipes and terrain parks, in some hair conditioners, facial cleansers, bath oils, skin softeners, and lotions, as a solubility-enhancing and moisture-retaining additive to dye baths for textile dyeing or printing.

Urea Crystallized Medical / Pharmaceutical Grade USP 43

Pharmaceutical / Medical Grade Urea it is the highest purity available urea and is manufactured in a highly contained and safe environment. Although urea (or carbamide) is a common chemical in the epidermis, most urea utilized medically and pharmaceutically is synthesized in laboratories. Urea is considered a natural moistening factor when produced by the body, and the synthetic alternative enhances the body's natural ability to moisturize.




Urea Assay (wt %)	98.0 min	99.1
Granulate size	0.85-2.80mm	91%
Moisture (wt %)	0.6 max	0.3
Nitrogen(wt %)	46	46.4
Biuret (wt %)	0.1 max	0.1
Aldehydes (ppm)	3.5 max	0.6
Free Ammonium (wt %)	0.01	0.01
Insolubles (ppm)	20	13
Fe (mg/kg)	0.5 max	Less than 0.2
Al (mg/kg)	0.5max	Less than 0.2
Cu (mg/kg)	0.5 max	Less than 0.2
Zn (mg/kg)	0.5 max	Less than 0.2
Cr (mg/kg)	0.5 max	Less than 0.2
Ni (mg/kg)	0.5 max	Less than 0.2
Mg (mg/kg)	0.5 max	Less than 0.2
Na (mg/kg)	0.5max	Less than 0.2
K (mg/kg)	0.5 max	Less than 0.2
Ash (ppm)	100 max.	Less than 10
Phosphate(ppm)	0.5 max	Less than 0.2
Heavy Metal(ppm)	0.5	0.3
Additive	NONE	NONE

Urea industrial / technical grade applications:

Urea-containing creams are used as topical dermatological products to promote rehydration of the skin. Urea 40% is indicated for psoriasis, xerosis, onychomycosis, ichthyosis, eczema, keratosis, keratoderma, corns, and calluses. If covered by an occlusive dressing, 40% urea preparations may also be used for nonsurgical debridement of nails. Urea 40% "dissolves the intercellular matrix"[10] of the nail plate. Only diseased or dystrophic nails are removed, as there is no effect on healthy portions of the nail. This drug is also used as an earwax removal aid.

Urea - Liquid AdBlue®/DEF/AUS32/SCR ISO 22241 for diesel cars

AdBlue®/DEF/AUS32/SCR liquid solution is made up of 32.5% urea and 67.5% de-ionised water. You may be wondering, where does the urea in AdBlue® come from? Well, AdBlue® urea is made by heating up synthetic ammonia and carbon dioxide. The urea is then added to the de-ionised water to create AdBlue®/DEF/AUS32. This guarantees quality in accordance with very strict specifications contained in ISO 22241.

Parameter	Minimum	Maximum	Unit
Appearance	Colourless Liquid with slight ammonia odour		
Freezing point	-11°C	-11°C	°C
Boiling point	100°C	100°C	°C
Basicity	9	10	pH
Flash point	not applicable (non-flammable)		
Water solubility	100		g/l
Viscosity at 20°C	1.4	1.4	mPa.s
Urea Content	31.8	33.2	%
Density at 20°C	1.087	1.093	g/cm3
Refracting index at 20°C	1.3814	1.3843	
Alkalinity as NH3		0.2	%
Biuret		0.3	%
Insolubles 20 mg/kg		20	mg/kg
Calcium		0.5	mg/kg
Iron		0.5	mg/kg
Aluminium		0.5	mg/kg
Magnesium		0.5	mg/kg
Sodium		0.5	mg/kg
Potassium		0.5	mg/kg
Copper		0.2	mg/kg
Zinc		0.2	mg/kg
Chromium		0.2	mg/kg
Nickel		0.2	mg/kg

AdBlue®/DEF/AUS32 is a diesel exhaust fluid used in vehicles with Selective Catalytic Reduction (SCR) technology to reduce harmful gases being released into the atmosphere. AdBlue®/DEF/AUS32 is a 32,5 % solution of high-purity, synthetically manufactured urea in de-mineralized water. It is a safe-to-use fluid.

NPK Fertilizer (S-NPK / CI-NPK)

- Excellent Granular 15-15-15 Nitrogen (N), Phosphorus (P), Potassium (K), Sulfur (SO3) is a new generation base fertilizer in granular form. Thanks to the sulfur in it, nutrients can be taken up more by the plant. In addition, the nutrients used in previous years but connected to the soil also dissolve into a form that can be taken. Pulcu Excellent Granular 15-15-15 does not and does not create salinity. The sulfur in it has an important role in regulating the pH of the soil.
- Potassium Fulvate contains trace elements, rare earth elements, plant growth regulators, virus inhibitors and other nutrients, which makes nutrients more sufficient and supply more reasonable, so as to avoid the occurrence of various physiological diseases caused by the lack of elements, make the plant type of crops more vigorous and the leaf color more green, Stronger lodging resistance.

Nitrogen	20%	19%	13%	30%	12%
P2O5	20%	19%	7%	10%	12%
K2O	20%	19%	40%	10%	36%
Nitrate Nitrogen	8%	8%	8%	8%	8%
Fe	0.1%	0.1%	0.1%	0.1%	0.1%
Zinc	0.05%	0.05%	0.05%	0.05%	0.05%
Mn	0.05%	0.05%	0.05%	0.05%	0.05%
Mo	0.01%	0.01%	0.01%	0.01%	0.01%
B	0.05%	0.05%	0.05%	0.05%	0.05%
TE	0.25-1.0%	0.25-1.0%	0.25-1.0%	0.25-1.0%	0.25-1.0%

1. Rich in nutrition, a lot of effect
In addition to the nutrients contained in terrestrial plants, amino acid contains many thousands of active substances unmatched by terrestrial plants, trace elements such as iodine, potassium, magnesium, manganese, and titanium, and polysaccharides such as seaweed polysaccharides and mannitol.

2. High nutrient activity, easy absorption, quick effect
The effective components of amino fertilizer are active after being specially treated and are easily absorbed by plants. They enter the plant within 2-3 hours after use, and have a fast absorption and conduction velocity.

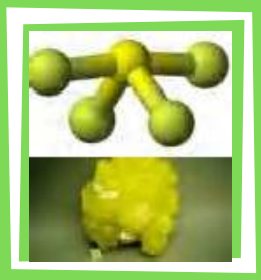
3. Natural organic soil conditioner
Amino Acid fertilizer contains natural compounds such as sodium alginate, a natural soil conditioner that promotes the formation of soil aggregates, improves the pore space within the soil, and coordinates the proportions of solid, liquid, and gas in the soil, recovering from overburdened soil and Loss of natural gum balance due to chemical pollution increases soil biological activity, promotes the release of quick-acting nutrients, facilitates root growth, and increases plant resistance.

4. Product features:
Suitable for fruit trees, such as apples, peaches, pears, dates, cherries, grapes, oranges, sugarcane, bananas, etc.
Suitable for vegetable, such as chili, tomato, cucumber, eggplant, celery, etc.
Suitable for all kinds of crops, such as peanut, wheat, rice, etc.

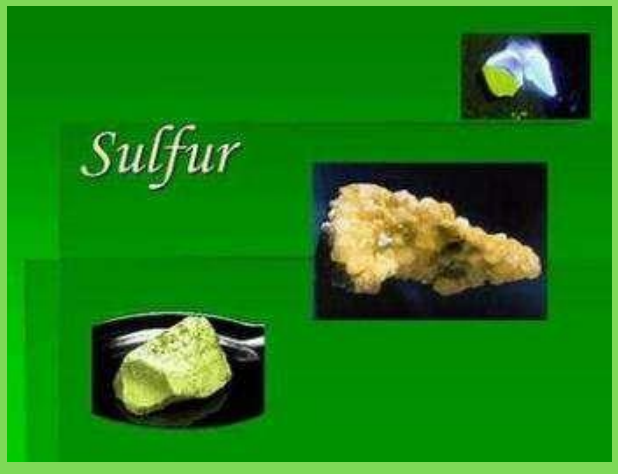
SULFUR

- Sulfur is used in the vulcanisation of black rubber, as a fungicide and in black gunpowder. Most sulfur is, however, used in the production of sulfuric acid, which is perhaps the most important chemical manufactured by western civilisations. The most important of sulfuric acid's many uses is in the manufacture of phosphoric acid, to make phosphates for fertilisers.
- Mercaptans are a family of organosulfur compounds. Some are added to natural gas supplies because of their distinctive smell, so that gas leaks can be detected easily. Others are used in silver polish, and in the production of pesticides and herbicides.
- Sulfites are used to bleach paper and as preservatives for many foodstuffs. Many surfactants and detergents are sulfate derivatives. Calcium sulfate (gypsum) is mined on the scale of 100 million tonnes each year for use in cement and plaster.

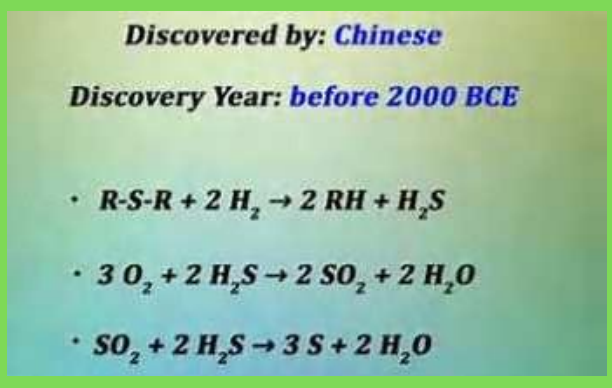


Appearance:	yellow powder
Sulfur Content:	80.00%±1.00%
Insoluble Sulfur:	≥72.00%
Oil Content:	20.00%±1.00%
Acidity(as H2SO4):	≤0.05%
Heating loss:	≤0.05%
High Thermal Stability (105°C , 15min):	≥75.00%
High Thermal Stability (120°C, 15min):	≥45.00%
Ash content:	≤0.15%
Residue on 150μm sieve:	≤1%

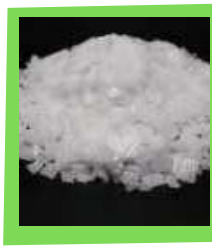


Discovery of Sulfur:



CAUSTIC SODA Flakes & Pearls (sodium hydroxide)

Caustic soda is an alkali salt which is also called Lye. It is the common name of sodium hydroxide. This name is given due to the corrosive nature of this salt on animal and plant tissues. It's a highly caustic base and the alkali that decomposes proteins at ordinary ambient temperatures and can severely burn chemical burns. It readily absorbs carbon dioxide and moisture from the air and is highly soluble in water. It creates a series of hydrates $NaOH \cdot nH2O$. Available in flakes and pearls.



NaOH	Caustic Soda
Density	g cm3 = 2.13 g/cm³ g ml = 2.13 g/ml
Molecular weight	39.997 g/mol
Molecular Volume	18.778 cm³/mol
Boiling Point	1388°C
Melting Point	323°C

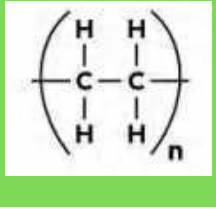
One of the strongest alkalis is a white solid, with no pronounced odor. The size of the flakes can reach 0.5 mm. NaOH easily dissolves in water and absorbs moisture from the air with the release of a large amount of heat. It has a wide range of applications. The chemical formula of sodium hydroxide is NaOH. Caustic soda it is often use in in the manufacturing of petroleum products and manufacturing of pulp and paper.

POLYETHYLENE (PE)

Polyethylene is a type of polyolefins. This is a lightweight, durable plastic that is often used for frozen food bags, bottles, cereal liners, yogurt containers, etc. Look around you, all plastics with recycling codes 2 and 4 are made of polyethylene. PE plastics comes with different crystalline structures. Subfamilies (HDPE, LDPE, LLDPE).

	LDPE	LLDPE	HDPE
Polymer Full Name	Low Density Polyethylene	Linear Low Density Polyethylene	High Density Polyethylene
Structure	High Degree of short chain branching + long chain branching	High Degree of short chain branching	Linear (or Low degree of short chain branching)
Catalyst and process	Using radical polymerization using tubular method or auto clave method	Using Ziegler-Natta catalyst or metallocene catalyst	Ziegler-Natta catalyst in:- Single-stage polymerization- Multi-stage polymerization or a Cr or Phillips-type catalyst
Density	0.910-0.925 g/cm3	0.91-0.94 g/cm3	0.941-0.965 g/cm3
Crystallinity	Low crystalline and high amorphous (less than 50-60% crystalline)	Semi-crytalline, level between 35 to 60%	High crystalline and low amorphous (>90% crystalline)
Characteristics	o Flexible and good transparencyo o Good moisture barrier propertieso o High impact strength at low temperatureo o Excellent resistance to acids, bases and vegetable oilso	As compared to LDPE, it haso higher tensile strengtho o higher impact and puncture resistanceo	o Excellent Chemical Resistanceo o High tensile strengtho o Excellent moisture barrier propertieso o Hard to semi-flexibleo
Recycling Code			
General Applications	Shrink wrap, films, squeezable bottles garbage bags, extrusion moldings, and laminates	High performance bags, cushioning films, tire separator films, industrial liners, elastic films, ice bags, bags for supplemental packaging and garbage bags	o Molecular weight distribution is relatively narrow, has applications in injection moldings or flat yarns, and the latter typeo o Molecular weight distribution is wide, is used to make film products, hollow plastic products and pipeso

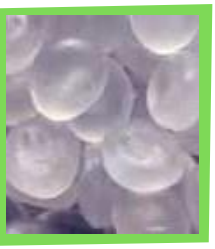
This is a lightweight, durable plastic that is often used for frozen food bags, bottles, cereal liners, yogurt containers, etc. Look around you, all plastics with recycling codes 2 and 4 are made of polyethylene.



POLYPROPYLENE (PP)

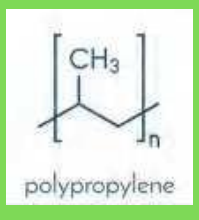
Polypropylene is a polymer whose monomer is propylene (an organic hydrocarbon with the chemical formula C3H6). The chemical formula of polypropylene is (C3H6)n. This polymer is also known as polypropene and is often denoted by the abbreviation 'PP'. Generally, polypropylene is produced via a chain-growth polymerization reaction involving propylene.






Property	TPO	Impact	Coa	Homob	Talc	GFc	LFRTd	SRPPe
Density, g/cm3	0.9-1	0.9	0.9	0.9	0.97-1.25	0.97-1.25	1.2	0.8-0.9
Shore hardness, D	10-99	45-55	70-80	70-83	75-85	70-88		
Rockwell hardness, M					10-45			
Stress at yield, MPa		11-28	20-35	35-40	22-28	19-70		
Elongation at break, %	450-850	20-700	200-600	15-600	20-30	2-30	2	
Tensile modulus, GPa		0.4-1	1-1.2	1.1-1.6	1.5-3.5	1-10	4-8	4-14
Notched impact strength ASTM D256, J/m	110-NB	110-NB	60-500	20-60	30-200	38-160		
HDT A(1.8 MPa), °C		46-57	50-60	50-60	56-75	50-140	160	
Minimum service temperature, °C	-40 to -20	-40 to -20	-20 to -10	-20 to -10	-20 to -5	-30 to -5		
UL94 fire rating	HB	HB	HB	HB	HB	HB	HB	HB
Coa - CopolymerHomob - HomopolymerGFc - Glass FilledLFRTd - Long Fiber Reinforced ThermoplasticSRPPe - Self Reinforced PolyPropyleneTPO - Thermoplastic PolyOlefinNB - No Break								

- Toughness and flexibility (exhibited to a large extent especially when the polymerization process involves copolymerization with ethylene).
- Large thermal expansion.
- Resistant to organic solvents.
- Resistant to weak oxidizing agents.
- Soluble in some organic nonpolar solvents like xylene.



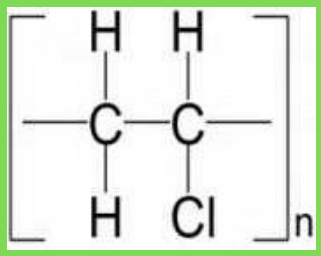
POLYVINYL CHLORIDE (PVC)

Polyvinyl Chloride (PVC) is a high-strength thermoplastic polymer made from the polymerization of vinyl chloride. PVC is the third most extensively produced synthetic polymer globally, with around 40 million tonnes produced yearly. It is widely used to produce pipes, wire and cable insulation, medical devices, etc.




Mechanical Properties of PVC	
Elongation Break	20-40%
Notch Test	2-5 kJ/m2
Glass Transition Temperature	82°C (180°F)
Water Absorption (Astm)	0.04 - 0.4
Effective Heat Of Combustion	17.95 MJ/kg
Specific Heat	0.9 kJ/(kg. K)
Dielectric Breakdown Voltage	40 MV/m

- Polyvinyl Chloride is a white, brittle solid material available in form of powder or granules.
- It is lightweight, durable, low-cost, and can easily be processed.



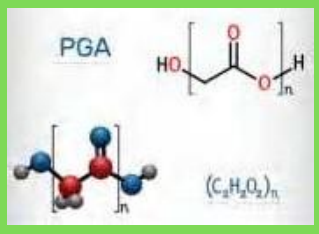
POLYGLYCOLIC ACID (PGA)

Polyglycolic acid (PGA) is a biodegradable, semi-crystalline thermoplastic. It is also the simplest linear, aliphatic polyester. PGA resins are known for their excellent gas barrier properties, relative high strength, and excellent biodegradability. Some grades have a biodegradation rate similar to cellulose and decompose under composting conditions into CO2 and water within one month.




$(C_4H_4O_4)_n$	Polyglycolic acid (PGA)
Coefficient of thermal expansion	0.000054 1/K
Melting point	220.0 - 230.0 °C
Density	1.3 g/ml

- PGA and its copolymers such as poly(lactic-co-glycolic acid), and poly(glycolide-co-caprolactone) are used in a number of applications. Due to PGA's very low permeability to O2 and CO2, it can be used as a packaging film for oxygen sensitive products, for example as an interlayer between two polyester films.
- Other important applications include shale gas extraction and other industrial processes as well as synthetic fast absorbable sutures for internal surgeries.



GLASS FIBER COTTON

Glass fiber cotton is a kind of thermal insulation material, the use temperature does not exceed 500 degrees C, glass fiber ultra-fine silk cotton is generally used at 300 degrees C, yellow, with glue, low price, often used in low temperature insolation and wall insulation, etc. The use of temperature of fiberglass mat is about 400 degrees C, white without glue, some fiberglass mat is covered with a layer of aluminum foil (gas barrier, anti-radiation, mainly used for insulation of low temperature pipeline equipment.

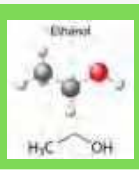
For different types and grades of glass fiber cotton to meet your requirements please contact us.

Item	Unit	Value
ZrO2:	%	≥16.5
ZrO2+Ti O2:	%	≥19.2
Density:	g/m3	2.7
Modulus:	N/mm2	80.4
Diameter:	μm	13
Linear desnsity:	tex	76
Color:	/	white
Length:	mm	6mm, 12mm
Moisture:	%	≤0.5
Sizing agent:	%	0.8-2.0
Soft point:	℃	860

Fiber	Density (gm/cc)	Residual moisture content %	Potential water retention %	Melting and degradation point
Wool	1.31	13-15	42	Brittle at 100°C. Decomposes at 130°C
Cotton	1.5 – 1.54	7	45	Turn yellow at 120°C. Turns brown at 150°C
Silk	1.33	9	N/A	No damage < 150°C. Decomposes at 180°C
Viscose	1.52	13	90 – 95	Resistant for 1hr at 115°C, later yellowing and loss of strength
Acetate	1.33	6.5	20 – 25	Plastic formation at 175°C - 190°C, Melts at 260°C
Triacetate	1.30	3.2	12 – 18	Sticky at 230°C, Melts at approx... 300°C
Nylon 6.6	1.14	4 – 4.5	10 – 12	Yellow after 5 hrs at 150°C, Softens at 220°C - 240°C
Nylon 6	1.13	3.5 – 5	10 – 12	After 5 hrs 50% strength loss at 150°C, Softens at 160°C - 200°C
Polyester	1.38	0.3 – 0.4	3 – 5	Dry heat resistance at 150°C, Melts at 250°C - 266°C
Polyacrylonitrile	1.16	1 – 1.15	4.5 – 6	Heat resistance to 140°C
Polyvinylchloride	1.38	0.1	N/A	Shrinks at 70°C, Melts at 180°C
Polypropylene	0.90	0.01	0.01	0-5% shrink at 100°C, Melts at approx... 165°C
Glass	2.5	0.0	0.0	5-9% shrink at 140°C, Softens at 140°C - 165°C, After 24 hrs at 300°C losses 20% strength

The designation E stands for electrical as E-glass is a good electrical insulator besides having good strength and a reasonable Young's modulus; C stands for corrosion as C-glass has a better resistance to chemical corrosion; S stands for high silica content and S-glass is able to withstand higher temperatures than others.

ETHANOL 99.99%



Ethanol is a clear, colorless alcohol produced mostly from grains or sugar. Since it is made from biomass (*organic material derived from plants and animals), it is considered a renewable energy. Ethanol is often blended with gasoline or diesel fuels to produce a cleaner-burning fuel for automobiles.

Final product applications: Raw material for adhesives, Raw material for binders, Raw material for fuels or fuel additives, Raw material for aerosol propellants, Raw material for anti-freezing agents, Raw material for cleaning agents, Raw material for disinfectants, Raw material for cosmetic agents, Raw material for fragrances, Raw material for pharmaceuticals, Raw material for toiletries, Raw material for printing inks and printing ink additives.

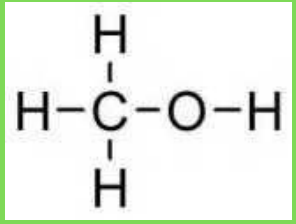
Item	Specification	Result
Appearance	colorless clarity liquid	colorless clarity liquid
Purity%	99.9min	99.92
Color(hazen)	10max	5
Water content%	0.05max	0.04
Acidity(as acetic acid)%	0.002max	0.0008
Density at 20°C(g/cm3)	0.784-0.786	0.7851
Evaporation resuide%	0.002max	0.0008
Carbonyl value%	0.02max	0.0028
Sulfide content(mg/kg)	2max	0.3
Water soluble experient	/	

METHANOL REFINED

Methanol Refined is a colorless clear liquid, the vapor and air can form an explosive mixture, when burning to produce a blue flame. The critical temperature was 240.0 ℃; The critical pressure was 78. 5atm. With water, ethanol, ether, benzene, ketones and other organic solvents miscible. Its vapor and air to form an explosive mixture, fire, high heat caused by combustion explosion.

Property	Value
Color	colorless transparent
Odor	ethanol odor, crude pungent smell
Realtive Density	0.7914
Flash Point	16 ℃
Refractive index	1.3287
Boiling Point	64.7 ℃
Melting point	-97.8 ℃

A strong reaction with an oxidizing agent can occur. In case of high fever, the internal pressure of the container increases, and there is a risk of cracking and explosion. There is no flame when burning. Can accumulate static electricity, ignition its vapor.

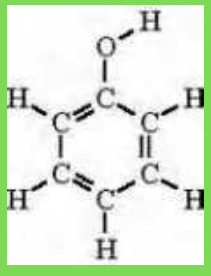


PHENOL REFINED

Phenol is both a manufactured chemical and a natural substance. It is a colorless-to-white solid when pure. The commercial product is a liquid. Phenol has a distinct odor that is sickeningly sweet and tarry. You can taste and smell phenol at levels lower than those that are associated with harmful effects. e physical and chemical properties of phenol are mainly because of the presence of the hydroxyl group in them.

Parameter name:	Value:
Density	1.07 grams per centimetre cube
Boiling point	181.7 °C
Meting point	40.5 °C
Molecular mass	94.113 g mol-1

Phenol is used primarily in the production of phenolic resins and in the manufacture of nylon and other synthetic fibers.

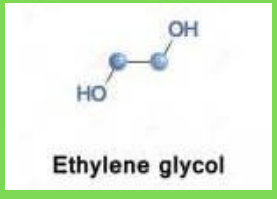


ETHYLENE GLYCOL

Ethylene Glycol is highly toxic. It is also known as Ethane-1,2-diol or Monoethylene glycol. It has no smell and is viscous. It is colorless and has a sweet taste. It appears as a clear, colorless, liquid. It is widely used as an antifreeze and a raw material in the plastic industry. Ethylene Glycol is produced when ethylene oxide reacts with water.

$C_2H_6O_2$	Ethylene Glycol
Molecular Weight/ Molar Mass	62.07 g/mol
Density	1.11 g/cm³
Boiling Point	197.3 °C
Melting Point	-12.9 °C

Ethylene glycol has been the most abundantly produced diol because it is one of the monomers of polyethylene terephthalate. Ethylene glycol has been synthesized by the oxidation of ethylene with O2 to ethylene oxide and the subsequent hydration of ethylene oxide to ethylene glycol. Usually, ethylene is supplied from the thermal cracking of naptha from petroleum refining.



Ethylene glycol

METHYL ALCOHOL

Methyl alcohol is a colorless liquid with a strong odor. It is a poisonous substance that can be absorbed through the eyes, skin, lungs, and digestive system. Methyl alcohol is used in many industries. It is used in solvents, deicers, and the manufacturing of plastics, polyesters, and other chemicals.

CH3OH	Methyl alcohol
Molecular Weight/ Molar Mass	32.04 g/mol
Density	792 kg/m³
Boiling Point	64.7 °C
Melting Point	-97.6 °C
Relativity density	0.7914
Refractive index	1.3287
Flash point	16 °C

Character colorless transparent flammable volatile polar liquid. Pure product with slightly ethanol odor, crude pungent smell.

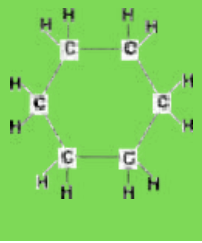
Methyl alcohol
(CH_3OH, methanol)

1-HEXENE

1-hexene appears as a clear colorless liquid with a petroleum like odor. Flash point -26 °C. Less dense than water and insoluble in water. Vapors heavier than air. Used as a solvent, paint thinner, and chemical reaction medium. 1-hexene is commonly manufactured by two main routes: oligomerization of ethene and by Fischer-Tropsch synthesis followed by purification. Another route to 1-hexene, used commercially on small scale, is dehydration of alcohols.

C6H12	1-Hexene
Density	0.6731 @ 20 °C/4 °C
Vapor Density	3.0 (Air= 1)
Vapor Pressure	183.7 mm Hg at 25 °C
Solubility	50 mg/l at 25 °C
Viscosity	0.39 sq mm/s
Flash Point	-26 °C
Boiling Point	63.4 °C
Melting Point	-139.7 °C

The primary use of 1-hexene is as a comonomer in production of polyethene. High density polyethene (HDPE) and linear low density polyethene (LLDPE) use approximately 2-4% and 8-10% of comonomers.
Another significant use of 1-hexene is the production of linear aldehyde via hydroformylation (oxo synthesis) for later production of the short-chain fatty acid heptanoic acid.

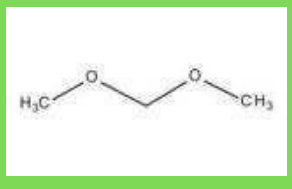


METHYLAL

Methylal or dimethoxymethane is an organic compound manufactured from naturally occurring organic substrates. One major useful chemical property it has is good solubility. It is utilized in the manufacturing of paints, adhesives, perfumes and resins to coat various surfaces. Also, it is being employed as an additive to diesel.

Molecular Formula	C3H8O2
Molar Mass	76.09
Density	0.860g/mLat 20°C(lit.)
Melting Point	-105 °C
Boling Point	41-43°C
Flash Point	-18 °C
Water Solubility	32.3 g/100 mL (16 °C)
Solubility	32.3 g/100 mL (16°C)
Vapor Presure	6.38 psi (20 °C)
Vapor Density	2.6 (vs air)
Appearance	Liquid
Color	Clear colorless
Odor	Mild, ethereal; chloroform-like.
Exposure Limit	NIOSH REL: TWA 1,000 ppm (3,100 mg/m3); IDLH 2,200 ppm; OSHA PEL:TWA 1,000 ppm; ACGIH TLV: TWA 1,000 ppm (adopted).
Merck	14,6012
BRN	1697025
pKa	3.1[at 20 °C]
PH	pH (12.5vol % , 25°C) : 4.5~6.6
Sensitive	Moisture Sensitive
Explosive Limit	1.6-17.6%(V)
Refractive Index	n20/D 1.354

- Methanol and formaldehyde were reacted in the synthesis column under the catalysis of concentrated sulfuric acid. The resultant methylal is distilled out from the tower where the temperature is controlled at 41.5-42 °C.

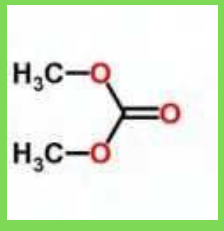


DIMETHYL CARBONATE (DMC)

Dimethyl carbonate is an environmentally friendly solvent used to make coatings, adhesives, and cleaning agents. DMC is also used as a raw material for organic synthesis, and in reactions that include methylation, carbonylation, and carbomethoxylation. Also use in notebook PCs, cell phones and hybrid electric vehicles.

Physical Property	Value
Color	Clear
Odor	Characteristic
Density @25 °C [77 °F]	1.06 g/mL
Viscosity @25 °C [77 °F]	0.7 cP
Flash Point	14 °C [58 °F]
Freezing Point	2 °C [36 °F]
Boiling Point	90 °C [194 °F]
Vapor Pressure @20 °C [68 °F]	24 hPa [18 mmHg]
Evaporation Rate	3.2 (ButAc=1)
Volatile Organic Compound (VOC)	0% [0 g/mL], VOC exempted
MIR value	0.63

DMC is a clear colorless liquid synthesized from carbon monoxide and methanol as same as DMC by using UBE's proprietary nitrite technology, and used as a pharmaceutical intermediate. It is being employed as a raw material for organic synthesis reactions such as methylation, carbonylation, and carbomethoxylation. DMC is also used as an environmentally friendly solvent in cleaning agents.

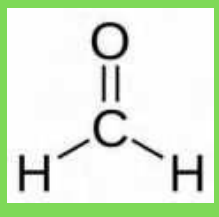


FORMALDEHYDE

Formaldehyde is a colorless gas synthesized by the oxidation of methanol and used as an antiseptic, disinfectant, histologic fixative, and general-purpose chemical reagent for laboratory applications. It is stable at about 150 °C, but polymerizes when condensed to a liquid. It is used in the production of fertilizer, paper, plywood, and urea-formaldehyde resins. It is also used as a preservative in some foods and in many products used around the house, such as antiseptics, medicines, and cosmetics.

Property Name	Property Value
Molecular Weight	30.026
XLogP3-AA	1.2
Hydrogen Bond Donor Count	0
Hydrogen Bond Acceptor Count	1
Rotatable Bond Count	0
Exact Mass	30.010564683
Monoisotopic Mass	30.010564683
Topological Polar Surface Area	17.1 Å²
Heavy Atom Count	2
Formal Charge	0
Complexity	2
Isotope Atom Count	0
Defined Atom Stereocenter Count	0
Undefined Atom Stereocenter Count	0
Defined Bond Stereocenter Count	0
Undefined Bond Stereocenter Count	0
Covalently-Bonded Unit Count	1
Compound Is Canonicalized	Yes

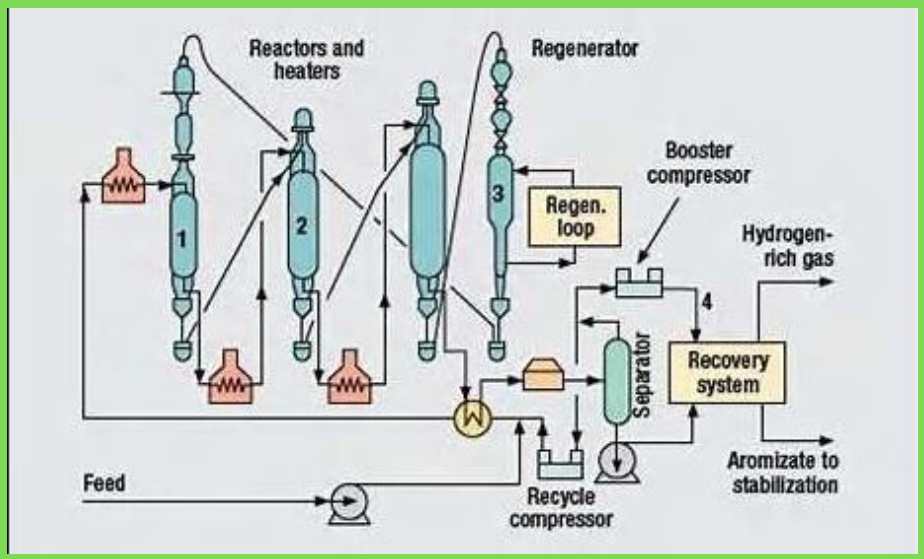
- Formaldehyde is readily soluble in water and is commonly distributed as a 37% solution in water; formalin, a 10% solution of formaldehyde in water, is used as a disinfectant and to preserve biological specimens.
- Formaldehyde, solutions (formalin) (corrosive) appears as a colorless liquid with a pungent irritating odor. Contains 37-50% formaldehyde by mass and varying amounts of methanol, added to prevent precipitation of formaldehyde polymers (formaldehyde exists in solution as CH2(OH)2 and its polymers HO(CH2O)xH where x averages about three).



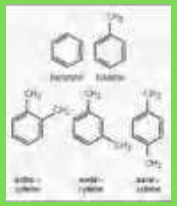
AROMATICS BTX - Benzene, Toluene, and Xylenes

Benzene, toluene, and xylenes are coproduced and are commonly called BTX aromatics. For more than a decade they have been, and still are, in a rapid growth phase. Benzene is the second largest volume petrochemical. These factors made this technical and economic study of the BTX aromatics in the Process Economics Program desirable.

Parameters	Benzene	Toluene	Xylenes
Formula	C_6H_6	$C_6H_5CH_3$	C_8H_{10}
Molar Weight	78.12	92.15	106.18
Density (g/mL)	0.8765	0.8669	0.8685
Polarity	Non-polar	Non-polar	Non-polar
Solubility in water (mg/L)	1780	500	175–198
Octanol-water partition coeff. (20 °C) ($\log K_{ow}$)	2.13	2.89	2.77–3.15
Henry's law costant (25 °C) (kPa m^3/mole)	0.55	0.67	0.50–0.71



For more than a decade they have been, and still are, in a rapid growth phase. Benzene is the second largest volume petrochemical. These factors made this technical and economic study of the BTX aromatics in the Process Economics Program desirable. Benzene, toluene, and xylene can be made by various processes. However, most BTX production is based on the recovery of aromatics derived from the catalytic reforming of naphtha in a petroleum refinery.

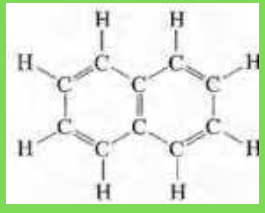


Naphtha

Naphtha is a term used to refer to a group of volatile, flammable mixtures of liquid hydrocarbons that are used mainly as solvents, diluents, or raw materials for gasoline conversion. It is a lightweight petrochemical feedstock that is separated from crude oil in the fractional distillation process along with kerosene and jet fuel.

Parameter name:	Value:
Density at 20 ° C, kg/m3 (depends on the hydrocarbon composition)	from 750 to 860
Boiling point	120-240°C
Kinematic viscosity, mm2/s	1,1
Cloud point, oC	-60
Molecular weight, g/mol	100-215
Sulfur content, %%	not more than 0.02
Specific heat of combustion, MJ/kg	43,3

The naphtha mixtures that are distilled at a lower boiling temperature have a higher volatility and, generally speaking, a higher degree of toxicity than the higher boiling fractions. Naphtha is a flammable liquid mixture of hydrocarbons heavier than gasoline obtained by direct distillation of crude oil and gas condensates or cracking of petroleum products.

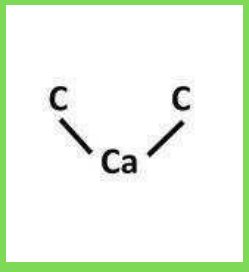


CALCIUM CARBIDE

Calcium carbide, also known as calcium acetylide, is an inorganic chemical compound with formula CaC2. Pure calcium carbide is colorless and odorless; however, the commercial calcium carbide presents a different color range. Calcium carbide is used in the production of important industrial chemicals. Calcium carbide when reacts with water produces acetylene and calcium hydroxide, both of which are used in important industrial processes.

Property	Value
Molecular Weight/ Molar Mass	64.099 g/mol
Density	2.22 g/cm3
Boiling Point	2300 °C
Melting point	2160 °C

Calcium carbide is produced in industries using a mixture of coke and lime at a temperature of approximately 2200 °C (3990 °F) in an electric arc furnace. This method was invented by a Canadian inventor Thomas L. Wilson in the year 1892 and this production process has not changed ever since.



PET COKE

Petroleum coke is a black or dark gray hard solid petroleum product. The petroleum coke components are hydrocarbons with metallic luster and are porous. They are granular, columnar or needle-like carbon bodies formed by tiny graphite crystals.
Calcined petroleum coke can be widely used in steel making, chemical industry, building materials, foundry materials, machinery, petroleum exploration and other industries.




	Foundry Coke		Metallurgical Coke	
Specifications	First Grade	Second Grade	First Grade	Second Grade
Ash	10%max	12%max	12.5%max	13%max
Volatile matter	1.5%max	1.5%max	1.5%max	1.5%max
Fixed carbon	88%min	86%min	86%min	85%min
Sulfur	0.6%max	0.6%max	0.7%max	0.7%max
Moisture	5%max	5%max	7%max	7%max
Size	80-120mm,90%min,25-80mm,90%min,or as your requirement			

Pet coke is the solid carbon byproduct of cracking units such as the the FCC and coker unit.
In an FCC, coke forms on the catalyst and is burned off as fuel for the FCC process, resulting in no net production of coke as a product. In a delayed coker, resid is thermally cracked to produce lighter, more desirable products. In the process, a significant portion of the feed (~15% of volume) is converted into elemental carbon called petroleum coke. Refiners separate the coke from the other coker products and sell it as a product.
The primary end use for pet coke is as a solid fuel, used as a substitute for coal in furnaces and boilers. The value of the coke as a product is typically far below the cost of the crude oil used to produce it.

SEMI COKE

Yulin semi-coke production accounts for 50% of China, with an annual output of about 31 million tons, is the world's highest. Semi-coke is made of high-quality refined coal as a new type of carbon material. With its characteristics of fixed carbon height, high specific resistance, high chemical activity, low ash content, low aluminum, low sulfur and low phosphorus, in order to gradually replace metallurgical coke and widely used in the production of calcium carbide, ferroalloy, ferrosilicon, silicon carbide and other products. Semi-coke can replace coke and is widely used in chemical, smelting, gas and other industries.




Item	F.C.	ASH	V.M.	S	P	MOISTURE	SIZE(mm)	REACTICITY (1100°C/%)	RESISTIVITY (900°C/μΩ·m)	POROSITY
Lump	84%MIN	8%MAX	8%MAX	0.4%MAX	0.03%MAX	15%MAX	15-35	99.5%	5150	79%
Nut							6-18			
Fine	70-82%	10-12%	10%MAX				0-8			

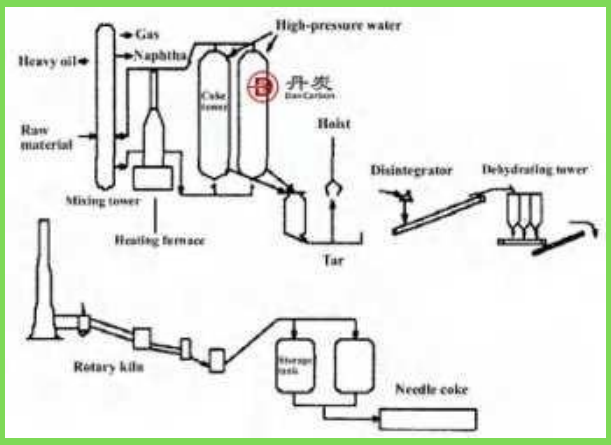
- Semi-coke from our manufacture is light black.
- Improve the quality of the ferroalloy significantly.
- Reduce unit electricity consumption significantly (nearly save more than 1000 KwHr, that means 8- 10%).
- Lower the cost of raw material.
- Eazy to replace metallurgical coke, pet-coke and charcoal with semi-coke. No need to upgrade your equipment.

NEEDLE COKE

Needle coke is a specialty grade of pet coke valued for its crystalline structure that makes it a good material for making .Needle coke is typically produced from a dedicated coker that uses low-sulfur FCC slurry as feedstock. The high aromatics content of the FCC slurry results in the desired needle coke properties.
Refiners often sell low-sulfur FCC slurry to a third-party needle coker, but there are some refineries with their own on-site dedicated needle coker.




Performance		Index		
		Gifted class	Level 1	Level 2
True density g/cm3	≥	2.13	2.13	2.12
sulfur%	≤	0.4	0.4	0.5
nitrogen%	≤	0.5	0.6	0.7
Volatile content%	≤	0.3	0.4	0.4
Ash content%	≤	0.2	0.3	0.3
Moisture%	≤	0.15	0.15	0.15
Coefficient of thermal expansion (100-600) 10-6K-1	≤	1	1.3	1.5
Resistivity um.m	≤	600	600	600
Tap density g/cm3	≥	0.9	0.88	0.85



Due to a specific molecule structure, needle coke has a more crystalline structure and less cross-linking. Needle Coke is typically used in the production of carbon and graphite electrodes as well other specialty niche products..

WASHED COAL

Depending on its quality, coal needs to be ”washed" with water and chemicals to remove sulfur and impurities before it can be burned in a power plant. Coal washing, or coal beneficiation, is widely seen as an efficient method for getting the most from run-of-mine coal. Coal washing is a process that is undertaken in a coal washery or coal preparation plant (CPP) where coal is refined or cleaned of impurities. Coal washing involves using water, mechanical techniques and relies on gravity and the difference of density between coal and it's impurities which are usually more densely packed due to the fact that they are inorganic.




Table I – Coal Analyses with Values Converted to Mass/Heating Value

	Raw Coal	→ Washed Coal
Moisture	6.0%	8.0%
Ash	38.5%	30.0%
Calorific Value (CV)	4100 Kcal/Kg	4800 Kcal/Kg
Moisture Loading	14.6 Kg/M-Kcal	16.7 Kg/M-Kcal
Ash Loading	93.9 Kg/M-Kcal	62.5 Kg/M-Kcal

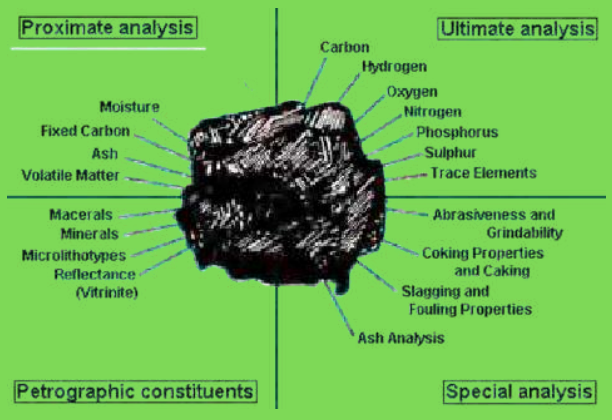
Coal washing is accomplished by one of two major processes, by density separation or by froth flotation. Both processes depend on the fact that the particles of which a coal sample are made have different densities. .

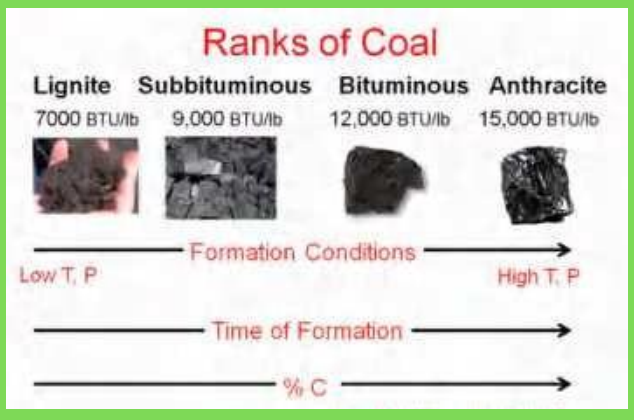
COAL

Coal, one of the most important primary fossil fuels, a solid carbon-rich material that is usually brown or black and most often occurs in stratified sedimentary deposits. Coal is defined as having more than 50 percent by weight (or 70 percent by volume) carbonaceous matter produced by the compaction and hardening of altered plant remains—namely, peat deposits. Different varieties of coal arise because of differences in the kinds of plant material (coal type), degree of coalification (coal rank), and range of impurities (coal grade).




Yulin, Shenmu, Industrial Park 2022 annual output is 551,540,000 tons of coal. . We have different types and grades of coal. For more information and to meet your requirements please contact us.





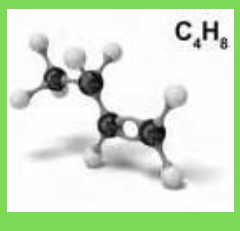
Coal is an abundant natural resource that can be used as a source of energy, as a chemical source from which numerous synthetic compounds (e.g., dyes, oils, waxes, pharmaceuticals, and pesticides) can be derived, and in the production of coke for metallurgical processes. Coal is a major source of energy in the production of electrical power using steam generation..

1-BUTENE

1-Butene is used as a co-monomer for the production of high density (HDPE) and linear low density (LLDPE) polyethylene products and for the manufacture of polybutylene. 1-Butene is also used as feedstock for the production of 1,2-butylene oxide, methylethylketone (MEK), maleic anhydride and n-butyl derivatives. Butene-1 has good solvent properties.

C4H8	1-Butene
Density	232.81 kg/m³
Molar Mass	56.106 g/mol
Critical Point Temperature	146.35 °C
Pressure	40.2 bar
Triple Point Temperature	-185.35 °C
Flash Point	-78.88 °C
Boiling Point	-6.47 °C at 760 mm Hg
Melting Point	-185.33 °C

1-Butene, also known as butylene, is an alkene with the formula C4H8. It is a gas at room temperature and pressure, but can be liquefied by lowering the temperature or raising the pressure on it, in a manner similar to pressurised butane. This gas is colourless, highly flammable with no distinct odour. Although not naturally present in petroleum in high percentages, it can be produced from petrochemicals or by catalytic cracking of petroleum.



Liquefied Natural Gas (LNG)

- Liquefied natural gas (LNG), natural gas (primarily methane) that has been liquefied for ease of storing and transporting. Liquefied natural gas (LNG) is 600 times smaller than natural gas when the latter is in its gaseous form, and it can be easily shipped overseas. LNG is produced by cooling natural gas below its boiling point, −162 °C (−259 °F), and is stored in double-walled cryogenic containers at or slightly above atmospheric pressure. It can be converted back to its gaseous form by simply raising the temperature.

- LNG is more practical than liquefied petroleum gas or other liquid gases, particularly for use in large volumes, because it has the same chemical composition as natural gas. This fact and the growing demand for natural gas have stimulated LNG production.

9. Technical Specification for Liquefied Natural Gas

Component / Substance 成分/物質	Permissible limits 可允許的限制
Gross Heating Value (GCV) range 總熱值（GCV）範圍	9,340-10,420 Kcal/SCM (1,050-1,170 BTU/SCF)
Methane 甲烷	Not less then 85.0 Mol % 不小於 85.0 莫耳%
Ethane 乙烷	Not more then 9.2 Mol % 不大於 9.2 莫耳%
Propane 丙烷	Not more then 3.00 Mol % 不大於 3.00 莫耳%
Butanes and heavier 丁烷及更重	Not more then 2.00 Mol % 不大於 2.00 莫耳%
Pentanes and heavier 戊烷及更重	Not more then 0.25 Mol % 不大於 0.25 莫耳%
Nitrogen 氮	1.0 molecular % 1.0 分子%
Total Sulphur 總硫	10.0 ppm(w)
Sulphur in form of Hydrogen Sulphide 硫化氫形式的硫	10.0 ppm(w)
Maximum variation in Wobbe Index (WI) - WI=LHV (Volumetric Basis /(Specific Gravity w.r.t. Air)0.5 , 沃泊指數（WI）的最大變化<WI = LHV（體積基準/（比重w.r.t空氣）0.5>	+/-5.0 %
Contaminants 污染物	
(a) Trace Metals 微量金屬	

i	Pb + Zn 鉛+鋅	0.5 ppm (w)
ii	Na + K 鈉+鉀	0.3 ppm (w)
iii	Vanadium 釩	0.5 ppm (w)
iv	Calcium 鈣	2.0 ppm (w)
v	Magnesium 鎂	2.0 ppm (w)
vi	Sum of heavy metals (Hg+V+Pb+Zn+Ni+Others) 重金屬總和（Hg 汞+ V 釩+ Pb 鉛+ Zn 鋅+ Ni 鎳+其他）	1.0 ppm (w)
(b)	Solids / Particulates 固體/微粒	
i	Total for particle size up to 10 micron 總計粒徑達 10 微米	
ii	For 2 micron < d < 10 micron 對於 2 微米<d <10 微米	20.0 ppm (w)
iii	For particle size grater than 10 micron 對於大於 10 微米的粒度	1.50 ppm (w)
		0.30 ppm (w)
(c)	Liquid contents 液體含量	Nil 無
(d)	Moisture 水分	112 kg/million SCM
Hydrogen content 氫含量		1.0 (by volume) 1.00（按體積）
Acetylene (C2H2) 乙炔（C2H2）		0.10 (by volume) 1.00（按體積）
Higher Hydrocarbons for n>=3 當 n> = 3 時烴含量較高		10.0 (by volume) 10.0（按體積）

Liquefied Petroleum Gas (LPG)

- Liquefied petroleum gas (LPG) is a colourless odourless liquid which readily evaporates into a gas. Normally an odourant has been added to it to help detect leaks.
- LPG (either Butane or Propane), is generally stored and distributed as a liquid and it is widely used for process and space heating, cooking and automotive propulsion. . It is classified as highly flammable and if it contains more than 0.1%Butadiene, it is also classified as a carcinogen and mutagen.
- LPG is non-corrosive but can dissolve lubricants, certain plastics or synthetic rubbers.
- Like all fossil fuels, it is a non-renewable source of energy. It is extracted from crude oil and natural gas. The main composition of LPG are hydrocarbons containing three or four carbon atoms. The normal components of LPG thus, are propane (C3H8) and butane (C4H10).

Test	Specification	Results
Composition		
- Propane	50%	50.0%
- Butane	50%	50.0%
- Ethane	Max. 0.5%	0.3%
- Others	Max. 0.5%	0.2%
Physical Property		
- Density	500-600 kg/m³	550 kg/m³
- Vapor Pressure	1.7-7.5 bar	3.2 bar
- Boiling Point	-42 to -0.5 °C	-35 °C
- Odor	Odorized	Present
- Color	Colorless	Colorless
Impurities		
- Water	Max. 10 ppm	5 ppm
- Hydrogen Sulfide	Max. 1 ppm	0.5 ppm
- Mercaptans	Max. 0.5 ppm	0.2 ppm
- Total Sulfur	Max. 50 ppm	30 ppm
- Total Halides	Max. 50 ppm	20 ppm
- Benzene	Max. 1%	0.5%
- Lead	Max. 0.013 g/L	<0.005 g/L
- Copper	Max. 0.025 g/L	<0.02 g/L
- Iron	Max. 0.005 g/L	<0.003 g/L
- Total Impurities		Passed

When you start using LPG, some of the pressure in the container is released. Some of the liquid LPG then boils to produce vapour. Heat is needed to convert the liquid to vapour (known as the latent heat of vaporization). As the liquid boils, it draws the heat energy from its surroundings. This explains why containers feel cold to touch and why, if there is a heavy off-take, water or ice may appear on the container. When you stop using LPG, the pressure will return to the equilibrium value for the surrounding temperature.

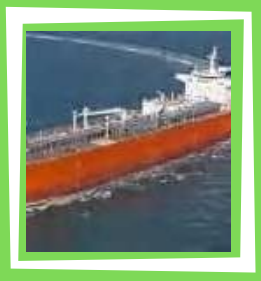
The pressure of the LPG in the container varies with the surrounding temperature. It is also much higher than is needed by the appliances that use it; it needs to be controlled to ensure a steady supply at constant pressure.

AVIATION KEROSENE: Colonial Grade 54, A, A1, B,TS1 - JET FUEL /AVGAS

- There are two main types of aviation fuel used in general aviation: jet fuel and AVGAS.

- **Jet fuel** (Aviation turbine fuels) is a refined kerosene-based, clear or straw-colored liquid that is primarily used to power turbine engines, such as turboprop and jet engines.
- There are several types of jet fuel, with the main ones being:
- **Jet A** is developed to be heavier with a higher flash point and freezing point than standard kerosene.
- **Colonial Grade 54** is similar to Jet A except the energy is 18.4 mj/Kg compared to the 42.8 MJ/kg of Jet A. Most importantly there is also a slight difference in additives.
- **Jet A1** is the most used jet fuel worldwide. Jet A1 has a lower freezing point (-47° C) than Jet A (-40° C) so it is especially suitable for international travel through varying climates. This type of fuel also contains static dissipater additives that decrease static charges that form during movement. Despite the differences between Jet A and Jet A1, flight operators use both fuels interchangeably.
- **Jet B** is the most common alternative to the jet fuel and AVGAS, primarily used in civil aviation. Jet B has a uniquely low freezing point of -76° C, making it useful in extremely cold areas.

- **AVGAS** (short for "**av**iation **gas**oline") is used by traditional propellor aircraft and small piston-engine airplanes. Tasks that use AVGAS-based aircraft are typically on a smaller scale and include crop-dusting, private flying, and flight training.



Fuel Type and Grade	Color of Fuel	Equipment Control Color	Pipe Banding and Marking	Refueler Decal
AVGAS 82UL	Purple	82UL AVGAS	AVGAS 82UL	82UL AVGAS
AVGAS 100	Green	100 AVGAS	AVGAS 100	100 AVGAS
AVGAS 100LL	Blue	100LL AVGAS	AVGAS 100LL	100LL AVGAS
JET A	Colorless or straw	JET A	JET A	JET A
JET A-1	Colorless or straw	JET A-1	JET A-1	JET A-1
JET B	Colorless or straw	JET B	JET B	JET B

GASOLINE Octane 72, 76, 91, 93, 95

- Octane rating is the measure of a fuel's ability to resist "knocking" or "pinging" during combustion, caused by thThe octane rating on different grades of gasoline is a measurement of the fuel's stability. Higher octane numbers mean greater stability. The greater stability indicates the gasoline's resistance to preignition and the fuel's ability to resist "knocking" or "pinging" during combustion. These sounds come from the air-fuel mixture detonating prematurely in the engine.
- Internal combustion engines compress a mixture of air and fuel and ignite them with a spark. Under certain conditions, the fuel-air mixture can ignite early, creating a knocking sound in the engine. Newer cars have sensors that prevent preignition, so you'll rarely hear knocks and pings unless you drive an older vehicle.
- A gasoline's octane rating averages two testing methods —the research octane number (RON) under idle conditions and the motor octane number (MON) under higher engine speed. You might have noticed this formula in smaller letters on the yellow buttons displayed on gas pumps —(R+M)/2.

- Regular gas with 87 octane level is suitable for most engines, while premium gas with higher octane levels (91-94) is required for some high-output engines.
- Engines designed for regular-octane gas gain little to no benefit from using high-octane fuel.
- Using unleaded gas with octane levels lower than what the carmaker recommends can reduce performance and may cause damage over time.
- Flex fuel or E85 is a blend of 15% gasoline and 85% ethanol.

Recommended vs. Required Fuel Types

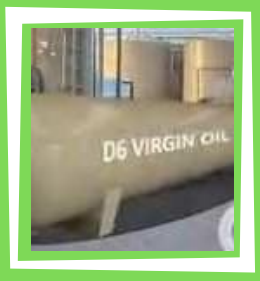
- Cars that require premium fuel often have a warning notice at the gas cap and sometimes on the dashboard gas gauge reminding drivers to use the correct type of gas.

- When your owner's manual recommends a fuel type, you aren't required to put it in your vehicle. Generally, do what the manufacturer outlines in the owner's manual, pay attention when filling up at the gas pump, and choose the right fuel for your car.

- Higher octane fuel may be necessary for engines using a greater compression ratio or turbocharging to force more air into the cylinders. The use allows high-output engines to produce more power from the compressed air-fuel mixture. High-compression engines can require high-octane fuel to ensure the mixture doesn't ignite early.

FUEL OIL VIRGIN D6 - EN590, 10PPM

- Automobile diesel en 590 is intended for application in diesel engines. Diesel motor fuel quality meets the requirements of European Standard EN 590. For operation in the conditions of a temperate climate following marks of fuel diesel automobile EN 590 are offered: Grade C - limiting filterability temperature -5 ° C; Grade D - limiting filterability temperature -10 °C; Grade E - limiting filterability temperature - 15 °C; Grade F - limiting filterability temperature -20 °C.
- EN 590 is the current standard for all automotive diesel fuel sold in the European Union member states and other European countries. This grade of fuel is also called ultra-low sulphur diesel (ULSD). Also available as HSFO and LSFO.



SPECIFICATION VIRGIN D6			
METHOD	TEST	RESULT	UNIT
ASTM D5002	Density and relative of crude oils		
	Average API gravity	28.7 28.7 (MIN)	API
ASTM D1298-99	Density @ 15 Deg C	0.87 (0.8775) (Max)	kg/t
ASTM D97	Pour Point of Petroleum Products		
	Pour Point	< -33 (-36) (Below	°C
	Pour Point	< -24.4 (-32.8) (Below zero)	°F
ASTM D93 – IP 34	Pensky-Martens Closed Cup Flash Point		
	Corrected Flash Point	117 (137) (MIN)	
ASTM D4294	Sulfur Content in Petroleum Products	ED-XRF	
	Sulfur Content	0.38 (0.358) (MAX)	Wt%
ASTM D445	Kinematic /Dynamic Viscosity		
	Kinematic Viscosity @ 122 °F/50 °C	83 (18.12)	(MAX) Mm2/s
ASTM D6304	Water Content by Coulometric		
	Karl Fisher Titration		
	Water Content	0.20 (0.7) (MAX)	Wt%
ASTM D482	Ash from Petroleum Products		
	Average Ash	0.279 (1.007) (MAX)	Wt%
ASTM D2161	Converstion of Kinematic Viscosity		
To SUS/SFS 1	Saybolt furoi viscosity 122 °F	10.9SFS (MAX)	
ASTM D5184	Aluminum and Silicon in Fuel Oils by ICP-AES or AAS		
	Aluminum Content	102 (MAX)	mg/kg
	Silicon Content	93 (MAX)	mg/kg
ASTMD95	Water by Distillation, Vol%	0.70 (MAX)	vol%
ASTMD4530.06	Carbon Residue	1.11 (MAX)	Wt%
IP 143	Asphlteness (Heptane Insolubles)		
	Asphaltene Content		
IP 501	Determination of AL, Si, V, Ni, Fe, Na, Ca, Zn, P in Fuel Oil - ICPES		
	1 Aluminium	372	mg/kg
	Silicon	187	mg/kg
	1 Sodium	117	mg/kg
	Vanadium	1	mg/kg
	1 Calcium	779	mg/kg
	1 Zinc	298	mg/kg
	1 Phosphorus	4176	mg/kg
	1 Iron	545	mg/kg

Low Sulphur Diesel is road fuel, also called DERV or white diesel, that is suitable for use in all road vehicles powered by a diesel engine.

D2 GAS Oil - L-0.2-62

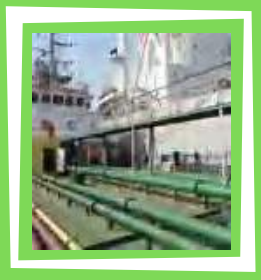
- Gasoil or D2 is the second distillate obtained from crude oil. There are varying contents of sulphur in Gasoil and D2 products that will affect when the fuel is best to use (seasons) and the cost thereof.
- To ensure that clients are provided with suitable D2 products, there are ISO industry standards that suppliers must adhere to.
- Gasoil
- Gas oil forms part of a family of heavy oils. It is created by means of a process of fractional distillation of petroleum. It is used as a diesel fuel in heating and automotive applications.
- Gas oil that is used to power off-road vehicles that are used in the industrial, commercial and agricultural communities is often called "red diesel"
- Fuels and oils are taxed differently depending on their purpose - gas oil used for tractors; mowers and tippers are dyed red in order for inspectors to tell the difference. Other gas oil is considered "white diesel" as it is not dyed.
- D2
- This is gas oil that is the second distillate that is obtained through the processing of crude oil. Reformers and additives are not required to make use of this fuel. The version of D2 that has lower sulphur content is GOST 305-82 and it is the presentation of this to the market that has helped in a major reduction in pollution in many cities.

COMPONENT	UNIT	MIN	MAX
Density at 20°C	Kg / m³		0.870
Colour			2.0
Flash point, PMCC	Deg C (°C)	57	62
Kinematic viscosity at 20°C	C ST	3.0	6.0
Pour point	Deg C (°C)	(*)	-10.0
Cloud point	Deg C (°C)	(*)	-5.0
Mercaptan sulphur			0.01
Acidity, mg / 1000 cm³			5
Iodine number	g/100g		6
Ash	%wt		0.01
Total Sulphur	%wt	0.02	0.05
Copper corrosion	3hrsat50 deg C	(typical)	1 A
CCR on 10% Residues	%wt		0.02
Cetane index			45
Distillation range :			
- 50% Recovered Volume	deg C (°C)		280
- 90% Recovered Volume	deg C (°C		360
Bacteria MBC	Fibre / it		500
- Bacteria CFU	Fibre / it		1000

(*) Summer from March to October (PP – 5.0 degrees C)
Summer from March to October (CP – 0.0 degrees C)
Winter from November to February (PP –10.0 degrees C)
Winter from November to February (CP – 5.0 degrees C)

Fuel Oil CST-180

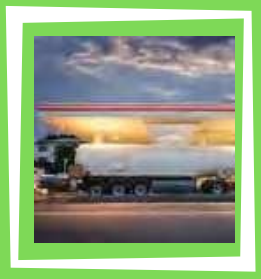
- Fuel Oil is a fraction obtained from petroleum distillation, either as a distillate or a residue.
- Broadly speaking, Oil is any liquid petroleum product, which is burned in a furnace or boiler for the generation of heat or used in an engine for the generation of power, except oils having a flash point of approximately 40 °C (104 °F).
- Oil is made of long hydrocarbon chains, particularly alkanes, cycloalkanes and aromatics. The term Fuel Oil is also used in a stricter sense to refer only to the heaviest c ommercial fuel that can be obtained from crude oil, heavier than gasoline and naphtha.
- Fuel oils are used as fuel for power generation, marine bunkers and large industrial heating plants.

CHARACTERISTICS	UNIT	SPECIFICATION	TEST METHOD
Density at 15°C	kg/m^3	Max 991	ISO 3675 or ISO 12185
Kinematic Viscosity at 50°C	mm^2/S	Max 180	ISO 3104
Flash Point	°C	Min 60	ISO 2719
Pour Point (upper) (2)			
Winter quality	°C	Max 30	ISO 3016
Summer quality	°C	Max 30	ISO 3016
Carbon residue	% (m/m)	Max 15	ISO 10370
Ash	% (m/m)	Max 0.10	ISO 6245
Water	% (V IV)	Max 0.50	ISO 3733
Sulphur	% (m/m)	Max 3.5	ISO 8754
Vanadium	mg/kg	Max 200	IP 501/IP 470/ ISO 14579
Aluminum Plus silicon	mg/kg	Max 80	IP 501/IP470/ISO 10478
Total sediment, potential	% (m/m)	Max 0.10	ISO 10307-2

MAZUT M100 Fuel Oil

- Mazut M100 is a residue of the primary distillation of crude oil and can be used as boiler fuel - light oil (above 330 ? C), as well as raw materials, processed in the subsequent oil fractions to tar, which is used in the production of oil - heavier oil (above 360 C).
- In addition, Mazut is used as a raw material for hydrocracking and catalytic cracking.
- Using different formulations and physical-chemical properties of the raw material, it is possible to obtain Mazut have different properties. Depending on the density, viscosity, and the content of sulfur in the Mazut is assessed quality. The density of oil is determined at a temperature of 20 C, and it should be 0.89 - 1gram per cubic centimeter.
- The estimated freezing temperature, ranges from 10 to 50 degrees C. The content of sulfur in Mazut is between 0.5 - 3.5%. Mazut M100 has a small (less than 0.3%), ash content and high thermal conductivity, it is possible to obtain the desired temperature for the consumption of raw materials.
- Despite the fact that Mazut M100 is used in many industries, our main customers are industrial, and public utility services.
- Mazut M100 is used in the engines of ships and locomotives, but the most widely it is used as a fuel for steam boilers and industrial furnaces.



COMPONENT	RESULT
1. Ash content, not more %	0,14
2. Mass fraction of sulphur, not more % – low – sulphur –	0,5
3. Temperature of the flash, not less °C in the	closed crucible
In the open crucible °C	110 min
4. The temperature of solidification, not higher °C	25
5. Kinematics viscosity at 50°C	118 max
6. Water content	0.50%
7. Mechanical impurities	Lower than 0.1%
8. Acidity Lower than	5 mg KOH/ 100ml
9. Alkalinity	nil
10. Gross Calorific Value Kcal/kg / KJ/kg	Min9700/41300
11. Density at 15.0 deg. C Kg/l	0.8900.9200
12. Hydrogen Sulfide Content (H2S) pom	0.5 max
13. Carbon Residua	Lower than 7%
14. Vanadium (V) ppm	23
15. Aluminium (Al) ppm	5
16. Silikon (Si) ppm	12
17. Nickel (Ni) ppm	29
18. Asphaltenes m/m	3.60%
19. Destilation @4 mm Hg	
Extracted to 760 mm Hg	
Initial Boiling Point deg. C	216
5% recovered deg. C	259
10% recovered deg. C	310
24% recovered deg. C	358
30% recovered deg. C	445
40% recovered deg. C	502
50% recovered deg. C	534
60% recovered deg. C	538
75% recovered deg. C	545
80% recovered deg. C	-
95% recovered deg. C	550
Final Boiling point deg. C	560
Percent Recovered vol	78%
Residue vol	22%
Total Nitrogen m/m	0.19%
20. Sodium (Na) ppm	15

- The main difference between the different types of Mazut-100 is the content of sulphur.
- The grades are represented by these sulfuric levels:
  - ”Very Low Sulphur” is mazut with a sulphur content of 0.5%
  - ”Low Sulphur” is a mazut with a sulphur content of 0.5-1.0%
  - ”Normal Sulphur” is a mazut with a sulphur content of 1.0-2.0%
  - ”High Sulphur” is a mazut with a sulphur content of 2.0-3.5%

ESPO - Eastern Pacific Ocean Crude Oil

- ESPO crude oil it is a light, low sulfur crude oil that is highly desirable due to its low impurities and ease of refining. ESPO crude oil is known for its high API gravity and low sulfur content, making it ideal for use in the production of gasoline and diesel fuel. It is a popular choice among refineries around the world.

- Businesses that rely on petroleum products such as gasoline and diesel fuel are the primary users of ESPO crude oil. Refineries, petrochemical companies, and other industries that require petroleum products use ESPO crude oil to produce these materials. Espo crude has a density of 851 kg per cubic meter; its API gravity is 34.7° and the sulfur content is 0.535%, according to a detailed assay prepared by Platts and obtained by Oil Daily.

TEST	UNITS	METHOD	RESULT
Density at 15o C	kg/L	ASTM D 5002	0.8508
Specific Gravity at 60/60˚F	kg/L	ASTM D 5002	0.8512
API gravity		ASTM D 1250	34
Kinematic viscosity at 20˚C	CST	ASTM D 445	6.949
Total acid Number	mg KOH/g	ASTM D 664	<0.050
Pour Point	˚C	ASTM D 5853	<=-36
Water by distillation	mass%	ASTM D 4006	0.35
Sediment by extraction	mass %	ASTM D 473	0.01
Chloride salt content	mg/dm3	GOST 21534-75(A)	17
Organic chlorine content	mg/kg	ASTM D 4929(B)	*1
Sulphur content	mass%	ASTM D 4294	0.535
Hydrogen Sulphide	Ppm	UOP 163	less 1
Mercaptan Sulphur	Ppm	UOP 163	111
Ash content	mass %	ASTM D 482	0.011
Nickel	Ppm	IP 470	4
Sodium	Ppm	IP 470	1
Iron	Ppm	IP 470	19

Our Company provides import and export services for ESPO crude oil, ensuring that your company gets the materials it needs to succeed. Our team of import and export experts specializes in sourcing the best ESPO crude oil from around the world, guaranteeing that our customers receive high-quality products at the best prices.

REBCO - Export Blend Crude Oil

- Export blend crude oil is a medium gravity sour crude that accounts for exports of approximately 4 million barrels per day into the Atlantic Basin or to other nearby refining markets.
- Crude Oil, offered by us, is imported from the best manufacturers in the industry. We work directly with the Refinery who provide Export Blend Crude Oil that extracted using advanced mechanisms.

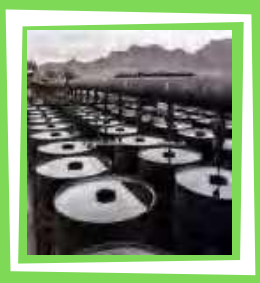



Density API at 30 degrees	C 0,870
API Gravity	32.00
Viscosity at 80 C, Max	16.0
Flash Point (in locked cubicle) Max	35 C
Pressure of saturated pours under 38 C	38 C
kilopascal/mm mercury column	7/50
Paraffin (contents in %)	6,0 %
Temperature of melting	C - 49
Contents	%
* Sulphur	1.8
* Nitrogen	0.25
* Chamois -acid resins	0.9
* Asphatents	0.9
Salt	100 mg / L
Coking %	2.06
Ash %	0.004
Distillation Vol. recovered %	
0 - 200°C	21.00
300°C	41.00
350°C	50.00
Water and Sediments, Max	1.2



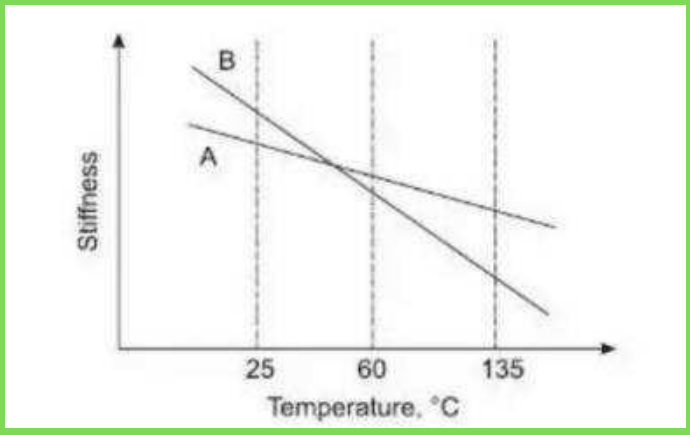
BITUMEN Grade 60/70 and 80/100

- There are different methods of grading of bitumen such as chewing, penetration grading, viscosity grading and superpave performance grading of bitumen.
- The correlation between the bitumen stiffness and temperature varies with the type of bitumen employed. The bitumen type varies based on their origin as well as a method of refining.
- Due to these variations, it was necessary to fix a test temperature. A temperature at which the grading of bitumen can be carried out. This will also give a way to compare different binders of bitumen. For example, if we have bitumen A and B, bitumen B at 25oC is stiffer than bitumen A at the same temperature. But at 60 degree Celsius the condition is reversed. The bitumen stiffness at a lower temperature is also an essential criterion to have resistance against thermal cracking.



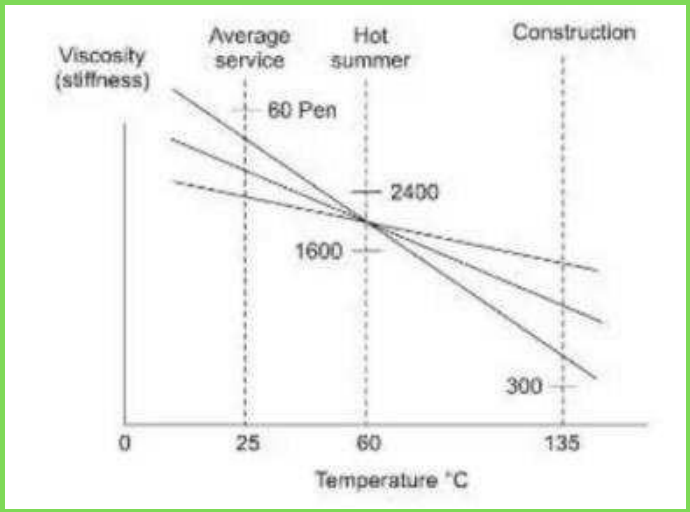
Following are the different methods used for grading of bitumen:

1. Grading by chewing
2. Penetration grading
3. Viscosity grading
4. Superpave performance grade



The Difference between Bitumen 60/70 and 80/100 The main difference between 60/70 and 80/100 is their penetration value. To decide between 60/70 vs bitumen 80/100, we should consider the fact that bitumen penetration 80/100 is softer than bitumen 60/70. For this reason, bitumen 80/100 is used at cold temperatures.

The average annual temperature of an asphalt pavement during a year is almost near to 25 degree Celsius. The stiffness determination of bitumen at 25 degrees will help us to find the maximum stiffness that is needed to resist the damages like fatigue cracking or raveling. These damages are caused after five to ten years of service life i.e. with age.



Test	Methodology	30-40	40-50	60-70	85-100	100-120
Density	ASTM D-7	1/01-1/06	1/01-1/06	1/01-1/06	1-1/0 5	1/01-1/04
Penetration Rate at 25ºC	ASTM D-5	30-40	40-50	60-70	85-100	100-120
Softening Point ºC	ASTM D-36	55 -63	52-60	49-56	45 -52	42-49
Ductility at 25 ºC (cm)	ASTM D-113	100 Min	100 Min	100 Min	100 Min	100 Min
Flash Point ºC	ASTM D-92	250 Min	250 Min	250 Min	250 Min	250 Min
Solubility in Disulfide %wt	ASTM D-4	99/5	99/5	99/5	99/5	99/5
Stain Test	AASHTO T 102	Negative	Negative	Negative	Negative	Negative
Weight Loss by Heating %wt	ASTM D-6	0/2 Max	0/2 Max	0/2 Max	0/2 Max	0/2 Max
Penetration Loss by Heating %	ASTM D-6 D-5	20 Max	20 Max	20 Max	20 Max	20 Max

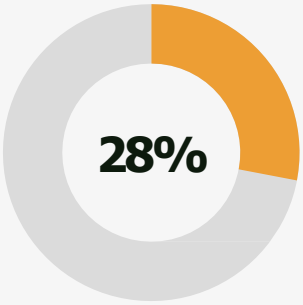
CASHMERE -RAW

- Raw cashmere is sourced from a specific type of goats known as 'Cashmere' (or Kashmir) goats. The best characteristics of the cashmere material are its exceptionally refined consistency making it intense just as light simultaneously. Initially you have to comprehend what cashmere material is and why people need it.
- Cashmere material is unique in relation to ordinary sheep's wool. It is finer, gentler, and up to multiple times hotter than standard wool. The finest cashmere material on the planet originates from Mongolia and Inner Mongolia China. The dry atmosphere and high height in Mongolia are ideal for creating the richest cashmere material on earth.



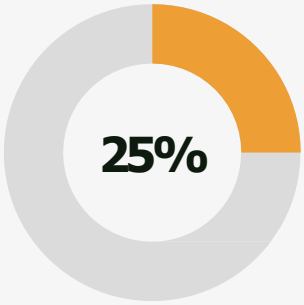

Cashmere is the ruler of the fibre and fortune and the raw cashmere fiber has below advantages:
1. Expanding the profound rest: it appears in a position try that cashmere fabric can build over 25% of the individual's profound rest time, and it can keep pulse gradually and relentless and can near the skin.
2. Dampness retention and keep dry, warm in winter and cool in summer: cashmere extraordinary particle structure can ingest the water fume into empty structure, and cashmere can retain over 35% water fume which can not feel dampness and can expel rapidly, so it can keep warm and dry when cold yet cool when blistering.
3. Fluffy and delicate, don't solidify; cashmere material has in any event 40% common flexible, it can recuperate over 90% of unique handle after press, so it keeps cushioned, delicate and doesn't solidify.
4. Natural fireproof, sheltered and solid: it is difficult to fire the cashmere and it won't discharge a great deal heat and won't deliver open light,won't liquefy when copying. It jars additionally oppose uncommon consume, so it is very wellbeing.
5. Dust anticipate and electric opposition, enemies of microorganisms and concealment vermin: cashmere dampness ingestion capacity is great and don't create static, so the residue doesn't sever effectively, it ingests the dampness to its very own fibre before discharging the water fume outside which diminishes the parasite's life cycle, so cashmere item is reasonable for newborn child, asthma, stiffness individuals and the more seasoned.
6. Cashmere material has 17 sorts of bottomless amino corrosive which gives the cashmere the element of shutting to the skin.

The (YETD-MC) Yulin Economic and Technological Development, Management Committee, Export Program



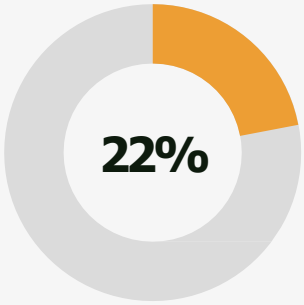
MAGNESIUM

8,898,000 tones / year



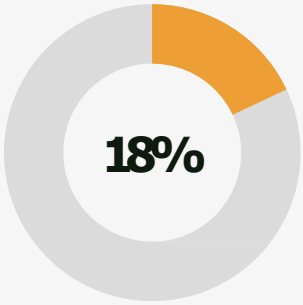
FERROSILICON

3,000,000 tons / year



UREA

400,000 tons / year



SEMI-COKE

10,000,000 tones / year

About Us - Mission and Vision

MISSION

Our mission is to establish a one stop chemical trading company that will become a major manufacturer and trader and distributor for top chemical products for companies in China, APAC, North and South America, Europe and Africa.

We take pride in working in a proactive, collaborative environment of equality, trust, respect, co-operation and challenge to deliver products and services that strive to exceed the needs and expectations of customers.

VISION

Our vision is to become one of the leading supplier in the chemical wholesaling industry not just in China but also in every continent and every country in the world.

We do not intend to do chemical trading business like the usual business; our intention as a chemical and other products manufacturer and trading company is to build an exceptional business, whose business influence will transcend the whole China and all over the world.

Environmental awareness is not a trend that comes into style a few months and stops. Individuals working towards making a small impact on Earth, tend to change their lifestyle to accommodate new ways of living. Use Green Development to Create the Future.

"A drop of water is worth more than a sack of gold to a thirsty man".

"Treat the earth with heart so the world doesn't fall apart".

"You have the power today to change tomorrow".

"See green, see life".

CHEMICALS DIVISION OF AGRI BRAZIL CHAMBER OF COMMERCE

CÂMARA DE COMÉRCIO
AGRO BRASIL
C.C.A.B.

QUALITY ASSURANCE

CHEMICALS DIVISION OF AGRI BRAZIL CHAMBER OF COMMERCE

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