

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In the name of Allah, the Beneficent, the Merciful

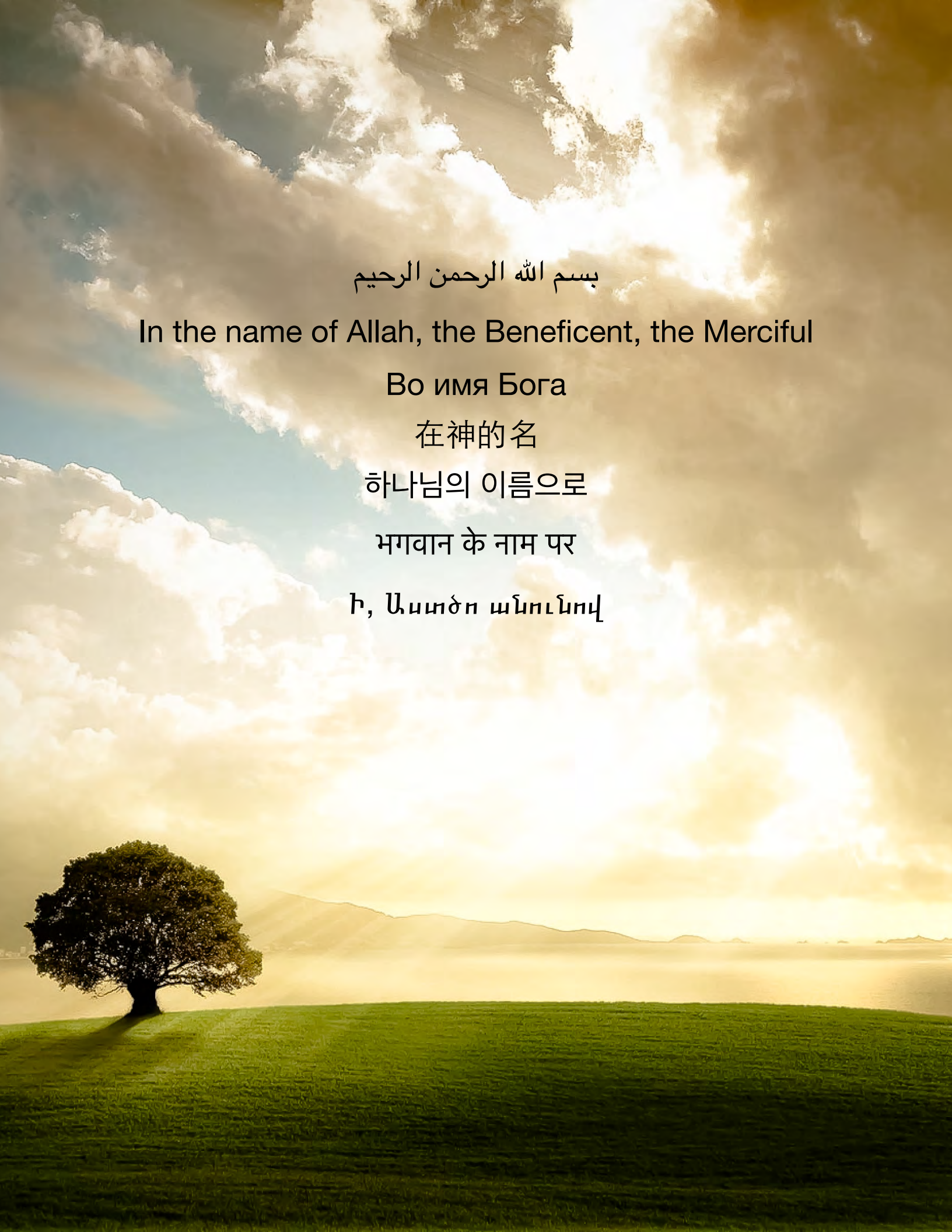
Во имя Бога

在神的名

하나님의 이름으로

भगवान के नाम पर

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## Sirjangostar Global Group

Sirjangostar Global Group (S.G.Group), containing group of holding companies, is a recognizable international trading company which was founded in 1993 and focused primarily on Producing, Distributing, Transit, Swapping, Importing and Exporting of Oil, Gas, Petrochemical and Mineral Products.

Our network operations act across many countries such as CIS, Middle East, S.E.Asia, Far East Asia and Africa.

Our success in the market is the result of an integrated approach to the company experienced management, including a competent marketing policy, delivering high quality products, well- arranged logistic channels, innovative company developments and expertise staff, all contribute to make us one of the outstanding companies in fields of Oil, Gas, Petrochemicals & Minerals.

We would not have been so successful without the support of our valuable clients, who we have established strong business relationship and partnership through years. Identifying their needs and providing the best possible solutions and services with competitive prices are our main priority.

It is our utmost honor to become one of the reliable international companies dealing with range of commodities in large volumes and considerable transactions which have led to bond of trust relationship with all of our esteemed clients.

Establishing various companies and subsidiaries inside & outside of country has been assisting us to ensure we facilitate our business activities with our customers more easily and with minimum possible risks.

We are always seeking new business developments to strengthen our global presence and successfully expand trade activities. Eventually, by improving our quantitative and qualitative facilities and services, SGG endeavors to fulfill its customers' requirements thoroughly.

Our business is based on rock solid practices and streamlined operations and has a great growth potential. Efficient capital allocation and first class technical support are top priorities.

We are always looking forward to establish business cooperation with new clients all over the world. S.G.Group maintains long-standing relationship with the world leading manufacturers. Therefore, whatever requirement of chemicals, petrochemicals and oil products a customer may have, the group is positioned to meet them.



## Mission

- Our Roadmap starts with our mission, which is enduring. S.G.Group mission is to :
  - Providing added-value to customers performance.
  - Attain global best practices and become a leading exporter in petrochemicals.
  - Consistently enhance competitiveness and deliver profitable growth.
  - Be a partner in nation building and contribute towards Iran's economic growth.
  - Promote a work culture that fosters learning, individual growth, team spirit and creativity to overcome challenges and attain goals.
  - Encourage ideas, talent and value systems and become the employer of choice.
  - Earn the trust and confidence of all clients, exceeding their expectations.

## Vision

Our vision serves as the framework for our Roadmap and guides every aspect of our business by describing what we need to accomplish in order to continue achieving sustainable, quality growth. Therefore, S.G.Group is aim to :

- Be strong and sustainably profitable, we have to know what we are working towards (our goal) and what is expected of us as individuals, as a team and as an organization.
- Be the largest private sector exporting company in Iran.
- Be outstanding in every aspect of the business.
- Understand the needs of Customers and match that need with the right product at the right time – every time.
- Strive to build long-term relationships with Customers and Suppliers based on mutual trust and respect.
- Be a reliable source of timely information that is useful to our Customers and Suppliers.

## Values

Our values define what we stand for as an organization and inform our actions and our behavior. They determine the way in which we interpret and respond to various situations. Our shared values establish expectations about how we, as employees of S.G.Group, work with and treat each other, our clients, suppliers, partners and the communities we serve. Our core values are :

- Honesty - Integrity - Respect - Human Resources - Transparency

## OUR MANAGEMENT & STRUCTURE

The management believes in a flat structure where there is no boundary between experienced staff and the executives that empowers our people to be entrepreneurial and to take responsibility for specific areas of the business. The idea is that well-trained staff will be more productive when they are more directly involved in the decision making process, rather than closely supervised by many layers of management. Fewer layers of management can lead to better and more frequent communication between higher-level managers and staffers, resulting in better understanding of company goals for the staffers and a better understanding of daily operational issues by the managers, faster response time to changing conditions and customer preferences.

## HOLDING COMPANIES

During years in order to facilitate the trade with clients, S.G.Group decided to establish subsidiaries to manage especial activities :



### Sirjangostar Co.

The Main company of S.G.Group is sirjangostar company. Our main business is based on rock solid practices and streamlined operations and has a great growth potential. Efficient capital allocation and first class technical support are top priorities.

We are always looking forward to establish business cooperation with new clients all over the world. S.G.Group maintains long-standing relationship with the world leading manufacturers. Therefore, whatever requirement of chemicals, petrochemicals and oil products a customer may have, the group is positioned to meet them.

ADDRESS : 5TH FLOOR, NO.11, GOL AZIN BLVD, AFRICA BLVD, TEHRAN, IRAN

PHONE : +98 21 2621 7661

WEBSITE : WWW.SIRJANGOSTAR.COM

FAX : +98 21 2621 7670

E-MAIL : INFO@SIRJANGOSTAR.COM

P.O.BOX : 193955585



### Kavosh Hadid Aria Co. (Mineral)

Kavosh Hadid Aria organizes production of company iron ore mines located in Sirjan and Chah Chaghook provinces. These mines equipped with crushing, sizing and concentrating machineries and production capacity exceeds more than 100,000 MT per month.

ADDRESS : NO.1, RASHIDI DD, JOMHOURI SQ, TEHRAN, IRAN

PHONE : +98 21 6642 3939

E-MAIL : KAVOSH@SIRJANGOSTAR.COM

FAX : +98 21 6642 0691



### Hadid Gostar Sirjan

Hadid Gostar Sirjan organizes the production of one of the best mines of the company based in Sangan province called Hadid Mines. It has separated in 4 zones in area of 90 km<sup>2</sup>. It extracts the best quality magnetite iron ore and exports all of its production to target markets.

ADDRESS : NO.9, 9TH FLOOR, PALADIUM TOWER, MOGHADAS ARDEBILI, TEHRAN, IRAN

PHONE : +98 21 2266 8871

E-MAIL : INFO@HADIDSIRJAN.COM

FAX : +98 21 2266 8879



### Persian Energy Group Consortium

Main activities are Swap and Transit of oil products to various destinations such as South East Asia, Persian Gulf countries And Iraq.

ADDRESS : #404, 4TH FLOOR, ELAHIEH BUILDING, AFRICA BLVD, TEHRAN, IRAN

TEL/FAX : +98 21 2621 2725

E-MAIL : PERSIAN@SIRJANGOSTAR.COM | INFO@PEG.FZCO.COM





## Badban Kohan Co.

Badban Kohan Company is specialized on International Transportation and committed to provide best services according to the global standards. Best F/R and services are Badban Kohan's main objects.

Badban Kohan Company would like to be a bridge between the importers & exporters in order to satisfy the expectations of the clients.

**MAIN OFFICE :** #4, 7TH ALLEY, SEYED JAMALEDDIN ASADABADI BLVD, SIRJAN, KERMAN, IRAN

**PHONE :** +98 34 3243 8610

**KERMAN OFFICE :** 4TH FLOOR, ESPAKAN BUSINESS BUILDING, IN THE CORNER OF 7TH ALLEY, EMAM JOM'E ST, KERMAN, IRAN

**FAX :** +98 34 3243 8612

**E-MAIL :** KVADOODI@GMAIL.COM | BADBAN@SIRJANGOSTAR.COM



## Ayegh Anbooh Sepahan Co. (Bitumen Storage & Drumming Paint)

One of S.G.Group affiliated companies engaged in :

- Drum Manufacturing
- Bitumen Processing
- Bitumen Blowing Tower
- Filling Plant For Polybag (which is a patent registered by CEO of S.G.Group) | Modifying All Grade Of Bitumen
- Filling Plant For R.P.O And Slack Wax

**ADDRESS :** #4, KOWSAR BUILDING, KAKH ST, JEY ST, AHMAD ABAD SQ, ISFAHAN, IRAN

**TEL/FAX :** +98 31 3226 5716

**E-MAIL :** AYEGB@SIRJANGOSTAR.COM

**ZIP CODE :** 8199635341



## Petro Palayesh IRAF Co. (Hydrocarbon Production)

After two years of study, research, and substantial investment in the North East part of the country, Taibad, located at the Especial Economic Zone called Dogharoun, managed to construct a manufacturing plant for the production of hydrocarbon fuels for export to neighboring countries.

The reason behind of constructing this plant is to prevent fuel smuggling from east borders, providing employment for locals and expanding business activities of the company.

Currently, the total production capacity of the plant is 2,000 MT per day, producing both light and heavy end hydrocarbons.

Our storage tanks capacity is 8,000 MT and aim to increase the capacity to more than 20,000 MT in near future.

**ADDRESS :** PAYBAR SITE, DOOGHARUN ECONOMIC ZONE, TAYBAD, MASHHAD, IRAN

**PHONE :** +98 529 425 7204

**E-MAIL :** IRAF@SIRJANGOSTAR.COM





## Future San Co.

One of the S.G.Group affiliated companies established in 2010 based in Turkey, Istanbul, which follows trading activities of the head quarter to ease up the trade with valuable clients based in those regions.

**ADDRESS :** BAGDAT CADDESI,KADISTAN,34728 KADIKOY, ISTANBUL, TURKEY

**PHONE :** +90 21 6385 3590

**E-MAIL :** FUTURESUN@SIRJANGOSTAR.COM



## Moghan Wire & Cable Co.

Founded in 1982, is one of the reputable companies on producing various type of wire & cables such as low voltage, medium voltage, high voltage cables up to 230 kilowatt and also produce all kinds of rubber cables designed especially for sea and water projects, lead sheathing cables and communication cables. The factory is based in Shahrood City, 400 km north east of the country. The area is around 120,000 m<sup>2</sup> where 36,000 m<sup>2</sup> of the area constructed for production and warehousing. S.G.Group.

**ADDRESS :** #5, 5TH FLOOR, ZOMOROD BUILDING, BEHESHTI ST, IN THE  
CORNER OF MIREMAD ST, TEHRAN, IRAN

**PHONE :** +98 21 8850 3616

**WEBSITE :** WWW.MOGHANCABLECO.COM

**Fax :** +98 21 8875 7639

**E-MAIL :** ABBAS.DAMERCHALI@MOGHANCABLECO.COM | MOGHAN@SIRJANGOSTAR.COM



## Matco International Trading Company

In the recent years, our company expanded its market and targeted many countries based in CIS and East Europe. Therefore, in order to facilitate and maximize the trade with our esteemed clients in those regions the management decided to establish a strong company based in Turkey, Istanbul. Nowadays, most of S.G.Group trade with its CIS clients is done through Matco Company which has successfully attained considerable tracking records.

**ADDRESS :** FULYA MAH. ORTAKLAR CAD. MEVLÜT PEHLİVAN SK.  
ERDOĞANLAR İŞ MERK. NO:14 K2 D6 34394 ŞİŞLİ- İSTANBUL

**PHONE :** +971 4 229 4444

**WEBSITE :** WWW.MATCO-TR.COM | INFO@MATCO-TR.COM

**FAX :** +971 4 228 9694



## Siraco General Trading L.L.C.

To make the international trade more favorable for our clients, S.G.Group decided to run a company based in UAE. Therefore, Siraco established in 1999 to ease the trade between Iran and clients located in all over the globe. Since the beginning the management of Siraco have made substantial investments, and thereby expanded in to the petroleum products.

Strategically located in Dubai, the company is ideally positioned to provide many products for different markets such as USA, Europe, Asia Pacific, Africa and the Middle East.

**ADDRESS :** #1204, SAEED TOWER, SHEIKH ZAYED , DUBAI, UEA

**PHONE :** +971 4 385 8249

**E-MAIL :** INFO@SIRACO.NET | SIRACO@SIRJANGOSTAR.COM

**P.O.BOX :** 185730

**website :** www.siraco.net



## Memberships

S.G.Group is registered and member of following recognized associations and unions :

- Founder and Member of Iranian Oil, Gas & Petrochemical Products Exporters Association (OPEX)
- Founder and Member of Oil Products Exporters Development Fund of Iran (OPEX FUND)
- Founder and Member of Iranian Iron Ore Exporters (IROPEX)
- Member of Iran Chamber of Commerce, Industries and Mines (ICCIM)
- Member of Iran-Russia Joint Chamber of Commerce (IRJCC)
- Member of Iran-China Chamber of Commerce and Industries (ICCCI)
- Member of Germany-Iranian Chamber of Industry and commerce (AHK)
- Member of Iran-Iraq Chamber of Commerce, Industries and Mines (IRIQCC)
- Member of Oil Industry Network of Iran (OINI)
- National Iranian Oil Company with vendor number of 5539 (NIOC)



## Scope of Activity

The scope of S.G.Group core business mainly covers the purchase and sale of Petrochemicals, Polymers, Chemicals, Aromatics, Minerals, Oil & Gas products.

Our principal activities are focused on international trade in Oil and Gas and emphasis more rigidly on petrochemical products which can be described as follows:

- Supplying oil & petrochemical products required by the customers all around the world
- Purchase of oil & petrochemical products required by the Iranian market and private sectors
- Purchase and swap of oil products
- Transit arrangements for Oil products

## All Departments in Group :

### Oil & Oil Products :

S.G.Group has attained adequate experience on Purchasing, Selling, Swap and Transit of Oil distillates and Gas products for years. Having close relationship with N.I.O.C and state owned refineries enabled us to meet our client's requirements with competitive prices and in specific time frame.

### Gas Natural gas & LPG :

S.G.Group has attained adequate experience on Purchasing, Selling, Swap and Transit of NG & LPG





## Petrochemical

One of the key sectors which S.G.Group has been specialized on is Petrochemicals and Polymer products. Having leading experts and well trained staff in this sector with deep understanding of polymers and customer's needs, differentiate us from all other trading companies.

## Iron Ore

In 2005, S.G.Group engaged itself on exploration and extraction of potential, small and medium size Iron Ore mines mainly in East and Central parts of Iran to export good quality and quantity of processed minerals to its target markets mainly to China & neighbor countries.

## Equipments

In the past few years lack of having right equipment's for leading manufacturers inside country forced S.G.Group along with its foreign offices and partners to engage itself in this sector and supply pumps, valves, seals, rotating machinery (mechanical equipment's), turbines and compressors for subsidiaries in oil, gas and petrochemical industries.

Having established close relationship with leading suppliers in the world enabled us to provide critical applications for many refineries. Delivering industry-leading products, services and solutions are our specialty and it is our honor to assist domestic refineries to provide their critical components and parts from secured sources.

Our expert and experienced staff are capable of providing the best components from qualified and reputable manufacturers such as :

- GE ,Nuovo Pignone | Ingersoll Rand | Gabbioneta ,Sulzer ,Welch ,Flovex ,Flowserve
- Bucher ,Dresser Rand

## Information Technology & Graphic Design

\*Web Design\* for your company can not be taken lightly. The quality of your marketing materials can have a profound impact on the success of your business. Done exceptionally, they can help you to promote sales, motivate customers and contribute to a strong brand image. Done poorly, they can do more harm than good.

At the Department of IT & Design, we specialize in creating captivating multimedia that companies need to achieve their marketing objectives. Whether you're interested in designing a web site, promoting a web site, or establishing a new corporate identity, we can provide the tools you need to take your business to the next level.

With 10 years experience, we have been working with everyone from the food service industry to real estate, international music brands to global charities & business companies, -Clan-company can create a multimedia solution for every need. Serving the whole world, you won't find a better company.



## Under Construction Projects

Constant development and expansion is one of the S.G.Group main activities in the past few years. Continuous research, evaluating market demand, and following relevant and latest technologies persuaded us to invest heavily on potential projects, providing customer satisfaction and bringing dozens of benefits to country economy.

Some of our future projects which are under study, process and construction are as follows :

### Sirjan Pyrolysis Refinery

After years of research and study, in Autumn 2013, S.G.Group initiated constructing a medium sized Pyrolysis Refinery located at Central part of Iran, Sirjan Province.

The main aim of building this plant is to produce Gas Oil with the minimum sulfur as well as Active Carbon.

Capacity of production will be 300 MT per day and the plant estimated to come into operation by the end of 2014.

### Dogharoun Mini Refinery

After successfully designed, construct and operate the first phase of Dogharoun Refinery in Mid-2013, which has resulted to assign a new company under the wing of S.G.Group called Petro Palayesh IRAF, the 2nd phase has initiated the preliminary construction in order to expand the refinery and produce strategic products in Especial Economic Zone of Dogharoun.

Our aim is to produce 15,000 bbl of Fuel and Gas Oil in this refinery and estimated to come into operation by Mid-2015.

UNDER  
CONSTRUCTION







# DATA SHEETS

## A. Petrochemical Products (POLYMERS)

- HDPE
- LLDPE
- Polypropylene (PP)
- PET
- HIPS
- GPPS
- EPS
- ABS
- SAN
- PC
- ABS/PC
- PVC
- PBR
- E-SBR

## B. Chemicals

- MEA & MEG
- Epoxy Resins

## C. Aromatics

- Toluene - Xylenes



## Petrochemical Products (POLYMERS)

# HDPE

## High Density Polyethylene

### Product Introduction:

High Density Polyethylene (HDPE) is a polyethylene made from petroleum, known for its large strength to density ratio. HDPE has various characteristics including high flowability, stiffness, impact resistance, electrical insulation, mouldability, and cold resistance, which makes it excellent for making general housewares, fish net, rope, insulated cable, chemical containers, automobile fuel tank, pipes, films (agricultural, industrial, packaging).

### Application:

- Caps & Closures for Packaging
- Injection Molding Grades
- Crates
- Bottles Caps
- Containers
- Wrapping Films
- Carrier Bags
- Packing of Pharmaceuticals



### Key Features:

- Good Impact Strength
- Excellent Surface Finish
- High Stiffness
- Excellent Chemical Resistance
- Superb Impact Resistance
- High Molar Mass
- Good ESCR
- High Rigidity
- Good Flow Ability



Category	Grade	Characteristics	MFR (190°C/5Kg)	MFR (190°C/21.6Kg)	Density
HDPE	EX5 (HM9450F)	Film	0.28	8	0.949
HDPE	HD7000F	Film	0.04 (2.16Kg)	----	0.952
HDPE	HF5110	Film	-----	10	0.950
HDPE	HD2200J	Injection	5.2 (2.16Kg)	----	0.964
HDPE	HD52518	Injection	18	----	0.952
HDPE	HD52511	Injection	11	----	0.9520
HDPE	HD60505	Injection	5.5	----	0.975
HDPE	HD60507	Injection	7.5	----	0.958
HDPE	HD5030SA	Injection	2.0	----	0.951
HDPE	BL3 (HF4760)	Blow Moulding	1.2	23	0.954
HDPE	BL4 (HM8255)	Blow Moulding	0.35	9.5	0.952
HDPE	HB0035	Blow Moulding	0.35 (2.16Kg)	----	0.959
HDPE	EX3 (PE-80)	Pipe	0.45	12	0.945
HDPE	CRP100	Pipe	0.23	6.2	0.948
HDPE	4005EA	Pipe	0.5 (2.16Kg)	----	0.940
HDPE	3840UA	Roto-Molding	4 (2.16Kg)	----	0.938







# LLDPE

## Linear Low Density Polyethylene

### Product Introduction:

LLDPE is a substantially linear polymer with significant numbers of short branches, commonly made by copolymerization of ethylene with longer-chain olefins.

Film type products mostly used for scratch wrap or agricultural film have proper level of molecular weight dispersion, which raised mechanical strength and transparency while minimizing gel. Rotational casting products used for water tanks and toys have low molecular weight and proper level of molecular weight dispersion that improved the heat-resistant stability, processability, mechanical properties and flowability.

### Application:

- Shipping Sacks and Garbage Bags
- Consumer Packaging
- Agricultural Films
- Stretch Film
- Cast & General Purpose

### Key Features:

- Food Contact
- Blown Film for Light Duty Applications
- High Tensile Stress
- Stretch Film with Good Optical Properties
- Good Mechanical Properties
- Good Processability
- High ESCR Rotomolded Items
- Chemical Containers



Category	Grade	Characteristics	MFR (190°C/2.16Kg)	Density
LLDPE	LL0209AA/KJ	Blown Film	0.9	0.920
LLDPE	LL22501AA/KJ	Blown Film	0.95	0.922
LLDPE	LL16501AA/KJ	Blown Film	0.95	0.916
LLDPE	LL22502AA/KJ	Blown Film	1.8	0.922
LLDPE	LL16502AA/KJ	Stretch Film	2	0.916
LLDPE	LL0220AA/KJ	Stretch Film	2.4	0.920
LLDPE	LL16503AA/KJ	Stretch Film	3	0.916
LLDPE	LL32604UV	Roto-Modling	4	0.932

# PP

## Polypropylene

### Product Introduction:

Polypropylene has various strengths including high stiffness, impact resistance, transparency, and flowability. It is widely used for automobile plastic materials, home electronic appliances, disposable syringes, various transparent containers, sanitary staple fiber, packaging film, and more.

### Application:

- Tapes & Strapping
- Thermoforming such as Vending Cups, Packaging Dairy Products & Trays
- Medical Sanitary & disposable syringes
- transparent bottles & containers for blood
- Wipes & Tissues
- Fabrics for Diapers
- Bulk Continuous Filament for Carpets
- Woven Bags
- Household Articles
- Cosmetics & Pharmaceutical Products
- Small Diameter Pipes & Semi Finished Products & Profiles
- Battery Cases & Large Toys
- Paint Pails & Buckets
- Food containers



### Key Features:

- Good Impact Strength
- Good Processability
- Good Transparency & Gloss
- Good Mechanical Properties
- High Flow Properties

Category	Grade	Characteristics	Melt Flow Rate (g/10min)	Tensile Strength at Yield (MPa)	Tensile Elongation at Yield (%)	Izod Impact Strength (J/m)
Homopolymer	HP 550J	Raffia	3.2	35	12	55
Homopolymer	HP 552R	Fiber	25	32	13	30
Homopolymer	HP 525J	Film- BOPP Cast	3	35	12	55
Homopolymer	HP 564S	Fiber Extrusion	35	33	8	30
Random Copolymer	RP 340N	Injection Molding	10	28	12	85
Random Copolymer	RP 270G	Extrusion	1.8	27	13	120
Random Copolymer	RP 300D	Extrusion & Thermoforming	0.6	25	10	-
Random Copolymer	RP 340R	Injection Molding	25	28	12	65
Impact Copolymer	EP 548R	Injection Molding	21	27	7	85
Impact Copolymer	EP 448S	Injection Molding	40	27	6	65
Impact Copolymer	EP 440L	Injection Molding	6	26	9	170





# PET

## Polyethylene Terephthalate (Bottle Grades)

### Product Introduction:

The PET bottle has unique non-toxicity, transparency, maintainability, chemical resistance, lightweightness, processability, moldability and economic feasibility, and for that it is rapidly replacing the existing glass bottles and aluminum cans. Also, with various colors and designs achievable, it is being utilized in the product development for various usages such as for beer containers, etc.

The product has an excellent transparency and gloss, an outstanding gas barrier against oxygen and carbon dioxide, and outstanding toughness and impact strength.

### Application:

- Mineral water
- Carbonated water
- Alcoholic beverage
- Edible oil, juice, sport drinks, soy sauce, beer bottles
- Small jars
- Pharmaceuticals

### Key Features:

- Increased Productivity Carbonated beverage bottles
- Excellent Processability
- High Stress Crack Resistance & Toughness
- Good Thermal Stability
- High Impact Strength



Category	Grade	Characteristics	Intrinsic Viscosity (IV)	Melting Point	Acetaldehyde Content (AA)
Bottle	BG-781	High Impact Resistance , Metal Plating	$0.72 \pm 0.02$	$248 \pm 2$	<1
Bottle	BG-800	High Impact Resistance	$0.80 \pm 0.02$	$248 \pm 2$	<1
Bottle	BG-821	Ultra Impact Resistance	$0.82 \pm 0.02$	$248 \pm 2$	<1
Bottle	BG-825	High Heat Resistance, Self-Extinguished	$0.82 \pm 0.02$	$249 \pm 2$	<1



# GPPS

## General Purpose Polystyrene

### Product Introduction:

GPPS is a universal resin for home appliances, structural parts, and daily supplies because of its high strength and foaming processability. Generally speaking, General Purpose Polystyrene has the advantages of being bright, lightweight, transparent, low cost, etc. GPPS is used in Injection molding and Extrusion applications and for making Extruded and Expanded foam products. Many GPPS grades are approved for food-contact applications.

### Application:

- Disposable Cups & Food Containers
- Optical Disk Case
- Daily Supplies
- Building Materials
- Electronic Parts
- Pen Bodies

### Key Features:

- Water Resistance
- Electrical Characteristic
- Good Transparency
- Dimensional Stability without Toxicity

Category	Grade	Characteristics	Melt Flow Index	Tensile Strength	VICAT Softening Point	Elongation at Break
GPPS	1540	General purpose Easy Flowing Crystal	9 - 13	42	89.6 - 91	2
GPPS	1460	High Heat Resistance Molecular Weight Crystal	5 - 7.5	48	101 - 103	1
GPPS	1160	High Heat Resistance Molecular Weight Crystal	1.8 - 3.2	48	101 - 105	3
GPPS	GP06	High Molecular Weight	1.6 - 2.3	430	102 - 104	2
GPPS	GP15	High Molecular Weight General purpose	3 - 5	430	91 - 96	2
GPPS	GP16	High heat, High molecular General purpose	1.7 - 2	520	101 - 104	2
GPPS	GP26	Heat Resistant, Easy Flow	6 - 7	520	99 - 103	2.5
GPPS	GP35	General purpose Easy Flowing Crystal	11 - 13	520	96	2
GPPS	GP45	General purpose	18 - 20	390	89 - 91	2







# HIPS

## High Impact Polystyrene

### Product Introduction:

HIPS is a universal resin for home appliances, structural parts, and daily supplies due to its great impact strength and foaming processability by combining PS and rubber. Material properties of HIPS strongly depend on the content and particle size of rubber, bonding strength between rubber and matrix, and homogeneity.

Generally speaking, if rubber is added and mixed during the polystyrene production process, impact resistant and non-transparent polystyrene commonly known as the high impact polystyrene (HIPS) can be developed.

### Application:

- Miscellaneous Goods
- Daily Supplies
- Food Containers
- Cups, Trays and Egg Boxes
- Electronic Parts
- Fridge Doors & Cabinet Liners
- Packaging for Fatty Foods Sheets

### Key Features:

- Food Contact
- Water Resistance
- Good Impact Resistance
- Electrical Characteristic
- Foaming Processability
- Dimensional Stability without Toxicity

Category	Grade	Characteristics	Melt Flow Index	Izod Impact	VICAT Softening Point	Residual Monomer
Normal	HIPS-7240	High gloss, High-impact	3.5 - 5.5	8.5 - 11	94 - 97	MAX 500
Normal	HIPS-8350	High gloss, High-impact	3.5 - 5.5	9 - 13	92 - 96	MAX 500
Normal	HIPS-7350	ESCR	3.5 - 5.5	9 - 12	93 - 94	MAX 500



# EPS

## Expandable Polystyrene

### Product Introduction:

EPS is a foam resin manufactured by immersing foaming agent to polystyrene resin and an eco-friendly product with little residual volatile matter. It can be used for packing (general use), construction (Self Firefighting and insulation reinforcement), and special purposes.

EPS boast excellent physical properties such as strength and thermal conductivity due to their uniform cell structure of the foamed products.

### Application:

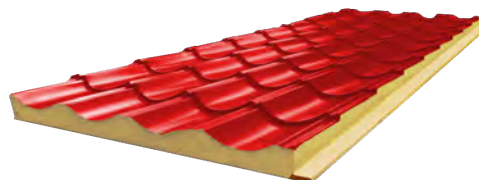
- Shape Molding
- Self-Extinguishing Block
- Insulation
- Cups
- Ice Boxes
- Fish and Fruit Containers
- Building Materials
- Sandwich Panels



### Key Features:

- Good Heat Insulation
- Shock Absorption
- Water and Sound Resistance
- Applicable to many different sector with its price competitiveness, strength, light weight, and easy handling

Category	Grade	Characteristics	Grain Size (mm)	Density (kg/m <sup>3</sup> )	Optimum Expansion Multiple	Pentane Content %
General	EPS WP526	Water Proof	0.3 ~ 0.5	22 - 30	52 ~ 57	5.5 - 6
General	EPS FC522	Fast Cycling	0.3 ~ 0.5	22 - 30	52 ~ 57	5.5 - 6
Flame Retardant	F-1000	FR	1.4 ~ 1.8	14 - 17	52 ~ 57	5.5 - 6.5
Flame Retardant	F-2000	FR	1 ~ 1.25	13 - 17	52 ~ 57	5.5 - 6.5
Flame Retardant	F-3000	FR	0.8 ~ 1.00	12 - 18	52 ~ 57	5.5 - 6.5
Flame Retardant	F-4000	FR	0.5 ~ 0.8	18 - 22	52 ~ 57	5.5 - 6.5
Self-Extinguish	F-550	FR	0.3 ~ 0.5	17	25 ~ 45	6 - 7
Self-Extinguish	F-450	FR	0.5 ~ 0.71	16	30 ~ 50	6 - 7
Self-Extinguish	F-350	FR	0.71 ~ 0.84	15	35 ~ 50	6 - 7
Self-Extinguish	F-250	FR	0.84 ~ 1.2	14	40 ~ 60	6 - 7
Self-Extinguish	F-150	FR	1.2 ~ 1.8	12	50 ~ 70	6 - 7







# ABS

## Acrylonitrile Butadiene Styrene

### Product Introduction:

ABS is a copolymerization of styrene, acrylonitrile, and butadiene latex. Its heat and solvent resistance properties are better than HIPS and it has gloss characteristics. Because acrylonitrile has stronger nitrile polarity, it can enhance the interaction of the PS in the molecular chain. Therefore, its impact strength, tensile strength, and plastic surface hardness are better compared to those of HIPS.

Generally, the higher the content proportion of acrylonitrile, the better the heat resistance, rigidity, and solvent resistance properties. During injection mode, it has very good mechanical property and dimensional stability. Based on these advantages, the ABS resin has become an excellent engineering plastic.

### Application:

- Automotive/Interior
- front and rear TV frames
- car batteries
- hair dryer tubes
- Home appliances
- Miscellaneous goods
- Toys
- Building materials
- Stationery
- Refrigerator
- Luggage/suitcases
- Safety helmets
- Shoe Heels

### Key Features:

- Balance of Properties
- High Gloss
- Heat Stability & Processability
- Customizable for customer needs with various processing techniques such as injection, extrusion, and hollow molding
- Colorability



Category	Grade	Characteristics	Melt Index	Izod Impact Strength	Rockwell Hardness	Heat Deflection Temp (HDT)	Tensile Strength
Painting	ABS-60	General Painting, Suitable for Strong Solvents	15	25	112	87	455
	ABS-65	General Painting, Suitable for Weak Solvents	25	30	110	85	450
Electro Plating	ABS-10	General Plating, Electro Plating	32	30	105	84	420
General Purpose	ABS-40	High Impact Resistance	25	32	98	82	400
	ABS-50	Moderate Impact Resistance, High Fluidity	35	23	109	85	455
	ABS-80	Moderate Impact Resistance, Moderate Fluidity	50	20	110	85	470
Sheet Grade	ABS-70SR	Impact Resistance, High Hardness	10	27	112	87	470
	ABS-75	High Resistance to Impact at Low Temperatures, High Hardness	6.5	32	107	88	445
ESCR	ER-72M	Impact Resistance, High Hardness	6	34	105	85	430
Extrusion	ABS-90S	High Resistance to Impact	10	39	95	82	400
	ABS-70	Extrusion	14	26	113	90	470
Super High Gloss	ABS-28	High Harness, High Gloss	35	17	107	85	500
Flame Retardant	HFA-70	High Flame Resistance, Moderate Impact Resistance	40	21	112	84	440
	HFA-56	High Flame & Impact Resistance	12	25	115	82	430
Heat Resistance	ABS-38 H	Heat Resistance	6.5	18	110	100	460
High Heat Resistance	HU-650	High Heat & Impact Resistance	4	18	109	106	470
Super Heat Resistance	GH-500	Excellent Heat Resistance (Odorless)	6	16	110	110	470







# SAN

## Styrene Acrylonitrile

### Product Introduction:

SAN is a copolymerization of Styrene-Acrylonitrile. Acrylonitrile Monomer (AN) is added to styrene monomer (SM) to copolymerize SAN, also commonly known as the AS Resin. SAN not only retains the transparency of GPPS, it also has more chemical resistance and slightly increased surface hardness. Under natural conditions, it is a bright yellowish transparent object. The SAN product manufactured by our unique continuous process has good transparency, uniform high gloss, chemical resistance, superior heat resistance, rigidity, and stability.

### Application:

- Cosmetic boxes
- Home appliances
- Fruit and vegetable boxes in refrigerators
- transparent parts for electrical and electronic products
- Building materials
- Food containers

### Key Features:

- High Transparency
- High Flowability
- Stiffness
- Chemical Resistance

Category	Grade	Characteristics	Melt Index	Izod Impact Strength	Rockwell Hardness	Heat Deflection Temp (HDT)	Tensile Strength
High Flow	SAN-1	General Grade	28 -32	1.5 – 2	81 – 83	88 – 92	620 - 680
High Flow, High Transparency	SAN-2	General Grade	19 - 24	1	82 - 84	87 - 90	630 - 670
High Strength	SAN-3	General Grade	10 - 15	1.5	85 - 86	88 - 93	730 - 800
Super High Strength	SAN-4	General Grade	4 - 7	1.5	88 - 89	90 - 92	800 - 850
Super High Strength ,High Chemical Resistance	SAN-5	General Grade	3 - 7	2 – 2.5	90 - 92	90 - 94	800 - 900



# PC

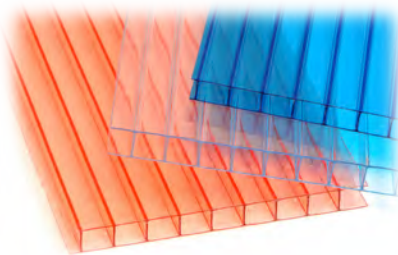
## Polycarbonate

### Product Introduction:

PC is used for a wide range of applications thanks to their excellent impact strength, heat resistance, transparency and optical/electrical stability, making it suitable for a wide range of applications. All 3C products, electrical and electronic products, precision machinery, instrument products, automotive parts, sporting goods, recreational goods, sanitary hygiene products, CD/DVD related products, etc.

### Application:

- Suitable for Molding, Injection & Extrusion
- Packaging
- Electrical
- Lighting
- Automotive
- Optical Lenses
- Construction & Housing



### Key Features:

- High Flowability
- High Impact Strength
- Good Processability
- High Transmittance

Category	Grade	Characteristics	Melt Flow Index	Density g/cm <sup>3</sup>	VICAT Softening Temp	Elongation
General	PC-0710	Injection Molding & Extrusion	7 - 10	1.2	142 - 147	> 90
General	PC-1012	Injection Molding & Extrusion	10.1 - 12	1.2	142 - 146	> 90
General	PC-1215	Injection Molding	12.1 - 15	1.2	141 - 145	> 80
General	PC-1518	Injection Molding	15.1 - 18	1.2	141 - 145	> 80
General	PC-1822	Injection Molding	18.1 - 22	1.2	140 - 144	> 80







# ABS/PC

## Acrylonitrile Butadiene Styrene / Polycarbonate

### Product Introduction:

PC Alloy is a material with excellent balanced properties from PC and ABS. PC provides high heat, high impact, flame retardant and high tensile strength properties, and ABS gives better processing ability, impact strength under low temperature environment and able to be electroplated. Therefore, ABS/PC has superior mechanical properties, high heat deflection temperature and inherent transparency.

### Application:

- Automotive Interior & Exterior Trim
- Automotive Instrument Panels
- Electrical & Electronic Component
- Thin wall molding

### Key Features:

- Impact Strength
- High Flowability
- Excellent Surface
- High Heat Resistance

Category	Grade	Characteristics	Melt Index	Izod Impact Strength	Rockwell Hardness	Heat Deflection Temp (HDT)	Tensile Strength
Hi Impact	GAC 244	High Impact Resistance , Metal Plating	7	42	100	120	490
Hi Flow	GAC 250	High Impact Resistance	8	45	113	120	510
Super Hi Impact	GAC 265	Ultra Impact Resistance	6	58	118	125	540
FR ABS/PC	GAC 280	High Heat Resistance, Self-Extinguished	7	40	120	110	550



# PVC

## Polyvinyl Chloride

### Product Introduction:

PVC is a thermoplastic, which is widely manufactured into pipes, window profiles, wallpapers, flooring, etc. It is made of 57% chlorine and 43% of crude oil extracts. It has excellent durability, corrosion resistance, chemical resistance, and electric insulation.

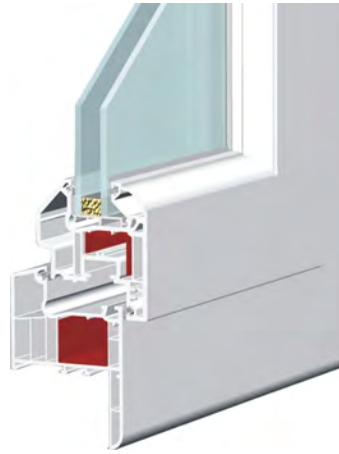
This powder, which can be as fine as flour or as coarse as sugar depending on the intended processing method, is converted by customers into a wide range of end products. The finer grades of PVC are produced according to the so-called emulsion or microsuspension processes, and coarser grades according to the suspension processes.

### Application:

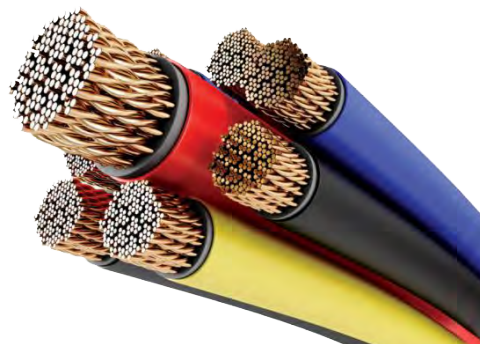
- Rigid Profile
- Sheets
- Pipes
- Doors, Windows & Tubes Manufacturing
- Cables & Wires Manufacturing
- Extrusion of Flexible Sections & Hoses

### Key Features:

- Excellent Fusion Properties.
- High Tensile Properties
- High Melt Strength
- Narrow particle size distribution
- Rigid foams for flooring and leather cloth.



Category	Grade	K – Value	Inherent Viscosity (IV)	Bulk Density (gr/lit)
Suspension	S58	$58 \pm 1$	0.67 - 0.72	540 - 600
Suspension	S60	$60 \pm 1$	0.74 – 0.79	520 - 580
Suspension	S65	$65 \pm 1$	0.85 - 0.91	550 - 610
Suspension	S67	$67 \pm 1$	0.91 – 0.95	550 - 610
Suspension	S70	$70 \pm 1$	0.98 – 1.02	450 - 510
Emulsion	E68	67 – 69	-	-







# PBR 1220

## Poly-Butadiene-Rubber

### Product Introduction:

BR-1220 is a stereo specific high Cis-1,4 Poly-butadiene. It is manufactured by a solution process using a cobalt catalyst which produces polymers with a low level of impurities. BR-1220 contains a non-staining high quality stabilizer system, too.

### Application:

- Tire & Conveyor Belts
- cables
- Sole & Shoes industry
- Rubber Hoses
- Mechanical Rubber Products

### Key Features:

- Abrasion Resistance
- Tear-Ability
- High Elasticity
- Very Low Glass Transition Temperature



Category	Grade	Characteristics	Mooney Viscosity (ML 1+4 @100° C)	Volatility Matter (%)
PBR	1220	Elastomer	41-49	Max 0.75



# E-SBR

## Emulsion Styrene Butadiene Rubber

**Product Introduction:**

Styrene-Butadiene Rubber “1502” is produced by a technology of cold emulsion copolymerization based on soaps of rosin and fatty acids and contains 23.5% of chemically bonded styrene. It is coagulated by a system of acid and synthetic coagulant and stabilized by a **non-staining antioxidant**.

@1502 has very good properties such as processability, abrasion resistance, less tendency to scorching. SBR has far more consistent quality than natural rubber and excellent heat and wear resistance, making it widely used for tires, shoes, and industrial goods.

**Application:**

- Tire sidewall
- Floor coverings
- Bicycle tires
- Footwear
- Children toys
- Cables
- Hosepipes
- Various rubber articles having light Color shades

**Key Features:**

- Excellent Processability
- High Abrasion Resistance
- Environmental Properties
- Less Tendency to Scorching



Category	Grade	Characteristics	Mooney Viscosity (ML 1+4 @ 100° C)	Bound Styrene (%)
E-SBR	1502	Cold Emulsion Copolymerization	46-58	22.5-24.5







# MEA

## Mono-Ethylene-Amine

### Product Introduction:

MONOETHANOLAMINE obtained from the reaction between ammonia and ethylene oxide. MONOETHANOLAMINE, have a low volatility at room temperature, is hygroscopic, presents an ammoniac odor and can appear in solid or liquid form depending on the temperature and the purity grade.

### Application:

- Recommended as a component in detergent formulations for laundry and dishwashing, degreasers, multiple use detergents and disinfectants
- As neutralizer agent in formulations of car wash shampoos, degreasers in general, and wax removers and as corrosion inhibitors
- As neutralizer agent for anionic emulsifiers
- As a selective absorber, and plays an important role in the production of ammonia, liquid carbon dioxide and dry ice permitting regeneration in the latter cases
- Detergents, lubricant oils, products for hygiene and personal care, flotation of minerals, etc

Characteristic	Test Method	Unit	Value
PURITY	MA – 503(GC)	WT. %	99 MIN.
WATER	ASTM D -1364	WT. %	0.2 MAX.
SP. GR (20/20 °C)	ASTM D - 891	-	1.017 - 1.019
EQUIVALENT MOL. WEIGHT	MA - 503	-	61 - 62.5

# MEG

## Mono-Ethylene-Glycol

### Product Introduction:

MONOETHYLENEGLYCOL obtained from the reaction of ethylene oxide and water. It is a clear, transparent and odorless liquid that can be mixed with water in any proportion.

### Application:

- Coolant & Antifreeze,
- Polyester fibers & films & low-Freezing
- Dynamite
- Synthesis of Polyethylene Terephthalate (PET)
- Wetting and plasticizing agent in the production of cellophane, glues and adhesives, textiles, printing ink, leather, cosmetics, paper and pharmaceutical products.

Characteristic	Test Method	Unit	Value
PURITY	ASTM E – 202	WT. %	99.8 MIN.
DIETHYLENE GLYCOL	ASTM E – 202	WT. %	0.08 MAX.
WATER CONTENT	ASTM E – 203	WT. %	0.08 MAX.
ACIDITY AS ACETIC ACID	ASTM D – 1613	WT. PPM	10 MAX.
ASH	DC – 254A	gr/100ml	0.005 MAX.
CHLORIDES	EO - 635	WT. PPM	0.1 MAX.

# Epoxy Resin Liquid

## Product Introduction:

EPIRAN-06(SPL) and Normal are General Purpose Liquid Epoxy Resins. They do not contain any Diluents. Curing Agents used are Aliphatic Polyamines, Polyamides, Amidoamines, Cyclo-Aliphatic Amines and modifiers of above curing agents.

## Application:

- Adhesive
- Casting
- Tooling
- Civil Eng. Composites
- Automotive
- Can & Coil Coatings
- Marine & Protective Coatings
- Electrical & Electronics Use
- Potting & Encapsulation

Category	Grade	Characteristics	Epoxy Equivalent (g/eq)	Epoxy Value (mol/100g)	Color (Pt-Co APHA)	Viscosity @ 25° C (Mpas)
Liquid	EPIRAN 06 SPECIAL	General Purpose	185-192	0.52-0.54	Max 50	10,000-14,000
Liquid	EPIRAN 06	General Purpose	185-196	0.51-0.54	Max 100	<15,000

# Epoxy Resin Solid

## Product Introduction:

EPIRAN-01 X-75 LC is Low Mol. Wt "1-type" Epoxy resin solution. The LC type has low color.

## Application:

- Cold Cured Varnishes
- Solvent based 2- pack Coatings for Metals
- As Modifier in Staving Enamels based on Acrylics
- Alkyd – Melamine resin systems and Hot Cured Adhesives manufacture

Category	Grade	Characteristics	Epoxy Equivalent (g/eq)	Epoxy Value (mol/100g)	Color (Pt-Co APHA)	Viscosity @ 25° C (Mpas)
Solid	EPIRAN-01 X-75 LC	Mixed Xylene	434-555	0.180-0.230	Max 40	6,000-12,000
Solid	EPIRAN 06	Mixed Xylene	185-196	0.180-0.230	Max 100	6,000-12,000







## Aromatics

# TOLUENE

### Product Introduction:

Toluene, with min purity of 99.98%, is a chemical that occurs naturally in crude oil and is extracted during the refining process. Toluene is used in many industrial processes and commercial products from paint and printing inks to fabric coatings, artificial sweeteners, cosmetics, flexible foams and automotive parts.

### Appearance& Odor:

Liquid, Clear, Colorless, Aromatic odor.

# PARA-XYLENE (PX)

### Product Introduction:

P-Xylene, with min purity of 99.7%, is a chemical that occurs naturally in crude oil but is supplemented by additional amounts made in the refining process. It is used in many common products, such as paints, rubber, adhesives, plastic bottles and clothing. Expansions for PTA into the next century may cause a p-Xylene shortfall unless further expansion action is taken. PX supply will be boosted, not only by expansions, but also by an increase in mixed xylenes supply due to gasoline reformulations and the production of PX from toluene through toluene disproportionation.

### Appearance& Odor:

Clear, colorless liquid, characteristic odor.

# ORTHO-XYLENE (OX)

### Product Introduction:

O-Xylene, with min purity of 98%, is an aromatic hydrocarbon, based on benzene with two methyl substituents bonded to adjacent carbon atoms in the aromatic ring. OX is largely used in the production of Phthalic Anhydride, maleic anhydride, and solvent, which are the raw materials for plasticizer, and is generally extracted by distillation from a mixed xylene stream in a plant primarily designed for *p*-xylene production.

