

# POLYMERS CHEMICALS FERTILIZERS



## **Product List**

#### **Polymers**

Polyethylene

**HDPE** 

LDPE

LLDPE

Polystyrene

**GPPS** 

HIPS

**EPS** 

Polypropylene

PPH

**PPC** 

polyvinil chloride PVC

#### **Chemicals**

Caustic soda
Ethylene glycols
Ethanol amins
Methanol
Mixed xylene
Acids
Sodium carbonate
White sprit
Phthalic anhydride

#### **Fertilizer**

Urea Ammonia Ammonium Nitrate





## **About Us**

Zenith Goal Group LLC (ZGG) was established and incorporated for the purpose of supplying and trading raw materials of chemical, petrochemical, and fertilizers. Based on its commercial and trading capabilities, ZGG providing warranty and after sales product and service.

#### Our departments

- Polymer
- Chemical
- Fertilizer

#### Our Vision

- To be one of the top positions in our field business in CIS & MENA Region.
- To develop our business and our employees.

#### Our Mission

- To import, export and supply quality products with convenient prices to maintain our customers satisfactions and sustain our profitability.
- To have a wider range of products as per the market needs.
- To develop our team and employees' standards.

#### Our Objectives

- Growing our market share by having a wider coverage for all CIS & MENA Countries.
- Our target growth is to be above market growth rate.
- Increasing the range of products that we supply.

#### **Covered Countries**

- Armenia
- Russia Federation
- Uzbekistan
- Georgia
- Kazakhstan
- Kirgizstan

- Turkmenistan
- Tajikistan
- Turkey
- Azerbaijan
- Afghanistan
- Iraq





# POLYMERS





## **High density polyethylene**

## **HDPE**

High density polyethylene (HDPE) is a thermoplastic polymer produced from the monomer ethylene. With a high strength-to-density ratio, HDPE is used in the production of plastic bottles, corrosion-resistant piping, geomembranes and plastic lumber. HDPE is commonly recycled, and has the number "2" as its resin identification code.

	Grade	MFI	Applications	TDS
1	F 7000	0.04	Enhanced ultra-thin film	
2	HFI5110	10	Extrusion, film, blown, bags and density modify	
3	EX3	0.45	Pipe Extrusion PE80 Class, Pressure pipe, Drinking water and gas pipes Sewer pipes and their fittings, Discharge pipes for injection moulded and other fittings, Sheets	
4	EX5	0.28	Food Grade, blown films with paper like quality, counter bags, carrier bags, wrapping films and sheets, blending partner	
5	52518	18	House wares, high fluidity	
6	BL3	1.2	Sheet for Thermoforming, Containers up to 10 lit	
7	CRP 100 N	6.2	Pipes include Pressure Pipes, Water Pipes, Gas Pipes	
8	CRP 100 B	6.2	Pipes include Pressure Pipes, Water Pipes, Gas Pipes	









## **Low Density Polyethylene**

## **LDPE**

Low Density Polyethylene (LDPE) is a flexible, odorless, transparent, 100% recyclable thermoplastic polymer popular in products like grocery/garbage bags, juice containers, and cling wrap. Its flexibility, toughness, and corrosion resistance combined with its low-cost, high-efficiency production process make it an appealing choice for engineering applications, fueling demand for the production of millions of tons of LDPE each year.

	Grade	MFI	Applications	TDS
1	LD2420H	1.9	general purpose films, shrink films, food packaging films and foam applications	
2	LD2420D	0.25	Heavy-duty films, agricultural films, shrink films, tubes and small extrusion blow molding containers	
3	LFI2119	1.9	Blown film extrusion, packaging film, general lamination film	
4	LF2130	0.3	blown film extrusion, shrink hoods, industrial sacks, Carrier bags and liners	





# liner low Density PolyEthylene LLDPE

Linear Low Density Polyethylene (LLDPE) is a substantially linear polymer (polyethylene), with significant numbers of short branches, commonly made by copolymerization of ethylene with longer-chain olefins.

The properties of LLDPE are flexibility with high impact strength, translucency and natural milky color, good chemical resistance, good water vapor and alcohol barrier properties and good stress crack and impact resistance.

	Grade	MFI	Applications	TDS
1	LL0209 AA	0.9	Carrier and Garbage Bags, Blown Film	
2	LL0209 KJ	0.9	Silage Film, Garbage Bags, Blown Film	







## **General Purpose Polystyrene**

## **GPPS**

GPPS - General Purpose polystyrene resins are transparent polymers resulting from the polymerization of Styrene Monomer. GP Polystyrene can be used for both injection moulding and extrusion applications. GPPS benefits from the easy processing characteristics as well as various certifications.

	Grade	MFI	Applications	TDS
1	GPPS 1540	11	Impact dilution; Gloss layer, packaging articles; Medical applications, petri dishes; Office equipment; Pen barrels and cups.	
2	GPPS 1160	2.5	Shower cabinets, Lighting thin films, Insulation board, Foam sheet of fruits trays, Meat trays, Egg boxes	
3	GPPS 1161	4	Parts for home electrical appliances (nameplates, transparent display covers for VTR, Office stationery, Foamed PS.	
4	GPPS 1077	7	house ware, containers, drinking cup, table ware, optical parts, plastic bangles, cosmetic packing parts, and XPS sheets and plates	
5	GPPS 1551	9	Thin-walled food Containers, Medical ware (petri dishes etc.), Office stationery, housewares, etc.	









# High Impact Polystyrene HIPS

High Impact Polystyrene (HIPS) is a versatile, economical and impact-resistant plastic that is easy to machine and fabricate. HIPS is often specified for low strength structural applications when impact resistance, machinability and low cost are required. It is frequently used machining pre-production prototypes since it has excellent dimensional stability and is easy to fabricate, paint, and glue.

	Grade	MFI	Applications	TDS
1	HIPS 7240	4.5	Cup, Sheet, Egg Boxes, Tray	
2	HIPS 8350	4.5	Extrusion Sheet for thermoforming, fridge doors, cabinet liners, fatty foods packaging.	
3	HIPS 7055	4.4	Refrigerator liners for refrigerator inserts and door paneling, packaging applications for oily food and dairy products.	
4	HIPS 3163	16	Injection applications, Printers and copiers, ventilators, TV back covers, Office machines, cabinets.	
5	HIPS 4125	12	House hold, toys, food containers.	









## **Expanded Polystyrene**

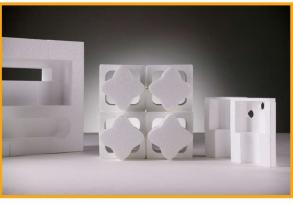
### **EPS**

Expanded Polystyrene (EPS) is a rigid, closed cell, thermoplastic foam material produced from solid beads of polystyrene, which is polymerised from styrene monomer and contains an expansion gas (pentane) dissolved within the polystyrene bead.

As EPS is made of 98% air, it is one of the lightest packaging materials in existance, and therefore adds very little weight to packaging, which means transport costs and fuel emissions are kept to a minimum. It's also hugely useful because it can be clearly marked with specific content like company logos, and labelling can easily be attached directly to the packaging.

	Grade	Density	Bead Size (MM)	Applications	TDS
1	F1000	11-12	1.4-2	Rigid isolation board, panel applications, low density housing and construction blocks, civil engineering	0
2	F2000	12-14	09-1.4	Rigid isolation board, panel applications, low density housing and construction blocks, civil engineering	
3	F100	7-12	1.2-1.8	packaging products, insulation, light concrete applications.	
4	R 300	13-25	0.7-1	cases and packaging product suitable for food contact, insulation applications are not requiring fire classification	









# Polypropylene Homopolymer(PPH)

Polypropylene homopolymers are thermoplastic resins produced through the polymerization of propylene with Ziegler-Natta catalysts.

The homopolymers can be used in different processing technologies, such as injection molding, blow molding, film, fiber, sheet extrusion and thermoforming.

	Grade	MFI	Applications	TDS
1	EP 440 L	0.6	Toys, automotive parts, pails, container, crates, battery cases	
2	EP 440 G	1.3	Bottle, pipes <mark>, c</mark> ontainer, crates, sheet, profile, pipe fittings	
3	EP 548 R	21	Furniture, housewares, opaque containers, sports, leisure & toys	







# Polypropylene<br/>Copolymer(PPC)

Polypropylene copolymer (PPC) is a bit softer but have better impact strength, is tougher and more durable than homopolymer polypropylene. Copolymer polypropylene tends to have better stress crack resistance and low temperature toughness than homopolymer at the expense of quite small reductions in other properties.

	Grade	MFI	-I Applications	
1	HP550 J	3.2	vending cups, packaging for dairy products and trays for fruit, biscuits and chocolates Film yarn, raffia, tapes, bags, industrial fabrics, mats and artificial grass Baler twines and broom filling	
2	HP552 R	25	CF, BCF & staple fibers at medium to high spinning speeds, low denier staple fibers for nonwoven fabrics, diapers, medicalsanitary applications & wipes, sport bags, bulk bags & for safety belts.	





# PolyVinyl Chloride PVC

PVC is a versatile polymer used in a diversity of applications, function of its own, as well as its blending component's properties. For enhanced performances, PVC can be mixed with (bio)plasticizers, thermoplastics, rubbers, polysaccharides, minerals, natural fillers or other types of additives in order to improve PVC blends compatibility. PVC is found in various applications, such as building, packaging, automotive, military and aeronautic industries, medicine, ships construction, life rafts, garden hoses, swimming rings, footballs, toys, different cards and so on.

	Grade	K-value	Viscosity	Applications	TDS
1	S6558	64-66	101-109	Pipe fitting, Injection moulding	
2	S6532	64-66	101-109	films, pipes, sheets, profiles, hoses	









# CHEMICALS





## Caustic Soda

### ■ Flake & Liquid

Properties	Product Rang	е
	Liquid	Flake
Purity	48-50%	Min 98
Carbonate	Max 0.2	Max 0.5
Chloride	Max 60	Max 0.02
Sulfate	Max 0.003	Max 0.005
Silicate	Max 0.001	Max 0.005
Iron	Max 0.4	Max 15
Insoluble in Water	0	0
Aluminum	Max 10	Max 20
Heavy Metals	Max 10	Max 20
Mercury	Max 0.05	Max 0.15
	Colorless, Clear, Free	Colorless, Clear, Free of
Appearance	of Sedimen <mark>t</mark> and	Sediment and Suspended
Appearance	Suspended Particles	Particles

#### **Applications**

Tissue digestion

Food Preparation, milk processing industry, canning beverage, sugar, oil
Metal industry and manufacture of glass, zinc and electroplating
Battery industry and neutralize the acid and battery
Leather and textile industry and Dyeing industry
Oil, gas and petrochemical industry
Cardboard and paper industry
Detergent and Soap Making
Pharmaceutical industry
Aluminum etching



# **Ethylene Glycols**

■ (MEG) & (DEG)

#### Mono Ethylene Glycol (MEG)

<b>Properties</b>	Value
Purity	99.8 Min
DEG	0.08 Max
Water content	0.08 Max
Acidity	10 Max
ASH	0.005 Max
Chlorides	0.1 Max
Aldehydes	10 Max
Iron	0.1 Max
Color	5 Max

#### **Applications**

Polyester fibers and film
Engine coolants and antifreeze
Packaging and bottles
Upholstery, carpets and pillows
Heat transfer fluids
Leather
Paper
Textile fibers
Latex paints and asphalt emulsions

#### Di Ethylene Glycol (DEG)

<b>Properties</b>	Value
Purity	99.8 Min
MEG	0.05 Max
TEG	0.05 Max
Water content	0.05 Max
Acidity	0.005 Max
ASH	0.005 Max
Color	10 Max

#### **Applications**

Polyester resins Polyurethanes Plasticizers

Humectant for tobacco, cork, printing ink, and glue

Component in brake fluid, lubricants, wallpaper strippers, artificial fog and haze solutions

Gas dehydration



# **Ethanol Amins**

## MEA, DEA, TEA

#### MEA

Properties	Value
Purity	99.0 Min
SP.GR.@20/20 C°	1.017-1.019
Water	0.2 Max
Equivalent MW	61-62.5
Color	F 10 Max

#### **Applications**

Gas sweetening
Detergents
Cleaners
Concrete admixtures
Urethane foam catalysts
Pharmaceuticals
Personal care products
Agricultural chemicals
Photographic emulsions

#### DEA

Properties	Value
Purity	98.5 Min
Color	15 Max
Water	0.15 Max
MEA	0.6 Max
TEA	0.8 Max
SP.GR.@20/20 C°	1.09-1094
Equivalent MW	104-106

#### **Applications**

To remove hydrogen sulfide and carbon dioxide from natural gas
Liquid laundry and dishwashing detergents cosmetics, shampoos and hair conditioners
Production of morpholine
Production of lubricants in the textile industry

#### TEA

Properties	Value
Purity	99 Min
SP.GR.@20/20 C°	1.122 – 1.127
Water	0.2 Max
Color	75 Max

#### **Applications**

Oil and Gas Industries for Gas sweetening Textile as softening agent and amine soaps Metal working as passive agent Cosmetics and hygiene products Cement clinker Products



# **Methanol**

Properties	Value	
Purity	Min 99.85	
Water	Max 0.1	
Ethanol	Max 0.001	
Specific Gravity @20/20 °C	Max 0.7928	
Acetone	Max 0.002	
Acetone & Aldehydes	Max 0.003	
Permanganate Time Test	No color discharge in 50 min.	
Non Volatile Matter (mg/1000 ml)	Max 1mg/100 ml	
Distillation range (°C)	Max 1 °C to include 64.6 + 0.1 °C	
Color PT-Co scale	Max 5	
Carbonizable substance color	Max 30	
Appearance & Hydrocarbons	free of suspended matters and sediments	
Odor	Non-Residual	
Alkalinity as NH <sub>3</sub>	Max 0.003	
Acidity as CH <sub>3</sub> COOH	Max 0.003	

### **Applications**

Industrial solvent

Formaldehyde

Acetic acid

Methyl tert-butylether

Fuel or fuel additive like Gasoline

Methylamines

Methyl halides

Methyl ethers



# Mixed Xylene

Properties	Value
Non Aromatics	3.0 Max
Distillation rang C° at 760mm Hg	10 Max
Initial Boiling Point C° at 760mm Hg	135 Min
Dry Point C° at 760mm Hg	145 Max
Annogrance	Clear liquid free of sedimentation or
Appearance	haze at 18.3 to 25.6 ${\sf C}^\circ$
Copper corrosion	Pass (1a or 1b)
Color, Pt-Co Scale	20 Max
Acid wash color	6 Max
Acidity	Non detected
Specification Gravity at 15.56 C°	0.865 - 0.877
So2/H2S	Non detected
Vapor Pressure (Psi)	0.1

#### **Applications**

Orthoxylene (phthalic anhydride)
Ethylbenzene (styrene monomer)
Solvent for paint and pesticide
Paraxylene (terephthalic acid)
Metaxylene (isophthalic acid)
Fuel or additive fuel
Organic pigment
Plasticizer
Perfume



# **Acids**

### **Acetic & Nitric**

#### **Acetic Acid**

Properties	Value
A	Clear; free from matter
Appearance	in suspension
Purity	99.85 Min
Water	0.15 Max
Formic Acid	0.05 Max
Density@20C°Kg/lit	1.048-1.051
Acetaldehyde	0. <i>02 Max</i>
Permanganate	2 hours Min
Crystallization point	16.35 C° Min
Sulphates	1 PPM Max
Chloride	1 PPM Max
Iron	1 Max
Propionic acid	0.01 Max
Nonvolatile matter	0.003 Max
Heavy metals	0.05 Max
Color	Below 10 APHA

#### **Applications**

Chemical compounds like acetic anhydride, ester, vinyl acetate monomer,

Vinegar to purify organic compounds as it can be used as a solvent for recrystallization

Medical Applications like antiseptic Food industry Applications like mayonnaise, mustard and ketchup Household Applications like cleaning, laundry and cooking

#### Nitric Acid

Property	Unit	Test Method	Value
Purity	Wt%	S.T.E.C 2.1.11	53 Min

#### **Applications**

Industrial Applications like polyamides and polyurethane, nitrogen-based compounds and nitroglycerin

Fertilizer Applications like nitrogenous fertilizers like calcium nitrate, ammonium nitrate, etc.



# Sodium Carbonate (Soda Ash)

## Heavy & Light

<b>Chemical Properties</b>	Product Range	
	Light	Dense
Sodium carbonate	99.2 - 99.6	99.2 - 99.6
Sodium chloride	0.1 - 0.5	0.1 - 0.5
Sodium bicarbonate	0.1 Max	0.1 Max
Sodium sulfate	0.05 Max	0.05 Max
Iron	30 Max	30 Max
Loss on heating	0.2 Max	0.2 Max
Moisture	0.2 Max	0.2 Max
Ni	30 Max	30 Max
Cr	10 Max	10 Max
Mn	10 Max	10 Max
Cu	30 Max	30 Max
Pouring density	0.45 - 0.6	0.85 - 1.1

#### **Applications**

Glass production

Soaps and detergents as a lubricating agent

Widely application in production and/or fabrication of other chemical products such as mineral-work procedures, mine excavation procedure, paper paste production, sodium compounds, water treatment, metal (Iron, Steel, Aluminum, etc.)

Textile industries

Metallurgic and Petroleum product recycling.



# Withe Sprit

Properties	Value
Density @ 15 °C	77 Min
I.B.P	142 – 158
10% Evapoeated @	1 <i>5</i> 8 Min
50% Evapoeated @	1 <i>7</i> 9 Max
90% Evapoeated @	194 Max
Dry point	198 Max
Residue	1.5 Max
Color saybolt	25 Min
Odour	Merchantable
Flash point tag	38 Min
Corrasion – 2hrs @ 100 °C	1 a
Sulphur	0.1 Max
Doctor test	Negative
Aromatic content	20 Max
Gum existent	5 Max
Neutrality	Pass
Acidity of residue	Pass

### **Applications**

Degreasing and lubricating

Cutting fluid in ultraprecision lathes

Regripping golf clubs

Solvent and paint thinner

Portable stoves

To reduce the viscosity of the paint

Construction industry

Screen printing

Pest control products

Wood preserving products



# Phthalic anhydride

Item	specification	Test Method	Result
Appearance	whiteFlakes/clear	ASTM D-3366	OK
APHA Colore	Max 20 APHA	ASTM D -3366	15
Freezing Point(°C)	Min 130.9 °C	ASTM D -1493	131.1
Heat Stability	Max 40 APHA	ASTM D -3366	25
Maleic Anihydride	Max .05% Wt	Analytical method	0.026
% Phtalic Acid	Max .01% Wt	Analytical method	0.06
Phthalide	Max .01% Wt	GC-Analytical method	0.009
Benzoic Acid	Max .01% Wt	GC-Analytical method	0.03
Assay	Max .99.5% Wt	Analytical method	99.87

#### **Applications**

To use as an intermediate che<mark>mic</mark>al and as a monomer for use in polymer

structures

production of unsaturated polyester resins (UPR)

production of alkyd resins

production of PVC phthalates and softeners

certain pigments and dyes and fire repellents









## **Urea**

### ■Granular & Prilled

Granular urea, with a 46% nitrogen content, is a solid nitrogen fertilizer product. it has the highest nitrogen content of any solid nitrogen fertilizer. Granular urea can be applied by itself, or it can be easily mixed with phosphate and/or potash fertilizers, often as part of a total NPK (nitrogen, phosphate, and potash) plant food mix. Granular urea is chemically the same as prilled urea. Granular urea, however, is slightly larger and harder. Today, the use of prilled urea is more prevalent because it is more resistant to breaking down when being blended with the other components of fertilizer

#### **Granular Urea**

Property	Value	
Nitrogen Content	MIN. 46	
Moisture	0.3 MAX.	
Biuert	1 MAX.	
Particle Size (1-2.84 mm)	90 MIN.	
Conditioning Agent	Anti-Cake or	
Conditioning Agent	Formaldehyde Treated	

### **Prilled Urea**

Property	Value
Nitrogen Content	MIN. 46
Moisture	0.3 MAX.
Biuert	1 MAX.
Particle Size (1-2.84 mm)	90 MIN.



## **Ammonia**

Ammonia is an inorganic compound of nitrogen and hydrogen. it contributes significantly to the nutritional needs of terrestrial organisms by serving as a precursor to 45% of the world's food and fertilizers. Around 70% of ammonia is used to make fertilizers in various forms and composition, such as urea and Diammonium phosphate. Ammonia in pure form is also applied directly into the soil.

#### **Ammonia**

Properties	Unit	Test Method	Value
Purity	wt %	805-12-E	99.9

#### **Applications**

Fertilizers like Urea & Ammonium Nitrate

Household Cleaning Products (Ammonium hydroxide)

Industrial/Manufacturing Uses like refrigerant gas and in air-conditioning equipment, purify water supplies, waste and wastewater treatment, cold storage, rubber, pulp and paper and food and beverage industries as a stabilizer, neutralizer and a source of nitrogen

#### **Agriculture Ammonium Nitrate (Fertilizer)**

Ammonium nitrate is an important fertilizer with NPK rating 34-0-0 (34% nitrogen).[15] It is less concentrated than urea (46-0-0), giving ammonium nitrate a slight transportation disadvantage. Ammonium nitrate's advantage over urea is that it is more stable and does not rapidly lose nitrogen to the atmosphere.

Properties	Unit	Test Method	Value
Nitrogen content	wt %	S.T.E.C.2.4.2	34.3 Min
Moisture H	wt %	S.T.E.C.2.4.4	0.2 Max
Anticake	wt %	- 1	0.05 Min
Particle size (1-4 mm) %		S.T.E.C.2.4.6	96 Min
SO4	wt %	S.T.E.C.2.4.7	0.15 Min

## Geography is not a barrier, when there is an opportunity









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