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Introduction

The National Petrochemical Company(NPC)of Iran is one of the largest companies around the world which is responsible for producing chemicals and polymers. Today NPC is the second largest producer and exporter of petrochemicals in the Middle east. Over the years ,it has not only expanded the range and volume of its products (specially polymers), but it has also taken steps in areas such as research and technology to achieve its goals and produce products with higher quality.

One of NPC's subsidiaries is Iran Petrochemical Commercial Company (IPCC) which is one of the largest companies in the Middle east engaged in sale and marketing of petrochemical products in the Iranian domestic market as well as export to overseas markets, its current goals are to continually improve the presence and profile of IPCC by upgrading quality and increasing quantities of its facilities, product and services. All for the ultimate satisfaction of its customers and business partners. To meet its objective, IPCC established worldwide subsidiaries : IPCC U.K.Ltd in England , Intra-Chem Trading in Germany , IPCC Singapore ,IPCC Dubai, IPCC Shanghai, IPCC Beijing, IPCC India, IPCC South Korea & IPCC Turkey to carry out its marketing and procurement functions.

NPC's production plants which are using the highest technology to produce polymers, chemicals, Gas and Feed Stocks are as follows

1) Bandar Imam Petrochemical Company (BIPC) which is producer of following chemicals with below mentioned capacities :
Benzene (230,000 mt/y), Caustic soda (250,000 mt/y), Ethylene (311,000 mt/y), EDC(440,000 mt/y), Propylene (99,300 mt/y), Mixed - Xylene (140,000 mt/y), Para- Xylene (180,000 mt/y), VCM (180,000 mt/y), HCL (63,300 mt/y), Sodium hypochlorite (6,600 mt/y), MTBE (500,000 mt/y)

2) Tabriz Petrochemical company (TPC) which is producer of following chemicals with below mentioned capacities :
Propylene (56,000 mt/y), B-1 (7,000 mt/y), Ethylene (136,000 mt/y), CFO (11,400 mt/y), Styrene monomer (95,000 mt/y), Toluene (2,000 mt/y), Ethyl Benzene (100,000 mt/y)

3) Khorasan Petrochemicals company which is producer of following chemicals with below mentioned capacities :
Urea (495,000 mt/y), Ammonia (330,000 mt/y)

4) Shahid Tongdooyan Petrochemical Company (STPC) which is producer of following chemicals with below mentioned capacities :
Terephthalic Acid (350,000 mt/y)

5) Uromieh Petrochemical Company which is producer of following chemicals with below mentioned capacities :
Ammonium Sulfate (9,000 mt/y)

6) Buali sina Petrochemical Company which is producer of following chemicals with below mentioned capacities :
Benzene (179,000 mt/y), O- Xylene (30,000 mt/y), P- Xylene (400,000 mt/y), Ligh End (350,000 mt/y), Heavy aromatic (23,000 mt/y), Raffinate (199,000 mt/y), Heavy End(110,000 mt/y),

7) Fanavaran Petrochemical Company which is producer of following chemicals with below mentioned capacities :
Methanol (1,000,000 mt/y)

8) Bistoon Petrochemical Company which is producer of following chemicals with below mentioned capacities :
LAB (50,000 mt/y), HAB (6,500 mt/y)

9) Shiraz Petrochemical Company which is producer of following chemicals with below mentioned capacities :
Urea (543,000 mt/y), Sodium hypochlorite (13,200 mt/y), Sodium carbonate light (80,000 mt/y), Sodium carbonate Heavy (66,000 mt/y), Sodium bicarbonate (20,000 mt/y), perchlorine (5,000 mt/y), Nitric Acid (341,220 mt/y), HCL (20,000 mt/y), CH₃ OH (84,000 mt/y), NaOH (22,440 mt/y), Ammonia (432,630 mt/y), Ammonia Solution (37,000 mt/y), Agriculture Ammonium Nitrate (214,500 mt/y)

Shiraz Petrochemical Co.

Urea (Zone I)

#	Property	Units	Test Method	Value
1	N2 Content	Wt%	201-E	46.3 min
2	Moisture	Wt%	805-1-E	0.8 max
3	Biuret	Wt%	135-E	1 max
4	Particle size (1-2.5 mm)	%	158-E	90 min

Packing : bags of 50 kgs and Bulk

Urea (Zone II)

#	Property	Units	Test Method	Value
1	N2 Content	Wt%	201-E	46.3 min
2	Moisture	Wt%	805-1-E	0.3 max
3	Biuret	Wt%	135-E	1 max
4	Particle size (1-2.84 mm)	%	158-E	90 min

Packing : bags of 50 kgs and Bulk

Sodium Hypochlorite

#	Property	Units	Test Method	Value
1	Active Chlorine (NaClO)	gr/lit	ZP-GS-003	120 min
2	Sodium Hydroxide (NaOH)	gr/lit	ZP-GS-003	2-10

Shipping : Bulk Carrier

Sodium Carbonate (Na₂CO₃) Heavy

#	Property	Units	Test Method	Value
1	Purity	Wt%	IRANIAN STANDARD	98 min
2	Na HCO ₃	Wt%	IRANIAN STANDARD	1 max
3	Na CL	Wt%	IRANIAN STANDARD	1 max
4	Fe	Wt.ppm	IRANIAN STANDARD	60 max
5	Particle size (0.2-2mm)	%	IRANIAN STANDARD	95 min

Shipping : Bags of 50 Kgs.

Sodium Carbonate (Na₂CO₃) Light

#	Property	Units	Test Method	Value
1	Purity	Wt%	IRANIAN STANDARD	98 min
2	Na HCO ₃	Wt%	IRANIAN STANDARD	1 max
3	Na CL	Wt%	IRANIAN STANDARD	1 max
4	Fe	Wt.ppm	IRANIAN STANDARD	60 max

Shipping : Bags of 50 Kgs.

Sodium Bicarbonate (NaH CO₃)

#	Property	Units	Test Method	Value
1	Purity	Wt%	IRANIAN STANDARD	98 min
2	Na ₂ CO ₃	Wt%	IRANIAN STANDARD	1.5 max
3	Na CL	Wt%	IRANIAN STANDARD	0.1 max
4	Moisture	Wt%	IRANIAN STANDARD	Balance

Shipping : Bags of 50 Kgs.

Shiraz Petrochemical Co.

Perchlorine

#	Property	Units	Test Method	Value
1	Ca (CLO) ₂	Wt%	ZZ-AM-001	65 min
2	NaCL	Wt%	ZZ-AM-001	20 max
3	Ca (OH) ₂	Wt%	ZZ-AM-001	4 max
4	CaCL ₂	Wt%	ZZ-AM-001	3 max
5	CaCO ₃	Wt%	ZZ-AM-001	8 max
6	H ₂ O	Wt%	ZZ-AM-001	10 max
7	Others	--	--	Balance

Packing : Drums of 50 kgs

Nitric Acid (HNO₃)

#	Property	Units	Test Method	Value
1	Purity	Wt%	S.T.E.C2.1.11	53 min

Shipping : Bulk carrier

Hydrochloric Acid (HCL)

#	Property	Units	Test Method	Value
1	Purity	Wt%	ZP-GS-033	30 min

Shipping : Bulk carrier

Chlorine

#	Property	Units	Test Method	Value
1	Purity	v/v%	ZP-GS-033	99.6 min

Shipping : cylander of 60 / 90 / 1000 kgs

Methanol

#	Property	Units	Test Method	Value
1	Purity	Wt%	CALCULATED	99.85 min
2	H2o	Wt%	ASTM D-1364	0.1 max
3	Color	Apha	ASTM D-1209	5 max
4	Carbonisable	Apha	ASTM E-0346	5 max
5	SP.Gr. @ (20/20°C)	--	ASTM D-1298	0.792 – 0.793
6	Acidity (As CH ₃ -COOH)	Wt%	ASTM D-1613	0.003 max
7	Alkalinity (As NH3)	Wt%	ASTM D-1614	0.003 max
8	Hydrocarbons	--	ASTM D-1722	Passes Test
9	Fe	Wtppm	ASTM E-202	0.05 max
10	Chloride	Wtppm	ASTM D-512	0.2 max
11	Distillation Range	°C	ASTM D-1078	1 max
12	Permanganate Time	minutes	ASTM D-1363	50 min
13	Acetone	Wt%	ASTM D-1612	0.003 max
14	Odor	--	ASTM D-1296	Nonresidual
15	Non volatile Matter	mgr/100ml	ASTM D-1353	2 max
16	Appearance	--	--	Clear Free From Suspended Matter
17	Miscibility	--	ASTM D-1722	Passes Test

Shipping : Bulk carrier

Shiraz Petrochemical Co.

Explosive Ammonium Nitrate

#	Property	Units	Test Method	Value
1	N ₂ Content	Wt%	S.T.E.C2.4.2	34.3 min
2	Moisture	Wt%	S.T.E.C2.4.4	0.2 max
3	Fuel Oil Absorption Level	Wt%	S.T.E.C2.4.8	6 min
4	Particle size (1-3mm)	%	S.T.E.C2.4.6	96 min
5	Bulk Density	Ton/m3	--	0.75 min

Packing : Bages of 50 kgs

Agriculture Ammonium Nitrate

#	Property	Units	Test Method	Value
1	N ₂ Content	Wt%	S.T.E.C 2.4.2	34.3 min
2	Moisture	Wt%	S.T.E.C 2.4.4	0.15 max
3	Anticake	Wt%	--	0.05 min
4	Particle size (1-4mm)	%	S.T.E.C 2.4.6	96 min
5	So ₄ ⁼	Wt%	S.T.E.C 2.4.7	0.15 min

Packing : Bages of 50 kgs

Caustic Soda (NaOH)

#	Property	Units	Test Method	Value
1	Purity	Wt%	ZP-GS-033	40 min

Shipping : Bulk carrier

Ammonia Solution

#	Property	Units	Test Method	Value
1	NH ₃	Wt%	TITRATION	15 min

Shipping : Bulk carrier

Anhydrous Liquid Ammonia

#	Property	Units	Test Method	Value
1	Purity	Wt%	805-12-E	99.9 min

Shipping : prossunised cylander

Bandar Imam Petrochemical Co.

Benzene

#	Property	Units	Test Method	Value
1	Purity	Wt%	ASTM D-4492	99.9 min
2	Toluene	Wt.ppm	ASTM D-4492	150 max
3	Non Aromatic	Wt.ppm	ASTM D-4492	700 max
4	Density @ (15.6 °C)	gr/cm ³	ASTM D-4052	0.8820 – 0.8860
5	Appearance	--	VISUAL	Clear
6	Color,Pt-Co scale	--	ASTM D-1209	10 max
7	Acid Wash Color	--	ASTM D-848	1 max
8	Acidity	mgr NaOH/100ml	ASTM D-847	No Free Acid
9	Copper Corrosion	--	ASTM D-849	No .1a
10	Total Sulphur	Wt.ppm	UOP 727	1 max
11	H ₂ S & So2 Content	--	ASTM D-853	Free of (H ₂ S/SO ₂)
12	Distillation Range	°C	ASTM D-850	1.0max (Include80.1)
13	Solidification Point	°C	ASTM D-852	5.45 min
14	Water Content	Wt.ppm	ASTM E-1064	200 max
15	Thiophene	Wt.ppm	ASTM D-1685	1 max
16	Methyl Cyclohexane	Wt.ppm	ASTM D-4492	200 max
17	Total Nitrogen	Wt.ppm	ASTM D-6069	1 max
18	Total Chloride	Wt.ppm	IP-AK-81	2.0 max

Shipping : Bulk Carrier

Caustic Soda

#	Property	Units	Test Method	Value
1	Purity	Wt%	ASTM D-3875	48.5 min
2	Na ₂ CO ₃	Wt%	ASTM D-3875	0.4 max
3	NaCL	Wt.ppm	Spectrophotometry (DENORA)	15 max
4	Na ₂ SO ₄	Wt.ppm	ASTM D-516/D-4130	15 max
5	AL ₂ O ₃	Wt.ppm	Standard Method	10 max
6	Total Fe (AS Fe ₂ O ₃)	Wt.ppm	ASTM D-2790	6 max
7	SiO ₂	Wt.ppm	ASTM D-859-88	5 max
8	Total Ca (As CaO)	Wt.ppm	ASTM D-511	10 max
9	Hg	Wt.ppm	Mercury Analysis	0.5 max
10	Sp.Gr.@(15.6°C)	--	ASTM D-3875	1.515 min
11	Appearance	--	Visual	Clear
12	Na CLO ₃	Wt.ppm	Vogel Analysis	120 max

Shipping : Bulk Carrier

Hydrochloric Acid (HCL)

#	Property	Units	Test Method	Value
1	Purity	Wt %	BIPC	30 min
2	Iron , Fe	Wt.ppm	STD METHOD VOL.2	7 max
3	Free Chlorine , Cl ₂	Wt.ppm	DENORA	20 max

Shipping : Bulk Carrier

Bandar Imam Petrochemical Co.

1,2 Di Chloro Ethane (E.D.C)

#	Property	Units	Test Method	Value
1	Purity	Wt%	G.C	99.97 min
2	Density @ (15.6°C)	gr/cm ³	ASTM D-4052	To Be Reported
3	Lo – Boil	Wt.ppm	G.C	170 max
4	Hi – Boil	Wt.ppm	G.C	130 max
5	Acidity (As HCL)	Wt.ppm	T.S.K JAPAN	1 max
6	Iron	Wt.ppm	ASTM D-2790	0.2 max
7	Water Content	Wt.ppm	ASTM D-1744	50 max
8	Free Chlorine	Wt.ppm	T.S.K JAPAN	Nil
9	Color , pt-Co Scale	--	ASTM D-1209	No.5 max

Shipping : Bulk Carrier

Aromatic Raffinate

#	Property	Units	Test Method	Value
1	5% Vol. Distillation	°C	ASTM D-86	50 max
2	95% Vol. Distillation	°C	ASTM D-86	150 max
3	Density @ (15.6C)	gr/cm ³	ASTM D-4052	To Be Reported
4	R.V.P	Psia	ASTM D-323	13 max
5	Color Saybolt	--	ASTM D-156	20 min
6	Lead Content	Wt.ppm	ATOMIC ABSORPTION	10 max
7	Total Sulphur	Wt.ppm	MICROCOULO METRY	20 max
8	Paraffins	Wt %	GC	80 min
9	Olfines	Wt %	GC	Balance
10	Naphthenes+Aromatics	Wt %	GC	15 max

Shipping : Bulk Carrier

Bandar Imam Petrochemical Co.

D.P.G

#	Property	Units	Test Method	Value
1	Density@ (15.6°C)	gr/cm ³	ASTM D-4052	To Be Reported
2	Lead Content	Wt.ppm	ASTM D-3559	10 max
3	Copper Corrosion	--	ASTM D-130	No.1a
4	Total Sulphur	Wt.ppm	ASTM D-3120	300 max
5	Aromatics	Wt %	G.C	39 min
6	Paraffins	Wt %	G.C	--
7	Olfines	Wt %	G.C	--
8	Naphthenes	Wt %	G.C	--
9	R.V.P.	psia	ASTM D-323	10 max
10	Color Saybolt	--	ASTM D-156	12 min
11	Doctor Test	--	ASTM D-4952	Positive
12	5% Vol. Recovery	°C	ASTM D-86	35 min
13	95% Vol. Recovery	°C	ASTM D-86	195 max

Shipping : Bulk Carrier

Mixed - Xylene

#	Property	Units	Test Method	Value
1	Appearance	--	VISUAL	Clear
2	Density @ (15.6°C)	gr/cm ³	ASTM D-4052	To Be Reported
3	Color , Pt-Co Scale	--	ASTM D-1209	10 max
4	Acid Wash Color	--	ASTM D-848	2 max
5	Acidity	mgr NaOH/100ml.	ASTM D-847	NOFree Acid
6	Copper Corrosion	--	ASTM D-849	No.1a
7	H ₂ S & SO ₂ Content	--	ASTM D-853	Free of (H ₂ S/SO ₂)
8	Distillation Range @ 760 mmHg	°C	ASTM D-850	5 max
9	I.B.P	°C	ASTM D-850	137 min
10	D.P	°C	ASTM D-850	143 max
11	Para - Xylene	Wt %	ASTM D-2306	16 min
12	Ortho Xylene	Wt %	ASTM D-2306	16 min
13	Ethyl Benzene	Wt %	ASTM D-2306	18.5 max
14	Metha Xylene	Wt %	ASTM D-2360	49 max
15	Benzene	Wt %	ASTM D-2360	0.005 max
16	Toluene	Wt %	ASTM D-2360	0.04 max
17	C ₉ Aromatics	Wt %	ASTM D-2360	0.5 max
18	Non Aromatics	Wt %	ASTM D-2360	0.1 max
19	Total Sulphur	Wt.ppm	UOP 727	1 max
20	Total Chlorides	wt.ppm	IP-AK/81	1 max
21	Bromine Index	mgr/100gr	IP-129(MODIFIED)	20 max

Shipping : Bulk Carrier

Bandar Imam Petrochemical Co.

Para - Xylene

#	Property	Units	Test Method	Value
1	Purity	Wt %	ASTM D-3798	99.7 min
2	Non Aromatics	Wt %	ASTM D-3798	0.2 max
3	Distillation Range	°C	ASTM D-860	2max
4	Total Sulphur	Wt.ppm	UOP 727	1 max
5	Total Chloride	Wt.ppm	IP-AK/81	1 max
6	SO2/H2S	--	ASTM D-853	Free
7	Appearance	--	VISUAL	Clear,Colorless
8	Toluene+Benzene	Wt.ppm	ASTM D-3798	300 max
9	Ethyl Benzene	Wt %	ASTM D-3798	0.3 max
10	Color , Pt – Co . Scale	--	ASTM D-1209	20 max
11	Meta – Xylene	Wt %	ASTM D-3798	0.25 max
12	Ortho – Xylene	Wt %	ASTM D-3798	0.1 max
13	Acid Wash Color	--	ASTM D-848	1 max
14	Sp.Gr. @ (15.6 / 15.6°C)	--	ASTM E-4052	0.8650-0.8661

Shipping : Bulk Carrier

Sodium Hypochlorite

#	Property	Units	Test Method	Value
1	Free Chlorine ,CL ₂	Wt %	BIPC	10 min
2	Total Alkalinity	Wt %	BIPC	4 max

Shipping : Bulk Carrier

Tabriz Petrochemical Co.

1,3 BD

#	Property	Units	Test Method	Value
1	1,3 BD	Wt %	ASTM D-2593	99.4 min
2	Total Acetylenes	ppm	ASTM D-2593	60 max
3	Total Butenes	Wt %	ASTM D-2593	0.5 max
4	1,2 BD	ppm	ASTM D-2593	200 max
5	Propadimer	ppm	ASTM D-2593	50 max
6	C5,S	ppm	ASTM D-2593	20 max
7	BD Dimer	Wt %	ASTM D-2426	0.1 max
8	NMP	ppm	GC	10 max
9	TBC	ppm	ASTM D-1157	50 – 200
10	Peroxides	ppm	ASTM D-5799	10 max
11	Carbonyl	ppm	ASTM D-4423	30 max
12	Water	ppm	ASTM D-1744	100 max
13	Total Sulfur	ppm	ASTM D-3246	10 max

Shipping : Bulk Carrier

Ethyle Benzene

#	Property	Units	Test Method	Value
1	Purity	Wt %	ASTM D-5060	99.65 min
2	Diethyle Benzene (DEB)	Ppm wt	ASTM D-5060	10 max
3	Benzene	Wt %	ASTM D-5060	0.15 max
4	Others	Wt %	ASTM D-5060	0.2 max

Shipping : Bulk Carrier

C₆- Non Aromatic

#	Property	Units	Test Method	Value
1	Doctor Test	--	ASTM D-4952	Negative
2	Sp.Gr.@(60/60°F)	--	ASTM D-1298	0.7- 0.8
3	I.B.P	°C	ASTM D-86	60 min
4	F.B.P	°C	ASTM D-86	100 max
5	Benzene	Wt %	UOP-744	5 max
6	C4	Wt %	UOP-744	2 max
7	C5	Wt %	UOP-744	18 max
8	C6	Wt %	UOP-744	70 max
9	C7	Wt %	UOP-744	10 max
10	Toluene	Wt %	UOP-744	*
11	C8+	Wt %	UOP-744	*

Shipping : Bulk Carrier

Toluene

#	Property	Units	Test Method	Value
1	Purity	Wt %	ASTM D-5135	98 min
2	Others*	Wt %	ASTM D-1209	2 max

*OTHERS : TOTAL NON AROMATICS, BENZENE, ETHYLBENZENE, XYLENE, STYRENE, HEAVIER

Shipping : Bulk Carrier

Tabriz Petrochemical Co.

Styrene Monomer

#	Property	Units	Test Method	Value
1	Purity	Wt %	ASTM D-5135	99.7 min
2	Color (PT-CO) Scale	--	ASTM D-1209	10 max
3	Polymers	ppm wt	ASTM D-2121	10 max
4	Inhibitor (AS TBC)	ppm wt	ASTM D-4590	15 max
5	Aldehyde (AS BENZALDEHYDE)	ppm wt	ASTM D-2119	100 max
6	Peroxide (AS H2O2)	ppm wt	ASTM D-2340	50 max
7	Total Sulphur (AS "S")	ppm wt	ASTM D-3120	5 max
8	Ethyl-Benzene	ppm wt	ASTM D-5135	1000 max

Shipping : Bulk Carrier

C7-C9

#	Property	Units	Test Method	Value
1	Sp.Gr @ (60/60 ^o f)	---	---	0.7 – 0.9
2	R.V.P	Psia	---	10 max
3	I.B.P	°C	---	100 min
4	F.B.P	°C	---	165 max

Shipping : Bulk Carrier

Cracked Fuel Oil (C.F.O)

#	Property	Units	Test Method	Value
1	Sp.Gr.@ (15 ^o c)	--	IP 189 , 190	1 – 1.3
2	Viscosity @ (100 ^o C)	Cst	ASTM D-445	8 – 20
3	Flash Point	°C	ASTM D-93	70 min

Shipping : Bulk Carrier

Crude Fuel Oil (C9 + CUT)

#	Property	Units	Test Method	Value
1	Sp.Gr. 15 ^o C	--	ASTM D-1298	0.85 – 1
2	Flash Point	°C	ASTM D-93	45 min
3	Pour Point	°C	ASTM D-97	<0

Shipping : Bulk Carrier

Razi Petrochemical Co.

Urea

#	Property	Units	Test Method	Value
1	Nitrogen	Wt %	PROCEDURE MANUAL	46.1-46.3
2	Moisture	Wt %	PROCEDURE MANUAL	0.7 max
3	Biuret	Wt %	PROCEDURE MANUAL	1.2 max
4	Particle size (1.2-2.4 mm)	%	PROCEDURE MANUAL	90 min

Packing : bags of 50 kgs and Bulk

Sulfuric Acid

#	Property	Units	Test Method	Value
1	Purity	Wt %	PROCEDURE MANUAL	98 min
2	Calcination Residue	Wt %	--	0.01 max
3	Arsenic	Wt %	ASTM E-223	Trace
4	SO ₂	Wt %	ASTM E-223	0.0025 max
5	Hg	Wt %	--	Trace
6	Fe	Wt %	ASTM E-225	0.0035 max
7	Turbidity	N.T.U	ASTM E-225	100 max

Shipping : Bulk Carrier

Di Ammonium Phosphate (D.A.P)

#	Property	Units	Test Method	Value
1	Nitrogen	Wt %	PROCEDURE MANUAL	18.0 min
2	P2O5	Wt %	PROCEDURE MANUAL	46.0 min
3	Moisture	Wt %	PROCEDURE MANUAL	1.5 max
4	Particle Size (1-4mm)	%	PROCEDURE MANUAL	85 min
5	Density	Kg/ m ³	PROCEDURE MANUAL	960 min

Packing : bags of 50 kgs and Bulk

Solphur

#	Property	Units	Test Method	Value
1	Purity	Wt %	BS-4113	99.5 min
2	Moisture	Wt %	BS-4113	0.5 max
3	Ash	Wt %	BS-4113	0.05 max
4	Hydrocarbon	Wt %	BS-4113	0.05 max
5	Acidity (H ₂ SO ₄)	Wt %	BS-4113	0.02 max
6	As/ Te/ Se	Wt %	BS-4113	Commercially Free
7	Color	Wt %	BS-4113	Bright Yellow

Shipping : Bulk Carrier

Phosphoric Acid

#	Property	Units	Test Method	Value
1	P2O5	Wt %	A.F.P.C # 3	48 min
2	S _{O4}	Wt %	A.F.P.C # 9	4 max
3	Fe ₂ O ₃ & Al ₂ O ₃	Wt %	A.F.P.C # 6	3.7 max
4	F	Wt %	A.F.P.C # 9	1.6 max
5	MgO	Wt %	A.F.P.C # 12	1.0 max
6	Suspended Solid	Wt %	FILTRATION	5 max
7	Sp.Gr.@ (21 °C)	--	PYCHNOMETER	1.65 min

Shipping : Bulk Carrier

Ammonia

#	Property	Units	Test Method	Value
1	Purity	Wt %	PROCEDURE MANUAL	99.9 min
2	Water	Wt %	PROCEDURE MANUAL	0.1 max
3	Oil	ppm	PROCEDURE MANUAL	5 max

Shipping : Pressured cylinder

Khorasan Petrochemical Co.

Uromieh Petrochemical Co.

Urea (for Eexport)

#	Property	Units	Test Method	Value
1	N2 Content	Wt %	Stamicarbon Procedure	46.3 min
2	Moisture	Wt %	Stamicarbon Procedure	0.3 max
3	Biuret	Wt %	Stamicarbon Procedure	0.9 max
4	Particle size (1-2.4mm)	%	Stamicarbon Procedure	95 min

Packing : bags of 50 kgs

Ammonium Sulfate

#	Property	Units	Test Method	Value
1	Nitrogen Content	Wt %	--	20.8 min
2	Moisture (H ₂ O)	Wt %	--	1.0 max
3	Free Acid (H ₂ SO ₄)	Wt %	--	0.2 max

Packing : bags of 50 kgs

Ammonia

#	PROPERTY	Units	Test Method	Value
1	Purity	Wt %	M.W kellogg Procedure	99.75 min
2	Water	Wt %	M.W kellogg Procedure	0.25 max
3	Oil	ppm	M.W kellogg Procedure	5 max

Shipping : Pressurised cylander

Buali Sina Petrochemical Co.

O - Xylene

#	PROPERTY	Units	Test Method	Value
1	O – xylene	WT%	ASTM D -3797	98.5 Min
2	Non – Aromatics	WT%	ASTM D -3797	0.3 Max
3	C9 & Heavier Aromatics	WT%	ASTM D -3797	1.0 Max
4	Total C8	WT%	ASTM D -3797	98.5 Min
5	Distillation Range	Centigrade	ASTM D -850	2.0 Max
6	Total Sulphur	ppm	ASTM D-4045	1.0 Max
7	Color(Pt-CO) scale	----	ASTM D-1209	20.0 Max
8	Acidity	----	ASTM D-847	None detected
9	SO2 / H2S Content	----	ASTM D -853	None detected

Shipping : Bulk Carrier

Benzene

#	PROPERTY	Units	Test Method	Value
1	Benzene	WT%	ASTM D – 4492	99.9 Min
2	Non-Aromatic	WT%	ASTM D – 4492	0.08 Max
3	Toluene	WT%	ASTM D – 4492	0.02 Max
4	Specific Gravity	-----	ASTM D -3505	0.882 – 0.886
5	Methyl cyclo hexane	WT%	ASTM D -4492	0.02 Max
6	Chlorine	ppm	ASTM D -4929	1.0 Max
7	Acidity	mg NaOH/100 mg	ASTM D -847	No free acid
8	Solidification point	Centigrade	ASTM D -852	6
9	Distillation Range	Centigrade	ASTM D -850	2.0 Max
10	Total Nitrogen	ppm	ASTM D -4629	1.0 Max
11	Total Sulphur	ppm	ASTM D -4045	1.0 Max
12	Color (Pt-CO) Scale	----	ASTM D -1209	10.0 Max
13	SO2 / H2S Content		ASTM D -853	Free of H2S / SO2
14	Acid Wash Color	----	ASTM D -848	1.0 Max
15	Copper Corrosion	----	ASTM D -849	No.1 a
16	Thiophene	ppm	ASTM D -1685	1.0 Max
17	Br.Index	mg/100 gr	ASTM D -1744	10. Max
18	Water content	ppm	ASTM D -1744	Saturated

Shipping : Bulk Carrier

Buali Sina Petrochemical Co.

P - Xylene

#	PROPERTY	Units	Test Method	Value
1	P - xylene	WT%	ASTM D - 3798	99.7 Min
2	Non - Aromatic	WT%	ASTM D - 3798	0.01 Max
3	BZ + TOL	WT%	ASTM D - 3798	0.01 Max
4	Ethyl benzene	WT%	ASTM D - 3798	0.13 Max
5	O - xylene	WT%	ASTM D - 3798	0.05 Max
6	M - xylene	WT%	ASTM D - 3798	0.1 Max
7	Total Sulphur	ppm	ASTM D -4045	1.0 Max
8	Total Chloride	ppm	ASTM D - 4929	1.0 Max
9	Acid Wash Color	----	ASTM D - 848	1.0 Max
10	SO2 / H2S content	----	ASTM D - 853	Free of H2S/SO2
11	Distillation Range	Centigrade	ASTM D - 850	1.0 Max
12	Color (PT-CO) scale	----	ASTM D - 1209	10.0 Max
13	Sp - Gr	----	ASTM D - 3505	0.858 - 0.875
14	Appearance	----	Visual	clear

Shipping : Bulk Carrier

Light End

#	PROPERTY	Units	Test Method	Value
1	PONA Paraffinic Olefinic Naphthenic Aromatic Others	Wt % Wt % Wt % Wt % Wt %	ASTM D - 5134	86 - 97 0 - 1.67 0.47 - 5.5 0 - 5 0 - 0.02
2	Total sulphur	ppm	ASTM D - 3120	850 - 1260
3	Water content	ppm	ASTM D - 1744	160

Shipping : Bulk Carrier

Heavy Aromatic

#	PROPERTY	Units	Test Method	Value
1 2 3 4	GC Composition Total C8A C9 Aromatics C10 + Aromatics	WT% WT% WT%	ASTM D - 5134	1.0 max 6.0 max 93.0 min
5	Flash point	Centig rade	ASTM D - 93	65 min
6	Density	gr / cm3	ASTM D - 4052	0.89 - 0.95
7	H2S / SO2 Content	ppm	ASTM D - 853	Free of H2S / SO2

Shipping : Bulk Carrier

Buali Sina Petrochemical Co.

Heavy End

#	PROPERTY	Units	Test Method	Value
1	Distillation Range IBP 10% 30% 50% 90% FBP	Centigrade	ASTM D – 86	165-176 177-183 186-194 194-203 252-271 297-322
2	Total Sulphur	ppm	ASTM D – 3120	1800 Max
3	Water Content	ppm	ASTM D – 1744	160 Max
4	Color	----	ASTM D – 1500	1.0 Max
5	Flash point	Centigrade	ASTM D – 93	55 Min
6	PONA Paraffines Olefines Naphthenes Aromatics Others	WT% WT% WT% WT% WT%	ASTM D -5134	0.05-1.17 0 0.26-2.34 4.73-19.86 80.90
7	Specific – Gravity	----	ASTM D - 1298	0.78-0.81

Shipping : Bulk Carrier

Raffinate

#	PROPERTY	Units	Test Method	Value
1	Total Non – Aromatics	WT%	ASTM D -	90.0 min
2	Aromatics	WT%		10.0 max
3	Density	gr / cm3	ASTM D – 4052	0.63 – 0.72
4	Total Sulphur	ppm	ASTM D – 4045	1.0 Max
5	Water content	ppm	ASTM D – 1744	0 – 100

Shipping : Bulk Carrier

Fanavaran Petrochemical Co.

Methanol

#	PROPERTY	Units	Test Method	Value
1	Purity	WT%	ASTM E – 346	99.85 min
2	Water	WT%	ASTM E – 203	0.1 max
3	Ethanol	WT%	ASTM E –346	0.005 max
4	SP.GR @20/20		ASTM D – 4052	0.791 – 0.793
5	Acetone	WT%	ASTM E – 346	0.005 max
6	Permanganate Time@15 C.minutes		ASTM D – 1363	Minimum 60
7	Distillation Range		ASTM D – 1078	C or Max 1.0 include 64.6 C = 0.1
8	Acidity (as acetic acid)	WT%	ASTM D – 1613	0.003 max
9	Total Iron	ppm	ASTM D – 1068	0.1 max
10	Chloride	ppm	ASTM D –512	0.2 max
11	SULPHUR	ppm	ASTM D – 5623	0.5 max
12	Carbonisable PT – CO		ASTM E – 346	30 max APHA
13	Hydrocarbons (Water Miscibility)		ASTM D – 1722	Passes test
14	Odour		ASTM D – 1296	Characteristic with nonresidual odour
15	Color PT-CO APHA		ASTM D – 1209	5 max APHA
16	Non Volatile Matter		ASTM D – 1353	10 max mg/kg
17	Alkalinity as HN3	WT%	ASTM D – 1614	0.003 max

Acetic Acid

#	PROPERTY	Units	Test Method	Value
1	Acetic Acid	wt %	* M602.50	99.85 min
2	Water	wt %		0.15 max
3	Formic Acid	wt %		0.05 max
4	Acetaldehyde	wt %		0.05 max
5	Iron (Fe)	Ppm (wt)		1.0 max
6	Heavy Metals (Pb)	Ppm (wt)		1.0 max
7	Propionic Acid	Ppm (wt)	* M602.512	100 max
8	Iodides (T+Mel)	Ppm (wt)		0.04 max
9	Permanganate Time	h	* M602.501	2 min
10	Colour	Platinum-Cobalt scale	ASTM D-1209	10 max
11	Sulphate	Ppm (wt)	**	1 max
12	Chloride	Ppm (wt)	**	1 max
13	Nonvolatile Residue	Wt %	ASTM D-1353**	0.003 max
14	Density at 20 °C	Kg/l	ASTM D-1298**	1.408 – 1.501
15	Distillation range at 1.013 bar	°C	ASTM D-1078**	117.5 – 119
16	Freezing Point	°C	**	16.35 min
17	Flash Point	°C		40 - 55

Shipping : Bulk Carrier

* Monsanto's analysis methods updated by the Licensor and ASTM D-1209 Methods will be used to check guaranteed figures.

** Equivalent analysis methods should be used to check given figures.

Shipping : Bulk Carrier

Shahid Tondgoian Petrochemical Co.

Purified Terephthalic Acid

#	PROPERTY	Units	Test Method	Value
1	Acidity	mgKOH/gm	MA -863	675+/-2
2	Moisture	WT%	MA -1015	0.2 Max
3	APHA color	APHA	MA -998	10Max
4	4-Carboxybenzaldehyd	ppm	MA -1262	25 Max
5	p- Toluic acid	ppm	MA -667	150 Max
6	ΔY	NA	----	10Max
7	b- Value	NA	----	2.0 Max
8	Ashes	ppm	MA -969	15 Max
9	Total metal(Co,Mn,Fe,Ni,Ti,Cr)	ppm	MA -1302/1	8 Max

Shipping : Bulk Carrier

Bistoon Petrochemical Co.

LAB

#	PROPERTY	Units	Test Method	Value
1	T.N.P	WT%	UOP-698	0.5 max
2	LAB9	WT%	UOP-698	< 1
3	LAB10	WT%	UOP-698	< 10
4	LAB11	WT%	UOP-698	30-40
5	LAB12	WT%	UOP-698	30-40
6	LAB13	WT%	UOP-698	11-20
7	LAB14	WT%	UOP-698	< 1
8	TOTAL LAB	WT%	UOP-698	92 min
9	Non LAB	WT%	UOP-698	< 7
10	LAB14+	WT%	UOP-698	< 0.3
11	HAB	WT%	UOP-698	----
12	2-PHENYL	WT%	UOP-698	20 max
13	Br.INDEX		ASTM D-1492	15 max
14	WATER	ppm	ASTM D-6304	200 max
15	A.M.W			238 – 244
16	Refractive– index(20 C)		ASTM D –1218	1-2
17	DENSITY (60°F)	gr / cm3	ASTM D –4052	0.858 – 0.870
18	TETRALINE	WT%		1 max
19	Dr TEST		ASTM D –484	Negative
20	SULFONABILITY	%		98 min
21	COLOR	SYB	ASTM D –156	30 min
22	Viscosity (40°C)	Cp	ASTM D –88	< 20
23	APPERANCE			Clear & bright

HAB

#	PROPERTY	Units	Test Method	Value
1	HAB	WT%	UOP – 696	65-75

Shipping : Bulk Carrier

Normal Paraffin

#	PROPERTY	Units	Test Method	Value
	ISO-C8	wt %	IFP 9915	0
	C9	wt %	IFP 9915	0
	C10	wt %	IFP 9915	7.33
	C11	wt %	IFP 9915	39
	C12	wt %	IFP 9915	30.54
	C13	wt %	IFP 9915	22.12
	C14	wt %	IFP 9915	0.01
	C15	wt %	IFP 9915	0
	NON	wt %	IFP 9915	1
3	T.N.P	wt %	IFP 9915	99
4	TN	ppm	ASTM D-4629	<1
5	TS	ppm	ASTM D-5453	<0.1
6	Wather	ppm	ASTM D-6304	25
7	CL	ppm	ASTM D-5194	NIL
8	Aromatic	wt %	UOP 495-00	0.5 max
9	Br.Index		ASTM D-1492	5
10	Colour	SYB	ASTM D-156	30
11	Peroxide		ASTM E299	NIL
12	A.M.W	Gr / Gr MOLE		165.91
13	Density (60°F)	G / CM ³	ASTM D-4052	0.7525

Shipping : Bulk Carrier

Amir Kabir Petrochemical Co.

Pyrolysis Gasoline

#	PROPERTY	Units	Test Method	Value
1	C4 -	WT%	ASTM D2163	0.38
2	NC5	WT%	ASTM D2163	0.26
3	NC5=	WT%	ASTM D2163	0.73
4	NC5= =	WT%	ASTM D2163	3.45
5	IC5	WT%	ASTM D2163	0.35
6	IC5=	WT%	ASTM D2163	1.25
7	IC5= =	WT%	ASTM D2163	5.60
8	CYC C5	WT%	ASTM D2163	0.28
9	CYC C5=	WT%	ASTM D2163	1.16
10	CYC C5= =	WT%	ASTM D2163	5.23
11	C6 P	WT%	ASTM D2163	0.64
12	C6 OL	WT%	ASTM D2163	0.13
13	C6 DIOL	WT%	ASTM D2163	1.57
14	CYC C6	WT%	ASTM D2163	0.29
15	CYC C6-	WT%	ASTM D2163	0.23
16	CYC C6= =	WT%	ASTM D2163	0.89
17	BENZENE	WT%	ASTM D2163	43.33
18	C7 P	WT%	ASTM D2163	0.04
19	C7 OL	WT%	ASTM D2163	0.03
20	CYC C7	WT%	ASTM D2163	0.01

Pyrolysis Gasoline

#	PROPERTY	Units	Test Method	Value	
21	CYC C7= =	WT%	ASTM D2163	0.27	
22	TOLUENE	WT%	ASTM D2163	11.54	
23	XYLENE	WT%	ASTM D2163	5.16	
24	C8 P	WT%	ASTM D2163	0.02	
25	C8 NAPH	WT%	ASTM D2163	0.00	
26	ETHYL-BENZENE	WT%	ASTM D2163	0.90	
27	STYRENE	WT%	ASTM D2163	4.42	
28	C9 P	WT%	ASTM D2163	0.00	
29	C9 OL	WT%	ASTM D2163	0.00	
30	C9 NAPH	WT%	ASTM D2163	0.00	
31	C9 ARO	WT%	ASTM D2163	3.29	
32	C10 P	WT%	ASTM D2163	0.00	
33	INDENE	WT%	ASTM D2163	1.24	
34	INDANE	WT%	ASTM D2163	0.10	
35	C10 ÷	WT%	ASTM D2163	0.79	
36	DI-CYC-C5 = =	WT%	ASTM D2163	5.83	
37	Total Sulphur	WT ppm	ASTM D5453	90-130	
38	UNKNOWN	WT%	ASTM D2163		
	P,IP	DIOL	O	N	A
	1.69	17.28	9.7	0.59	70.74

Shipping : Bulk carrier

Shipping : Bulk carrier

Amir Kabir Petrochemical Co.

C.F.O

1-3 BD

#	PROPERTY	Units	Test Method	Value
1	Sulphur	WT %	ASTM D5453	< 3.7
2	Flash point	C °	ASTM D93	≤ 100
3	Pour point	C °	ASTM D97	< 25
4	CViscosity at 100	Cst	ASTM D88	< 20

Shipping : Bulk carrier

#	PROPERTY	Units	Test Method	Value
1	Purity	wt %	ASTM D-2593	99.5 min
2	Total Acetylene (VAC , EAC , MAC)	ppm wt	ASTM D-2593	25 max
3	Vinyl Acetylene	ppm wt	ASTM D-2593	14 max
4	Carbonyls	ppm wt	ASTM D-4423	20 max
5	Butadiene Dimer	wt %	ASTMD-2426	0.10 max
6	Peroxides	ppm wt	ASTM D-5799	5 max
7	Non Volatile Residue	wt %	ASTM D-1025	0.1 max
8	Inhibitor TBC	ppm wt	ASTM D-1157	40-150
9	Total Sulphur	ppm wt	ASTM D- 5453*	5 max
10	Oxygen	% MOL	TELEDYNE ANALYTICAL	2 max
11	Water	ppm wt	DEW POINT METER	300 max
Remarks : * cover ASTM D-3246 ** cover ASTM D-2505 *** cover ASTM D-1744				

Shipping : Bulk carrier

Marun Petrochemical Co.

MEG

#	PROPERTY	Units	Test Method	Value
1	Appearance	--	Visual	Colourless Trans Parent
2	Purity	% (m/m)	100- impurities	99.8 min
3	Color (Pt-Co)		ASTM E202	5 max
4	DEG	% (m/m)	ASTM E611	0.08 max
5	Water	% (m/m)	ASTM E202	0.08 max
6	Specific ravity 20 / 20 %		ASTM D-4052	1.11S1- 1.1156
7	Boiling range at 0.1013 MPa 5 % Vol 95 % Vol		ASTM E202	196 min 199 max
8	Aldehydes (acetaldehyde)	Mg/kg	SMS 1996	8 max
9	Acidity (as acetic acid)	Mg/kg	ASTM D-1613	10 max
10	Iron (as Fe)	Mg/kg	ASTM E202	0.1 max
11	Inorganic Chlorides (asCl)	Mg/kg	SMS 2296	0.05 max
12	Ash	Mg/kg	ASTM D-482	50 max
13	UV Transmittance % -220 nm -275 nm -350 nm		SMS 1997	80 min 95 min 99 min

Shipping : Barrel Bulk Carrier

DEG

#	PROPERTY	Units	Test Method	Value
1	Appearance	% (m/m)	Visual	Clear calourless
2	Purity	% (m/m)	100- impurities	99.8 min
3	MEG	% (m/m)	ASTM E202	0.05 max
4	TEG	% (m/m)	ASTM E202	0.05 max
5	Water		ASTM E202	0.05 max
6	Specific gravity 20 / 20%		ASTM D-4052	1.1175- 1.1195
7	Boiling range at 0.1013 MPa 5 % Vol 95 % Vol	^o C ^o C	ASTM E202	242 250
8	Colour (Pt-Co)		ASTM E202	10 max
9	Acidity (as acetic acid)	Mg/kg	ASTM D-1613	50 max
10	Ash	Mg/kg	ASTM D-482	50 max

Shipping : Barrel Bulk Carrier

Marun Petrochemical Co.

TEG

#	PROPERTY	Units	Test Method	Value
1	Appearance		Visual	Clear colourless
2	Purity	% (m/m)	100-impurities	99.5 max
3	DEG	% (m/m)	ASTM E-202	0.5 max
4	PEG	% (m/m)	ASTM E-202	0.1 max
5	Water	% (m/m)	ASTM E-202	0.05 max
6	Specific gravity 20 / 20 %		ASTM D-4052	1.124-1.126
7	Boiling range at 0.1013 MPa 5 % Vol 95 % Vol	°C °C	ASTM E-202	280 min 295 min
8	Colour (Pt-Co)		ASTM E-202	25 min
9	Ash	Mg/kg	ASTM D-482	100 min

Shipping : Barrel Bulk Carrier

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