



Shaikh[®] Petroleum

L.D.O., F.O., C9, MTO, Petroleum Products

www.shaikhpetroleum.com



INTRODUCTION :

SHAIKH PETROLEUM was established in the year 1983 under the dynamic leadership of Late Mr. Gulam Mahyuddin Shaikh. Also Known As "**Shaikh Bhai**". Currenty Managed by enthusiastic next generation with innovative approach.

SHAIKH PETROLEUM is one of the reliable names in the Oil & Petroleum Market in Gujarat. We deal in Light Diesel Oil (L.D.O), Furnace Oil, Solvent C9, C10, Fuel Oil, LLP, MTO & Bitumen around the Globe.

SHAIKH PETROLEUM is dedicated to providing the greatest value to custmers through the highest level of service and quality.



BLACK OILS



Light Diesel Oil (BPCL) :



Light Diesel Oil falls under class C category fuel having flash point above 66°C. It is a blend of distillate components and a small amount of residual components. It is marketed under BIS 1460-2000 specification for Diesel fuels. We deal in Brand like Castrol, Hindustan Petroleum (HP), Indian Oil Corporation (IOC), Gulf, Vedol.

LDO is used in lower RPM engines. It is used in Lift irrigation pump sets, DG Sets and as a fuel in certain boilers and furnaces.

SR NO.	PARAMETER	TEST METHOD	UNIT	SPECIFICATION	TEST RESULT
1	Ash Content	IS 1448 [P: 4/	%wt	Max 0.02	0.02
2	Copper strip corrosion, 3hrs@100°C	IS 1448 (P: 15		Not worse than No 2	1a
3	Density at 15°C	IS 1448 {P: 16j	kg/m ³	To be reported	898.2
4	Density at 15°C	IS 1448}P: 16j	g/ml	To be reported	0.8982
5	Flash point (PMCC)_	IS 1448 [P: 21j	°C	Min 66	6b.0
6	Kinematic viscosity / @ 40°C	IS 1448 [P: 25]	cst	Max 15.000	8.915
7	Pour Point	IS 1448 P: 10j	°C	Max 21	1
8	Ramsbottom Carbon Residue	IS 1448 [P: 8	% wt	Max 1.5	1.0 "
9	Sediment by Extraction	IS 1448 [P: 30]	% wt	Max 0.1	0.04
10	Total Acid Number	ASTM D664	[^] g KOH/g	Max 0.5	0.4
11	Total Sulphur	ASTM D4294	%wt	Max 1.5	0.8
12	Water Content	IS 1448 IP! 40)	% vol.	Max 0.25	0.2



Furnace Oil :

Furnace Oil is a fraction obtained from petroleum distillation, either as a distillate or a residue. Broadly speaking fuel oil is any liquid petroleum product that is burned in a furnace or boiler for the generation of heat or used in an engine for the generation of power, except oils having a flash point of approximately 40 °C (104 °F) and oils burned in cotton or wool-wick burners. In this sense, diesel is a type of fuel oil. Fuel oil is made of long hydrocarbon chains, particularly alkaline, cyclo-alkaline and aromatics. The term fuel oil is also used in a stricter sense to refer only to the heaviest commercial fuel that can be obtained from crude oil i.e. heavier than gasoline and naphtha.



Furnace Oil is a residual fuel (motor spirit / gasoline, high speed diesel and kerosene are distillate fuels). It is a dark, viscous liquid at room temperature. It is a complex mix of hydrocarbons with carbon atoms ranging mainly from 20 to 55. It is produced by blending residues from various refinery processing units and diluting with middle distillates.

SPECIFICATION

Furnace oil in the current marketing range meets Bureau of Indian Standards Specification IS : 1593 – 1982 for fuel oils, grade MV2.

VISCOSITY

Viscosity is the most important characteristic in the furnace oil specification. It influences the degree of pre-heat required for handling, storage and satisfactory atomization. If the oil is too viscous it may become difficult to pump, burner may be hard to light and operation may be erratic. Poor atomization may result in the carbon deposits on the burner tips or on the walls. The upper viscosity limit for furnace oil is such that it can be handled without heating in the storage tank is excepting under server cold conditions. Pre-heating is necessary for proper atomization.

SR NO.	PARAMETER	TEST METHOD	UNIT	SPECIFICATION	TEST RESULT
1	Density at 15°C	IS 1448 [11: 16]	0.9614	To be reported	0.9614
2	Flash point (PMCC)	11 448 [13: 21]	77	Min 66	77
3	Kinematic Viscosity@ 50°C	IS 1448 [P: 25]	138	125 to 180	138
4	Total Sulphur	ASTM D4294	2.09	Max 4.0	2.09
5	Pour Point	IS 1448 [P: 10]	12	Max 27	12
6	Water _Content	IS 1448 [P: 40]	...	ax 1.0	0.30 % by mass
7	Calorific value (Gross)	15 1448 [P: 7]	...	To be reported	10253 Kcal/Kg
8	Acidity. Inorganic, ma of K01-1/a Ash Content	ASTM D974 15 1448 [P: 4]	o iowt	Nil Max 0.1	Nil 0.010
9	Sediment by Extraction	IS 1448 [P: 30]	% wt	Max 0.25	0.03

Fuel Oil :



Fuel Oil is a fraction obtained from petroleum distillation, either as a distillate or a residue. Broadly speaking fuel oil is any liquid petroleum product that is burned in a furnace or boiler for the generation of heat or used in an engine for the generation of power, except oils having a flash point of approximately 40 °C (104 °F) and oils burned in cotton or wool-wick burners. In this sense, diesel is a type of fuel oil. Fuel oil is made of long hydrocarbon chains, particularly alkaline, cyclo-alkaline and aromatics. The term fuel oil is also used in a stricter sense to refer only to the heaviest commercial fuel that can be obtained from crude oil i.e. heavier than gasoline and naphtha.

Fuel Oil is a residual fuel (motor spirit / gasoline, high speed diesel and kerosene are distillate fuels). It is a dark, viscous liquid at room temperature. It is a complex mix of hydrocarbons with carbon atoms ranging mainly from 20 to 55. It is produced by blending residues from various refinery processing units and diluting with middle distillates.

SR NO.	PARAMETER	TEST METHOD	UNIT	TEST RESULTS
1	SPECIFIC GRAVITY @ 30°C.	SP/TM/003	g/ml 0.9 to 0.92	0.902
2	FLASH POINT	SP/TM/004	g/ml 50 to 60	52.5
3	KINEMATIC VISCOCITY @ 30°C.	SP/TM/005	g/ml 2.5 to 15.7	4.960 CST
4	PURE POINT	SP/TM/006	g/ml <= 12	1 °C.
5	RAMS BOTTOM CARBON RESIDUE.	SP/TM/007	g/ml <= 1.50	0.90 %w
6	ASH CONTENT	SP/TM/008	g/ml <= 0.02	0.002 % wt
7	TOTAL SULPHUR	SP/TM/009	g/ml <= 1.8	1.49 % wt
8	WATER CONTENT	SP/TM/010	g/ml <= 0.25	0 % vol
9	CALERIFIC VALUE	SP/TM/011	g/ml 9000 kgs 10500 kgs	9600 kgs

LSHS (Low Sulphure Heavy Stock) :



Light Diesel Oil falls under class C category fuel having flash point above 66OC. It is a blend of distillate components and a small amount of residual components. It is marketed under BIS 1460-2000 specification for Diesel fuels. We deals in Brand like Castrol, Hindustan Petroleum (HP), Indian Oil Corporation (IOC), Gulf, Veedol

http://shaikhpetro.com/wp-content/uploads/2023/10/LSHS-COA_page-0001.jpg is used in lower RPM engines. It is used in Lift irrigation pump sets, DG Sets and as a fuel in certain boilers and furnaces.

S.No	PARAMETER	TEST METHOD	UNIT	LIMITS	
				RMG 380	RMG 180
1	Kinematic Viscosity at 50OC	ISO 3104	cSt	Max 380	Max 180
2	Density at 15OC	ISO 3675 or 12185	Kg/m3	Max 991.0	Max 991.0
3	CCAI	Calculated	-	Max 860	Max 860
4	Sulphur	ISO 8754 or 14596; ASTM D4294	% mass	Max 0.5%	Max 0.5%
5	Flash Point	ISO 2719	OC	Min 66.0	Min 66.0
6	Hydrogen Sulfide	IP 570	Mg/kg	Max 2.0	Max 2.0
7	Acid Number	ASTM D664	Mg KOH/g	Max 2.5	Max 2.5
8	Total Sediment – Aged	ISO 10307-2	% mass	Max 0.10	Max 0.10
9	Carbon Residue – Micro method	ISO 10370	% mass	Max 18.0	Max 18.0
10	Pour Point	ISO 3016	OC	Max 30.0	Max 30.0
11	Water	ISO 3733	% vol	Max 0.50	Max 0.50
12	Ash	ISO 6245	% mass	Max 0.1	Max 0.1
13	Vanadium	IP 501 or 470; ISO 14597	Mg/kg	Max 350	Max 350
14	Sodium	IP 501 or 470	Mg/kg	Max 100	Max 100
15	Aluminium + Silicon	IP 501 or 470; ISO 10478	Mg/kg	Max 60	Max 60

Pyrolysis Oil :



Pyrolysis oil, sometimes also known as bio-crude or bio-oil, is a synthetic fuel under investigation as substitute for petroleum. It is obtained by heating dried biomass without oxygen in a reactor at a temperature of about 500 °C (900 °F) with subsequent cooling. Pyrolysis oil is a kind of tar and normally contains levels of oxygen too high to be considered a pure hydrocarbon. This high oxygen content results in non-volatility, corrosiveness, immiscibility with fossil fuels, thermal instability, and a tendency to polymerize when exposed to air. As such, it is distinctly different from petroleum products. Removing oxygen from bio-oil or nitrogen from algal bio-oil is known as upgrading.

Pyrolysis oil is a residual fuel (motor spirit / gasoline, high speed diesel and kerosene are distillate fuels). It is a dark, viscous liquid at room temperature. It is a complex mix of hydrocarbons with carbon atoms ranging mainly from 20 to 55. It is produced by blending residues from various refinery processing units and diluting with middle distillates.

SR NO.	PARAMETER	TEST METHOD	UNIT	TEST RESULT
1	DENSITY @ 15°C	ASTM D - 4052 - 15	g/cc	0.9223
2	SULPHUR (S)	ASTM D - 4294 - 16	% wt.	0.90
3	GROSS CALORIFIC VALUE	ASTM D - 4809 - 13	kcal/kg	10341
4	CONDRASON CARBON RESIDUE	ASTM D - 189 - 14	% wt.	0.45
5	KINEMATIC VISCOSITY @ 40°C	ASTM D - 445 - 15	cSt.	4.597
6	WATER CONTENT	ASTM D - 95 - 13 e1	% vol.	0.20

Crude Benzol :

crude Benzol



Crude benzol is produced during carbonisation of coking coal. Benzol, also called as benzole, is the name normally applied in the chemical industry to a mixture of hydrocarbons of the benzene series.

SR NO	PARAMETER	UNIT	TEST METHOD	TEST RESULTS
1	Specific Gravity 15.56 °C	N/A	ASTM D 7504 18	0.85-0.88
2	Benzene	%	By GC	0.75- 0.85
3	Toluene	%	By GC	0.10-0.12
4	Total Xylene	%	By GC	0.3-0.5
5	Sulphur	Mq/Kq	ASTM D 4629	5000 Max
6	Nitrogen	Mq/Kq	ASTM D 4629	2000 Max
7	Organic Chloride	Mq/Kq	ASTM D 4629	

WHITE OILS



Base Oil :



Base oil

The refining process of mineral oils has improved greatly in the 20th century. The American Petroleum Institute (API) divided all base oils into five separate groups in the early 1990s. The first 3 groups were dedicated to mineral oils and the 2 remaining groups contained synthetic oils predominantly.

Group 1, 2 and 3 are all mineral oils, with chronologically increasing refining process severity. Base oils under Group 1 are made using solvent-refining or solvent-extraction technology.

Base oils under Group 2 are produced by hydrotreating or hydrogenation. It is a process that uses hydrogen gas to refine oils, but they are better for converting components like aromatics that are undesirable, into hydrocarbon structures that are desirable.

Base oils in Group 3 are produced in a similar fashion as Group 2, the only difference is that the process of hydrogenation or hydrotreating in group 3 is coupled with high pressures and high temperatures. This leads to convert all the undesirable components in the oil into desirable hydrocarbon structures.

When you compare these groups of mineral oil bases, you will see that highly refined oils provide greater benefits in terms of thermal stability, oxidation stability, pour point, operating temperature, and viscosity index. But the oil starts to show some key weaknesses, affecting additive solubility and oils biodegradability.

Group 4 contains only one type of synthetic oil called polyalphaolefin (PAO), these synthetically created hydrocarbons are the most widely used base oils form the synthetic category. They are created using the polymerization process that gives an olefinic tail by the introduction of ethylene gas. This process makes the chemical structure of PAOs quite similar to that of highly refined mineral oils form Group 3. While PAOs lack in lubricity, additive solubility, film strength and seal shrinkage, they have powerful advantages such as superior oxidation stability, higher viscosity index, lower volatility and excellent performance in high and low temperatures. POWs are employed widely for lubrication; they are especially preferred when the equipment is expected to reach higher temperatures.

Group 5 contains all the remaining oil bases which are mostly synthetics. Most common oils that belong to this group are polyolesters, diesters, polyalkylene glycols, silicones and, phosphate esters.

SR.NO	VISCOSITY GRADE TEST		METHOD	8	IP LLP - 12	15	20	N150 LUB - 32	50	68	N500 LUB - 100	
	DENSITY @ 29.5°C, G/ML	RANGE TYPICAL		ASTM D 1298	0.810-0.842	0.815-0.855	0.820-0.860	0.821-0.860	0.825-0.865	0.825-0.870	0.845-0.880	0.850-0.880
					0.816	0.821	0.835	0.827	0.847	0.835	0.853	0.854
1	KINEMATIC VISCOSITY, CST AT 40°C		ASTM D 445	8.5	12.9	15.5	20	32	49	70	100	
2	KINEMATIC VISCOSITY, SUS AT 40°C		ASTM D 2161	56	72	85	104	152	245	340	500	
3	REFRACTIVE INDEX @ 20°C		ASTM D 1218	1.476	1.476	1.4764	1.4765				1.4775	
4	CLOUD POINT °C MAX		ASTM D 97	-12	-9	-9	-9	-6	-6	-6	-6	
5	POUR POINT °C MAX		ASTM D 97	-39	-24	-24	-15	-18	-18	-15	-12	
6	FLASH POINT °C MIN		ASTM D 92	156	-166	174	186	210	240	246	248	
7	COLOUR, SAYTBOLT		ASTM D 156	30	30	30	30	-30	30	30	30	
8	VISCOSITY INDEX (VI)		ASTM D 2270	90 MIN	95 MIN	95 MIN	98 MIN	105 MIN	99 MIN	95 MIN	95 MIN	



Light Liquid Paraffin Oil :



Light Liquid Paraffin Oil Ip is highly purified mixture of liquid saturated hydrocarbons obtained from petroleum and is highly paraffinic in nature. Light Liquid Paraffin oil is transparent, & free from fluorescence in daylight. It is colourless, tasteless, and odourless when cold. Light liquid paraffin oil Ip highly refined hydro-treated oil has excellent thermal & chemical stability, having high flash point & is soluble in Chloroform & solvent Ether.

USES OF LLP:-

Light Liquid Paraffin Oil Ip is used in the manufacture of Anti-static Coning oil, Knitting oil & other Textile Auxiliaries, Plant Spray Oil, Agrochemicals, Aerosols, Dye Intermediates, Paper Industry; Perfumery, Food Grade Speciality Lubricants, Food Grade Plastics used as a Lubricant Plasticizer, Attars, Flavours & Fragrances, Perfumery Chemicals, Speciality Chemicals, Incenses, Personal Care Products, Leather Chemicals, Fat Liquors, Petrochemical Solvents, etc. It may also be used in the manufacture of Pharmaceuticals and Cosmetic Products like Creams, Lotions, Perfumery Industry, Bulk Drugs & Food Industry etc.

SR NO.	PARAMETER	TEST METHOD	TEST RESULTS
1	Apperance	VISUAL	Bright&Clear
2	Density 29.5 °C	ASTM D1298	To Report
3	Kinematic Viscosity 40 °C, cst	ASTM D445	10.82
4	Flash Point	ASTM D97	-15
5	Pour point	ASTM D92	156
6	Colour	ASTM D1500	<0.5

Recycled Base Oil :



Recycle oil

Used oil, or 'sump oil' as it is sometimes called, should not be thrown away. Although it gets dirty, used oil can be cleaned of contaminants so it can be recycled again and again. There are many uses for recycled used oil.

These include:

- Industrial burner oil, where the used oil is dewatered, filtered and demineralised for use in industrial burners
- Mould oil to help release products from their moulds (e.g. pressed metal products, concrete)
- Hydraulic oil
- Bitumen based products;
- An additive in manufactured products; or
- Re-refined base oil for use as a lubricant, hydraulic or transformer oil.

Once you have taken your used oil to your local collection facility, used oil collectors take the used oil and undertake some pre-treatment and recycling of the used oil or sell it to a specialised used oil recycler.

SR NO.	PARAMETER	TEST METHOD	TEST RESULTS
1	Apperance	Visual	Bright& Clear
2	Colour	D 1500	L 2.5
3	Density 29.5 °C, g/ml	D 4052	0.836
4	Kinematic Viscosity 40 °C, cst	D 445	22.79
5	Kinematic Viscosity 100 °C, cst	D 445	4.316
6	Viscosity Index		91.546
7	Total and Number	D 664	0.178 mgkoh/gms
8	Flash Point	D92	180

SOLVENTS



Mineral Turpentine Oil :



MTO is a mixture of Aliphatic, Open-Chain or Alicyclic C7 to C12 Hydrocarbon

Also known as **WHITE SPIRIT & PETROLEUM SPIRITS**

MTO is insoluble in water

INDUSTRIAL USES OF MTO :-

MTO is Used as an extraction solvent, as a cleaning solvent, as a degreasing solvent and as a solvent in Aerosols, Paints, Wood preservatives, Lacquers, Varnishes, and Asphalt products MTO is mainly used as Raw Material for paints / varnishes. MTO is also used for dry cleaning and other industrial cleaning purposes.

S.No	PARAMETER	UNITS	TEST METHOD	LIMITS	TEST RESULTS
1	APPEARANCE	-	VISUAL	CLEAR AND BRIGHT. FREE	CLEAR AND BRIGHT
2	COLOUR (SAYBOLT)	-	IS 1448 P:14	MIN 21	30
3	DENSITY AT 15°C	g/mL	IS 1448 P:16	TO REPORT	0.7892
4	DENSITY AT 15°C, TOP	g/mL	IS 1448 P:16	TO REPORT	0.7892
5	DENSITY AT 15°C, MIDDLE	g/mL	IS 1448 P:16	TO REPORT	0.7892
6	DENSITY AT 15°C, BOTTOM	g/mL	IS 1448 P:16	TO REPORT	0.7892
7	COPPER STRIP CORROSION FOR 3 H AT 50 °C	-	IS 1448 P:15	Not more than no. 1	1B
8	DIST : INITIAL BOILING POINT	°C	IS 1448 P:18	MIN 125.0	147
9	DIST : 50 PERCENT RECOVERY V/V	°C	IS 1448 P:18	TO REPORT	175.1
10	DIST : 95 PERCENT V/V, RECOVERY	°C	IS 1448 P:18	TO REPORT	194.5
11	DIST : FINAL BOILING POINT	°C	IS 1448 P:18	MAX 240.0	206.4
12	FLASH POINT, ABEL	°C	IS 1448 P:20	MIN 30.0	35.5
13	RESIDUE ON EVAPORATION	mg/100ml	IS 1448 P:29	MAX 5.0	2
14	AROMATIC CONTENT	% v/v	IS 1448 P:23	MAX 40.0	23.3

Naphtha :

Naphtha is a flammable liquid hydrocarbon mixture. Mixtures labelled naphtha have been produced from natural gas condensates, petroleum distillates, and the distillation of coal tar and peat.

Naphtha is a liquid hydrocarbon mixture which is said to be highly flammable. It is utilized as a solvent in various human industries and is quite volatile. We use it as a fuel for most of the industrial uses.



Furthermore, one needs to understand that it is not just one liquid but a term for defining a wide category of chemicals. The common thing about this is that each of it has a potentially dangerous solution of hydrocarbons.

It is quite an old chemical that was discovered before the first century A.D. The three different types of naphtha include coal tar, petroleum, and shale.

Each of these creates under varying conditions and also serves for different uses because of its chemical properties. The crude oil distillation is responsible for producing it.

Uses of Naptha

On the whole, we use it in three major ways. One is for the industrial uses, then as a solvent and finally as a fuel. As it is a large class of chemicals, it applies to various industries. However, it does have health and environmental concerns of its own.

Industrial Use

In industrial use, naphtha serves as a raw material for producing plastics like polyethene and polypropylene. Moreover, the different naphtha chemicals are also used as a raw material for generating petrochemicals containing gasoline and butane.

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3	DENSITY AT 15°C	g/mL	IS 1448 P:16	TO REPORT	0.7892
4	DENSITY AT 15°C, TOP	g/mL	IS 1448 P:16	TO REPORT	0.7892
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Crude Benzol :



Crude benzol is produced during carbonisation of coking coal. Benzol, also called as benzole, is the name normally applied in the chemical industry to a mixture of hydrocarbons of the benzene series.

Crude benzol is a product which is produced during carbonization of coking coal. Benzol (also called as benzole) is the name normally applied in the chemical industry to a mixture of hydrocarbons of the benzene series, in which benzene itself predominates, in association with certain of its homologues and various impurities. The term is not applied to any particular

mixture or quality of the liquids. The recovery of benzol from the coke oven gas implies the removal of vapours of the benzene series, and their subsequent conversion by condensation into different liquid products. The CAS number of crude benzol is 65996-78-3.

Benzol fraction produced during the high temperature carbonization of the coal. It is present in the coke oven gas in the range of 25 grams per normal cubic meters (g/N cum) to 40 g/N.

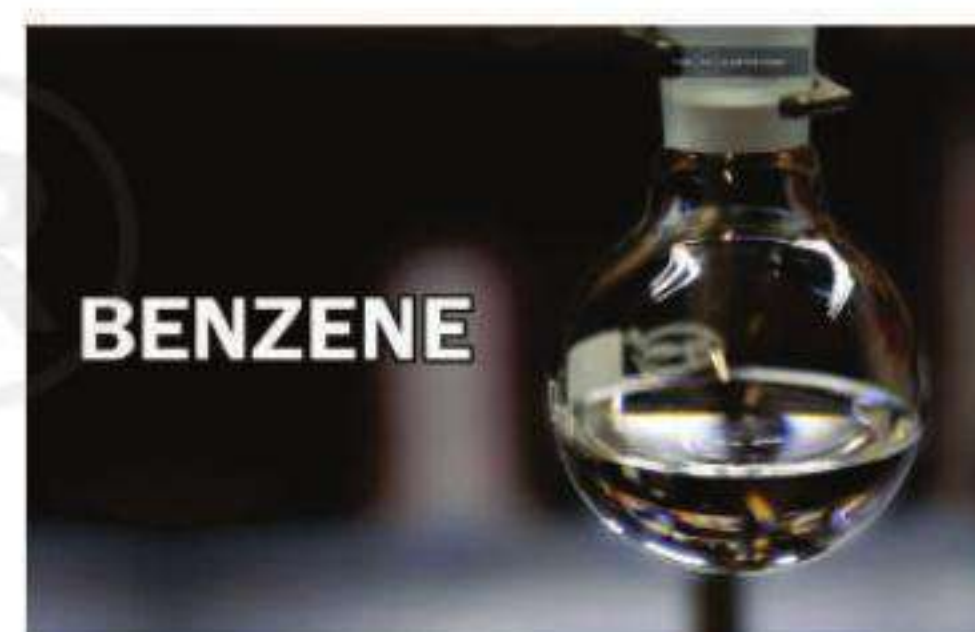
The benzene series is the most important group of substances in the class of aromatic hydrocarbons. It is the series of carbon-hydrogen compounds based on the benzene ring, with the general formula C_nH_{2n-6} , where 'n' is 6 or more. Examples are benzene (C_6H_6), toluene (C_7H_8), and xylene (C_8H_{10}). The members of particular interest of this series are the first three namely benzene, toluene and xylene, which at normal temperatures are clear colourless liquids having very similar properties. Crude benzol also contains some amount of naphthalene ($C_{10}H_8$).

SR NO	PARAMETER	UNIT	TEST METHOD	TEST RESULTS
1	Specific Gravity 15.56 °C	N/A	ASTM D 7504 18	0.85-0.88
2	Benzenee	%	By GC	0.75- 0.85
3	Toluene	%	By GC	0.10-0.12
4	Total Xylene	%	By GC	0.3-0.5
5	Sulphur	Mq/Kq	ASTM D 4629	5000 Max
6	Nitrogen	Mq/Kq	ASTM D 4629	2000 Max
7	Organic Chloride	Mq/Kq	ASTM D 4629	



Benzene :

What is Benzene? Benzene is an aromatic organic hydrocarbon with the formula C_6H_6 . It is the parent compound of many aromatic compounds. The presence of benzene can be recognized by its characteristic odor. Structure of Benzene- Eilhardt Mitscherlich, a German chemist heated benzoic acid with lime and produced benzene.



Benzene is considered to be one of the most important organic compounds which have a chemical formula C_6H_6 . Benzene is considered the parent compound of a lot of aromatic compounds. Benzene is one of the simplest organic compounds and aromatic hydrocarbons. It is also one of the elementary petrochemicals and is one of those natural constituents of crude oil. It has an odor like gasoline and is a liquid that is colorless. Benzene is one of the highly toxic compounds and carcinogenic in nature. Primarily it is being used in the production of polystyrene.

Benzene is considered one of the naturally occurring substances which are produced by volcanoes and by forest fires and is present in many plants and animals, but benzene is also one of the major industrial chemicals which is made from coal and oil. Benzene is a clear and colorless liquid as it is a pure chemical. In many industries, benzene is being used to make other chemicals along with other types of plastics, pesticides, and detergents. Benzene is also considered a component of gasoline.



Toluene :

Toluene is a naturally occurring compound. Toluene is primarily derived from petroleum or petrochemical processes. It is a very common component in substances like gasoline, glues, and other products. Toluene is a liquid that is colourless, water-insoluble and smells similar to paint thinners.

What is Toluene?

Toluene is also known as toluol. Toluene is an aromatic hydrocarbon. It is a mono-substituted benzene derivative and consists of a methyl group i.e., CH₃ that is attached to a phenyl group. The systematic IUPAC name of toluene is methylbenzene.

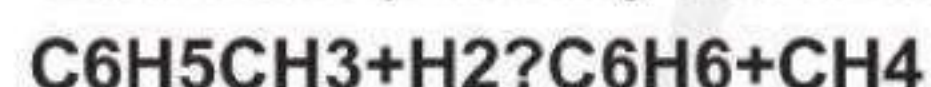


Toluene is predominantly in use as an industrial feedstock and a solvent. It is a common solvent like paints, paint thinners, silicone sealants, many chemical reactants, rubber, printing ink, adhesives (glues), lacquers, leather tanners, and disinfectants. Toluene is also in use as a recreational inhalant. Toluene has the capability of causing severe neurological harm to our body.

Uses of Toluene

The precursor to benzene and xylene

Toluene is primarily in use as a precursor to benzene via hydrodealkylation:



The other application involves its disproportionation to a mixture of benzene and xylene.

Nitration

Nitration of toluene gives mono-, di-, and trinitrotoluene, all of which are broadly in use. Dinitrotoluene is the precursor to toluene diisocyanate. It is in use for the manufacture of polyurethane foam. Trinitrotoluene is the explosive typically abbreviated as TNT.

Oxidation

Benzoic acid and benzaldehyde are manufactured commercially by partial oxidation of toluene with oxygen. The catalysts include cobalt or manganese naphthenates.

Fuel

Toluene is in use as an octane booster in gasoline fuels for internal combustion engines as well as jet fuel. Toluene at 86 per cent by volume fuelled all the turbocharged engines in Formula One during the 1980s. It was first pioneered by the Honda team. The rest 14 per cent was a mixture of n-heptane. It is to reduce the octane to meet Formula One fuel restrictions.

Toluene at 100 per cent is in use as a fuel for both two-stroke and four-stroke engines. Due to the density of the fuel and other factors, the fuel does not vaporize easily unless it is preheated to 70°C or 158°F. Honda solved this problem cars by routing the fuel lines through a heat exchanger in their Formula One. It was done by drawing energy from the water in the cooling system to heat the fuel.

In Australia, toluene was found to have been illegally mixed with petrol in fuel outlets for sale as it was meant as a standard vehicular fuel. Toluene incurs no fuel excise tax, though other fuels are taxed at more than 40 percent. It provides a greater profit margin for fuel suppliers.



C9 Solvent :

The products will serve a broad range of industries and applications like Paints and Coatings, Printing Inks and Reducers, Offset inks, Agro-chemicals, Surfactants, Emulsifiers, Oil Field Chemicals, Foundry Chemicals, Water Treatment Chemicals, Disinfectants, Wash Oils,, etc. The emphasis is on significant value addition through development of specialty chemicals and niche products.



SR NO	PARAMETER	UNIT	TEST METHOD	LIMITS	TEST RESULTS
1	Specific gravity at 15.6°C	---	ASTM D4052	0.90 - 0.95	55
2	Flash point (PMCC)	°C	ASTM D93	32 - 66	160
3	Distillation range IBP	°C	ASTM D86	150 Min	238
4	Distillation-FBP	°C	ASTM D86	270 Max	460
5	Sulphur	wt ppm	ASTM D5453	To Report	0.942

C9 Plus Solvent :



The products will serve a broad range of industries and applications like Paints and Coatings, Printing Inks and Reducers, Offset inks, Agro-chemicals, Surfactants, Emulsifiers, Oil Field Chemicals, Foundry Chemicals, Water Treatment Chemicals, Disinfectants, Wash Oils,, etc. The emphasis is on significant value addition through development of specialty chemicals and niche products.

SR NO	PARAMETER	UNITS	TEST METHOD	LIMITS	TEST RESULTS
1	Specific gravity at 30°C		ASTM D4052	0.86 - 0.88	0.865
2	Initial Boiling Point (IBP)		ASTM D86	190.0 Min	183
3	Flash Point	°C	ASTM D86	38	38
4	Mixed Aniline Point	°C	ASTM D611	13	37
5	Aromatic Content	Wt%	007(GC)	99	99
6	Appearance		Visual	To Report	None
7	Colour	APHA	2	To Report	25
8	Distillation Range	°C	ASTM D86	165	160



C10 Solvent :



C10 solvent is a high boiling point (181-205 °C) aromatic hydrocarbon solvent used mainly in paints and coatings, printing inks, and the agrochemical industry. It has a flash point and evaporation rate higher than that of Xylene and therefore imparts better flow and film formation making it useful in the paint and coatings industry. It also has no ethyl-benzene content and is therefore desired for environmentally friendly agrochemical and pesticide formulations.

C10 Solvent is a resin blend stock for foundries and has down hole applications in oilfields. It is also ideal for use in process additive fluids such as chloro-rubber formulations, synthetic resins, and oil-modified alkyds.

SR NO	PARAMETER	UNIT	TEST METHOD	LIMITS	TEST RESULTS
1	Specific gravity at 15.6°C	g/cm ³	ASTM D4052	0.86 - 0.88	0.892
2	Appreance	°C	Usual	...	Water White
3	Distillation IBP	°C	ASTM D86	°C. 150 Min	162
4	Distillation FBP		ASTM D86	°C. 270 Max	204
5	Mixed Anline Point	ppm(m)	ASTM D611	°C. 16 Max	12.6
6	Total Aromatics		G.C	98.5% Min	

