

**India Product Specifications - Gasoline (1)**

<b>Unleaded Regular</b>																	
	<b>Octane</b>		<b>FBP</b>		<b>Sulfur</b>		<b>RVP = VLI (2)</b>		<b>Benzene</b>		<b>Aromatics</b>		<b>Olefins</b>		<b>MTBE</b>	<b>Oxygenates</b>	
	<b>RON/MON</b>		<b>Deg C</b>		<b>Max %Wt.</b>		<b>VLI=10RVP+7E70</b>		<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>		<b>Urban</b>	<b>Rural</b>
<b>Year</b>	<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>	<b>Summer</b>	<b>Winter</b>	<b>Max % Vol.</b>						<b>Max % Wt.</b>		
<b>2006</b>	91/81	88/84	210	215	0.015	0.05	750	950	1	3	42	none	21	none	15	2.7	none
<b>2007</b>	91/81	88/84	210	215	0.015	0.05	750	950	1	3	42	none	21	none	15	2.7	none
<b>2009</b>	91/81	88/84	210	215	0.015	0.05	750	950	1	3	42	none	21	none	15	2.7	none
<b>2010</b>	91/81	88/84	210	215	0.015	0.05	750	950	1	3	42	none	21	none	15	2.7	none
<b>2012 (3)</b>	91/81	89/84	210	215	0.005	0.025	750	950	1	3	35	42	21	none	15	2.7	none

<b>Unleaded Premium</b>																	
	<b>Octane</b>		<b>FBP</b>		<b>Sulfur</b>		<b>RVP = VLI (2)</b>		<b>Benzene</b>		<b>Aromatics</b>		<b>Olefins</b>		<b>MTBE</b>	<b>Oxygenates</b>	
	<b>RON/MON</b>		<b>Deg C</b>		<b>Max %Wt.</b>		<b>VLI=10RVP+7E70</b>		<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>		<b>Urban</b>	<b>Rural</b>
<b>Year</b>	<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>	<b>Urban</b>	<b>Rural</b>	<b>Summer</b>	<b>Winter</b>	<b>Max % Vol.</b>						<b>Max % Wt.</b>		
<b>2006</b>	95/85	93/88	210	215	0.015	0.05	750	950	1	3	42	42	18	none	15	2.7	none
<b>2007</b>	95/85	93/88	210	215	0.015	0.05	750	950	1	3	42	42	18	none	15	2.7	none
<b>2009</b>	95/85	93/88	210	215	0.015	0.05	750	950	1	3	42	42	18	none	15	2.7	none
<b>2010</b>	95/85	93/88	210	215	0.015	0.05	750	950	1	3	42	42	18	none	15	2.7	none
<b>2012 (3)</b>	95/85	93/88	210	215	0.005	0.025	750	950	1	3	35	42	18	20	15	2.7	none

**Notes:** (1) Major cities (urban areas) originally were New Delhi, Bombay, Calcutta, Madras, and Agra. As of 4/2005, Bangalore, Hyderabad, Ahmedabad, Pt Surat and Kanpur have been added. All gasolines have the following further specs: FBP = 215 Deg rural and 210 Deg C urban; T90 = 180 Deg C rural and 150 Deg C urban; Density = 710-770 kg/cm<sup>3</sup> rural and 720-775 kg/cm<sup>3</sup> urban. Leaded gasoline was phased out by 2004.  
 (2) RVP is expressed as Vapor Lock Index (VLI), whereby VLI=10RVP +7E70 (where E70 = the percentage evaporated at 70 Deg C). Winter = Nov-Feb and Summer = Mar-Oct.  
 (3) While a reduction in sulfur and aromatics ceilings is under discussion, this has not been formally proposed, let alone mandated.

**India Product Specifications - Kerosine**

Year	General Kerosine (1)		
	Sulfur Max. % Wt.	Smoke Pt. Min. MM	Color Min.
2006	0.25	18	+10
2007	0.25	18	+10
2009 (2)	0.20	19	+10
2010	0.20	19	+10
2012	0.20	19	+10

**Notes:** (1) For Defense and railroad system supply, different specs apply.  
**Sulfur:** Max. 0.20%S for Defense. **Smoke Point:** min. 21 MM required for Defense; for railroad system supply at min. 20 MM.  
 (2) New kerosine standards proposed for 2008 and awaiting government approval.

**India Product Specifications - Gas Oil**

<b>General Gas Oil</b>										
Year	Sulfur		Min. Cetane		Density		T95 (Deg C)		Poly Aromatics	
	Max. % Wt.		Number/Index		KG/LTR @ 15C				PAH%m	
	Urban	Rural	Urban	Rural						
2006	1.00	1.00	45		0.820-0.860		370			no limit
2007	1.00	1.00	45		0.820-0.860		370			no limit
2009	1.00	1.00	45		0.820-0.860		370			no limit
2010	1.00	1.00	45		0.820-0.860		370			no limit
2012 (1)	0.50	0.50	47		0.820-0.860		366			no limit

  

<b>Automotive Diesel</b>										
Year	Sulfur		Min. Cetane (2)		Density		T95 (Deg C)		Polyaromatics	
	Max. % Wt.		Number/Index		KG/LTR @ 15C				PAH%m	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
2006	0.035	0.05	51/46	48/46	0.820-0.845	0.820-0.860	360	370	11	no limit
2007	0.035	0.05	51/46	48/46	0.820-0.845	0.820-0.860	360	370	11	no limit
2009	0.035	0.05	51/46	48/46	0.820-0.845	0.820-0.860	360	370	11	11
2010	0.035	0.05	51/46	48/46	0.820-0.845	0.820-0.860	360	370	11	11
2012 (1)	0.015	0.025	51/46	48/46	0.820-0.845	0.820-0.860	360	360	9	9

**Notes:** (1) While these specs are under discussion, they have not been formally proposed, let alone mandated.

(2) For gas oil processed from Assam crude, cetane number/index are relaxed by 3 points.

<b>India Product Specifications - Fuel Oil</b>				
<b>General Fuel Oil</b>				
	<b>Sulfur</b>	<b>Viscosity</b>	<b>Density</b>	<b>Vanadium</b>
<b>Year</b>	<b>Max % Wt.</b>	<b>CST @ 50C</b>	<b>KG/LTR @ 15C</b>	<b>Max PPM</b>
<b>2006</b>	3.0/3.5/3.8	180/380	0.972/0.991	150/report
<b>2007</b>	3.0/3.5/3.8	180/380	0.972/0.991	150/report
<b>2009</b>	3.0/3.5/3.8	180/380	0.972/0.991	150/report
<b>2010</b>	3.0/3.5/3.8	180/380	0.972/0.991	150/report
<b>2012</b>	3.0/3.5/3.8	180/380	0.972/0.991	150/report
<b>Power Generation Fuel Oil</b>				
	<b>Sulfur</b>	<b>Viscosity</b>	<b>Density</b>	<b>Metals</b>
<b>Year</b>	<b>Max % Wt.</b>	<b>CST @ 50C</b>	<b>KG/LTR @ 15C</b>	<b>Max %Wt.</b>
<b>2006</b>	3.0	180	0.960-0.980	none
<b>2007</b>	3.0	180	0.960-0.980	none
<b>2009</b>	3.0	180	0.960-0.980	none
<b>2010</b>	3.0	180	0.960-0.980	none
<b>2012</b>	3.0	180	0.960-0.980	none