## AUTOMOTIVE LPG

| TEST | METHOD | SPECIFICATION |
|---|---|---|
| Vapour Pressure @ 40°C, kPa, gauge[1] | ISO 4256 | Min. 520 (75.4 psi) |
| | | Max. 1050 (152.3 psi) |
| C5 Hydrocarbons and heavier, %w | ASTM D 2163 | Max. 2.0 |
| Dienes (as 1:3 Butadiene), %w | ISO 7941 | Max. 0.5 |
| Total volatile sulphur, ppm | ASTM D 3246 | Max. 150 |
| Copper Strip Corrosion at 40°C for 1 hour | ISO 6251 | Max. Class 1 |
| Hydrogen sulphide | ISO 8819 | Pass the test |
| Evaporation residue, mg/kg | ISO 13757 | Max. 100 |
| Free water content | ASTM E 700 | Nil |
| Motor Octane Number (MON) | ISO 7941 + Annex A of IS14861:2000 | Min. 88 |
| Odour[2 & 3] | | Unpleasant and distinctive down to 20% lower explosive limit (LEL) |

**Note:**

1. In winter vapour pressure shall be min. 700 Kpa ( 101.5 psi), at 40°C. Winter period is 1st Nov. to 15th Feb.
2. Product shall contain minimum 10 ppm Mercaptans as Sulphur at the first despatching location to ensure the detection of odour.
3. To detect the odour, the following procedures shall be adopted:
5 ml Doctor Solution + 8 ml Iso-Octane + Pinch of Flower Sulphur in 25 ml stoppered cylinder. Shake and add 2 ml LPG (Aq). Shake slowly by releasing pressure. Odour is adequate if sulphur turns yellowish-brown. IS 1448 [P:75]. Odour test method is also adequate as an alternate method.