

Sub: Data for SDOTE case in vendor registration portal for HTPB

Ref: PV letter no. 3210/Gen/PV/M1, dt. 13/02/2026

With reference to the above, the required data for manufacturing technology and testing/inspection facility of Hydroxy Terminated Polybutadiene-HTPB (material no. 12003007) is given below:

1. **Manufacturing technology (in Brief):** HTPB is manufactured primarily through free-radical polymerization of 1,3-Butadiene using Hydrogen Per Oxide (H_2O_2) as an initiator. The process involves specialized catalysts and controlled conditions to achieve specific hydroxyl functionality and molecular weight.

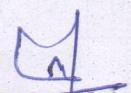
2. **Test requirements and test apparatus:** The HTPB shall be supplied in the form of clear viscous liquid. Samples taken from any portion of the batch/lot/consignment of the material shall conform to the following test requirements.

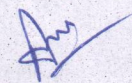
Sl. No.	Characteristics	Passing standard	Apparatus required for testing
01	Hydroxyl Value, mg of KOH/g of Sample	40-45	a) Iodine flasks, 250 ml. b) Water condensers c) Hot plate d) Burette, 50 ml e) Pipettes, 20 ml, 10 ml
02	Acid Number, mg of KOH/g of Sample, max.	1.0	a) Burette, 10 ml graduated in 0.05 ml b) Erlenmeyer flasks c) Pipettes - graduated 10 ml and 1 ml.
03	Volatile Matter, % by mass, max	0.5	a) Oven maintained at $105 \pm 1^\circ C$ b) Petri dish, dia 55 mm, depth 15 mm c) Mettler balance with accuracy of 0.1 mg
04	Viscosity (Poise), At $30^\circ C$ At $60^\circ C$	40-65 9-16	a) Brookfield Viscometer - Model RVT with guard legs b) Spindle No.4 c) Water jacketed sample container with Thermostatic bath d) ASTM 120 Thermometer
05	Specific Gravity At $30^\circ C$	0.9-0.92	a) Analytical balance with 0.1 mg accuracy b) Beaker, 250 ml c) Metallic sinker (approximately 50 g) with wire for suspending from the Pan of the balance.
06	Moisture content (%max)	0.1	a) Karl Fischer Apparatus



Sl. No.	Characteristics	Passing standard	Apparatus required for testing
07	Molecular Weight (Mn), VPO Or Molecular Weight (Mn), GPC	2300-2900 4600-6200	Knauer Vapour Pressure Osmometer Gel Permeation Chromatography (GPC)
08	Polydispersity (GPC)	1.5-2.5	Gel Permeation Chromatography (GPC)
09	Intrinsic Viscosity (dl/g)	0.11-0.17	a) Viscometer: A Canon-Ubbelohde viscometer giving an efflux time of not less than 35 s for solvent at 30°C b) Constant temperature bath: Capable of maintaining the temperature $\pm 0.1^\circ\text{C}$ at 30°C c) A standard thermometer having a range of 0-100°C and an accuracy of $\pm 0.1^\circ\text{C}$ d) Timer: A timer, which can measure the correct time up to 0.1s e) Volumetric flasks: 50 ml & 100 ml


OIC/GMP
(Member)


OIC/QC(Lab)
(Member)


OIC/QC(Mat)
(Member)


DO/GMP
(Chairman)

To
GO/PV(Direct)