



Swastik Oil Products Mfg. Co. Navsari

MANUFACTURERS OF: GLYCOL ETHERS & OTHER ETHOXYLATES

Subject to Mumbai Jurisdiction

TECHNICAL DATA SHEET FOR HYDRAULIC BRAKE FLUID DOT-3

| Sr.No. | Nature of Test | Requirements |
|--------|---|---|
| I | Appearance | Clear, homogenousliquid meets free form Water, dirt, sediments. |
| II | Color | N.A. |
| III | Equilibrium reflux Boiling pt., °C | 205min. |
| IV | Wet ERBP,°C | 140min. |
| V | Kinematics Viscosity, mm2/Sec. a) at minus 40 °C b) at 100 °C | 1500max. 1.5min. |
| VI | pH Value | 7.0 to 11.5 |
| VII | Brake Fluid stability a) High Temperature stability change inERBP, °C Max. b) Chemical stability °C change in ERBP of mixture °C max. | 3+0.05 for each degree above 225 °C 3+0.05 for each degree above 225 °C |
| VIII | Corrosion Test: at 100 °C for 120hrs. a)Mass change, mf/cm 2, max Tinned Iron Steel Aluminum Cast Iron Brass Copper b) Connection of Metal Strip c) Appearance of test fluid in jar at 23 + 5 °C d) Crystalline deposit it on the walls or jar and metal strips. e) Sediments,% by volume f) pH of Test Fluid g) Effect on Rubber cup(SBR) i) Appearance ii) Hardness Decrease(IRHD) iii) Base Diameter Increase, mm | 0.2 0.2 0.1 0.2 0.4 0.4 No visible pitting or Etching No jelling None. 0.10Max 7.0 to 11.5 No disintegration as Evidenced by blisters of Sloughing 15Max. 1.6Max |

OFFICE: "OM VILLA" D-17 to 24, VASANT VIHAR, NR. SHRUSHTI APT; LUNCIKUI, NAVSARI-396 445 MOB: 9429723461 * E-MAIL: anup@swastikoil.com, mitesh@swastikoil.com

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| Sr. No. | Nature of test | Requirements |
|---------|---|--|
| IX | Fluidity &appearance at law | |
| | temperature | |
| | a) at Minus 40 °C for 144 hrs. | None |
| | i) Sludging, Sedimentation, | 10Max. |
| | Crystallization or stratification. | |
| | ii) Bubble flow time, Second | None |
| | b) at Minus 50 °C for 6hrs. | 35Max. |
| | i) Sludging, Sedimentation, | |
| | Cystallization or stratification | |
| | ii) Bubble flow time, Second | |
| X | Evaporation test at 100 °C | |
| | a)Loss in Mass% | 80Max. |
| | b)Abrasiveness or grittiness | None |
| | c)Pour point of residue, ⁰ C | < -5 |
| XI | Water Tolerance Test: | |
| | a)at Minus 40°C for 120hrs. | |
| | i) Clarity | Clear |
| | ii)Sludging, Sedimentation, | None |
| | Stratification, or | 10Max. |
| | Crystallisation | |
| | iii) Bubble flow time, Second | None |
| | b) at 60 °C for 24hrs. | 0.15Max. |
| | i) Startification | |
| | ii) Sediments, % by Volume | |
| XII | Compatibility test | |
| | a) at - 40 °C for 24hrs. | |
| | i) Clarity | Clear |
| | ii) Sludging, Sedimentation, | None |
| | Crystallisation,or | |
| | Stratification | None |
| | B) at 60 °C for 24hrs. | 0.05Max. |
| | i) Stratification | |
| | ii) Sediments, %Volume | |
| XIII | Resistance to Oxidation | |
| | a) Change in mass mg/cm2 | |
| | i) Aluminum | 0.05Max. |
| | ii) Cast Iron | 0.3Max. |
| | b)Condition of Metal strips | No visible pitting or etching &no gummy deposits. |
| XIV | Effects on Rubber cups (SBR) | |
| | a)at 70 °C for 70h | 0.47440 |
| | i)Base diameter increase, mm | 0.17 to 1.6 |
| | ii)Hardness decrease, IRHD | 10Max. |
| | iii)Appearance | No disintegration as evidenced by blisters, |
| | b)at 120 °C for 70h | sloughing &stickiness |
| | i)Base diameter increase, mm | 0.17 to 1.6 |
| | ii)Hardness decrease, IRHD | 15Max |
| | iii)Appearance | No disintegration as evidenced by blister, sloughing |
| | iii <i>jr</i> ippearance | |
| | my podrano | & stickiness. |

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