



Shell Brake and Clutch Fluid *DOT 4 ESL*

Premium, high performance DOT 4 Low Viscosity brake fluid

Shell Brake and Clutch Fluid DOT 4 ESL is a premium brake system and hydraulic clutch fluid for systems requiring a FMVSS No 116 DOT 4, ISO 4925 Class 6, and many vehicle manufacturers specifications where a fluid with low viscosity at cold temperatures in a borate ester (borate ester of polyglycol-ether) brake fluid. This fluid is particularly suited for anti-lock and traction control integrated brake systems.

DESIGNED TO MEET CHALLENGES

Performance, Features & Benefits

- **High boiling point**

Shell Brake and Clutch Fluid DOT 4 ESL exceeds requirements for wet and dry equilibrium reflux boiling points (Wet ERBP and Dry ERBP) to help prevent vapour lock resulting from boiling of the brake fluid.

- **Corrosion protection**

Shell Brake and Clutch Fluid DOT 4 ESL protects internal components from corrosion under normal use and service.

- **Improved low temperature viscosity**

Shell Brake and Clutch Fluid DOT 4 ESL meets requirements for many newer, advanced braking systems that require viscosity at -40° to be lower for improved brake response.

Main Applications

- Suitable for all applications requiring a DOT 4 performance level brake fluid. This fluid may be used where lower cold temperature viscosities are required and often where a DOT 3 brake fluid is required.

- Motorcycles up to passenger cars and medium trucks of a variety of makes and models.
- Hydraulic brake systems including anti-lock brake systems and where traction control systems are integrated with the braking systems.
- Hydraulic clutch systems.
- Miscible with other DOT 3 and 4 brake fluids

Specifications, Approvals & Recommendations

- USA FMVSS No. 116 DOT 4
- ISO 4925 Class 6
- JIS K 2233 Class 4
- AS/NZ 1960 Class 3
- SAE J1704

For a full listing of equipment approvals and recommendations, please consult your local Shell Technical Helpdesk, or the OEM Approvals website.

Typical Physical Characteristics

Properties			Method	Shell Brake and Clutch Fluid DOT 4 ESL
Kinematic Viscosity	@-40°C	mm ² /s	FMVSS No. 116 5.13	675
Kinematic Viscosity	@100°C	mm ² /s	FMVSS No. 116 5.13	2.1
Density	@20°C	kg/m ³	ASTM D4052	1050-1070
Water Content		%	ASTM D1364	<0.15
pH (FMVSS No 116)			5.14	7.7
Dry ERBP (FMVSS No. 116)		°C	5.11	271
Wet ERBP (FMVSS No. 116)		°C	5.12	173

These characteristics are typical of current production. Whilst future production will conform to Shell's specification, variations in these characteristics may occur.

Health, Safety & Environment

■ Health and Safety

Shell Brake and Clutch Fluid DOT 4 ESL is unlikely to present any significant health or safety hazard when properly used in the recommended application and good standards of personal hygiene are maintained.

Avoid contact with skin. Use impervious gloves with used oil. After skin contact, wash immediately with soap and water.

Guidance on Health and Safety is available on the appropriate Material Safety Data Sheet, which can be obtained from <http://www.epc.shell.com/>

■ Protect the Environment

Take used oil to an authorised collection point. Do not discharge into drains, soil or water.

Additional Information

■ Advice

Advice on applications not covered here may be obtained from your Shell representative.