

# Brake and Clutch Fluid DOT 4

## High Performance Brake & Clutch Fluid



### Product description

**Brake and Clutch Fluid DOT 4** is a high performance non-petroleum automotive brake fluid designed for conventional hydraulic brake and clutch systems.

Brake and Clutch Fluid DOT 4 is formulated for use under severe operating conditions or where DOT 4 fluids are recommended. Brake and Clutch Fluid DOT 4 combines a complex combination of Polyglycols, Polyglycol Ethers and Glycol Ether Borate Esters, blended with inhibitors designed to prevent corrosion, oxidation and to control seal swell characteristics.

### Customer benefits and product features

#### Customer benefits

- Higher and maintained fluid boiling point in service promotes lower vapour formation and greater braking performance than DOT 3.
- Designed to aid vapour lock prevention, offering greater braking safety margin than lower specification fluids.
- Formulated for use in a wide range of conventional systems, reducing inventories and costs.
- Buffered formulation offers protection to cast iron and steel, helping prevent system damage and loss of performance.
- Advanced inhibitor technology offers corrosion protection to aluminium, brass, copper, zinc and tin components.
- Seal swell and lubricity performance help minimise fluid leakage through seal shrinkage.
- Thermal and oxidation stability assist in preventing fluid degradation and retaining key performance features across fluid lifetime.

#### Product features

- Higher and maintained fluid boiling point.
- Aids vapour lock prevention.
- For use in a wide range of conventional systems.
- Advanced corrosion inhibitor technology.
- Offers long service life.
- Selected specification standards include:
  - FMVSS
  - Ford
  - ISO
  - JIS
  - NATO
  - SAE

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### Applications

Brake and Clutch Fluid DOT 4 meets the recognised standards for clutch and brake fluids as demanded by leading motor vehicle manufacturers. Additionally, it complies with the US Federal Motor Vehicle Services Specification (FMVSS) No. 116 DOT 4, DOT 3, SAE J 1703 and ISO 4925 specifications.

It also meets the requirements of the earlier specifications: SAE 70R 1 and 3, SAE J70 C, SAE J 1703 A to F and SAE J 1703 Jan 80, Nov 83 and Oct 85.

- Hydraulically operated motor vehicle braking systems (drum and disc types) for which a DOT 4 or SAE J1704 fluid is specified.
- Make-up or service fill of braking systems requiring DOT 3 or SAE J1703 fluids
- Vehicles with anti-lock (ABS) braking systems
- Hydraulic clutch systems requiring conventional fluids
- Passenger cars, commercial road transport, off-highway vehicles, agricultural tractors and motorcycles

Brake and Clutch Fluid DOT 4 is compatible with other brands of DOT 4/DOT 3 brake fluid.

Brake and Clutch Fluid DOT 4 should not to be used in systems designed for mineral oil based fluids (LHM), for example certain Citroën models, or where Silicone DOT 5 fluids are recommended

### Product approvals, performance and recommendations

#### Performance

FMVSS	116 DOT 3	Meets requirements
FMVSS	116 DOT 4	Meets requirements
Ford	ESD-M6C57-A	Meets requirements
Ford	ESD-M6C9102-A	Meets requirements
Ford	ESD-M6C9103-A	Meets requirements
ISO	4925	Meets requirements
JIS	K2233 TYPE 3	Meets requirements
JIS	K2233 TYPE 4	Meets requirements
NATO	H-542 (OX-8)	Meets requirements
SAE	J1703	Meets requirements
SAE	J1704	Meets requirements

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### Product maintenance and handling

Brake fluids absorb moisture from the air. This lowers the boiling point of the fluid and reduces the margin of protection against “vapour lock”, a phenomenon which arises from the formation of vapour bubbles in the brake system and causes spongy pedal action or complete loss of braking effectiveness. Conditions conducive to vapour lock include frequent braking during long descents, towing heavy loads or binding brakes.

In order to minimize the amount of moisture absorbed, it is important that containers of brake fluid be kept tightly sealed and stored in a clean, dry location. Small containers should be used immediately after opening and then disposed of, along with any remaining contents, in accordance with local regulations.

In service, brake fluids slowly absorb moisture, both through the rubber brake hoses and also via the reservoir vent. For this reason, most vehicle manufacturers recommend regular changes of brake fluid at intervals varying from 12 to 36 months. Unless the vehicle manufacturer recommends otherwise, Caltex recommends that brake fluid is changed at 24-monthly intervals in order to avoid the danger of vapour lock outlined above.

Always change brake fluid in accordance with the vehicle manufacturer’s recommendations.

When changing brake fluid, it is critical that no contamination of the fluid occurs. Contact with even small quantities of dirt, solvents, or particularly petroleum based products (mineral oils, fuels, greases, etc.), may result in complete brake failure or costly repairs, while contamination with moisture can cause vapour lock in service. Absolute cleanliness is essential to avoid these problems. Under no circumstances should Brake and Clutch Fluid DOT 4 be mixed with any petroleum product, such as engine oil or hydraulic fluid. The use of brake fluid contaminated with mineral oil damages brake system seals which are specifically designed to be compatible with non-petroleum brake fluids, leading to leakage of the brake fluid and the compromise of brake system performance.

Brake fluid can damage vehicle paintwork, and it should be washed off with water immediately if it comes into contact.

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## Typical test data

BRAKE AND CLUTCH FLUID 260 DOT 4	TEST METHODS	RESULTS
<b>FMVSS Grade</b>		<b>DOT 4</b>
<b>Product Code</b>		<b>510663.1</b>
Colour	FMVSS 116 (13)	Amber
Equilibrium Reflux Boiling Pt., °C	FMVSS 116 (1)	251
Wet Equilibrium Reflux Boiling Pt., °C	FMVSS 116 (3)	160
Viscosity, Kinematic		
mm <sup>2</sup> /s @ -40°C	FMVSS 116 (3)	1296
mm <sup>2</sup> /s @ 100°C	FMVSS 116 (3)	2.2
pH Value	FMVSS 116 (4)	8.3

This bulletin was prepared in good faith from the best information available at the time of issue. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. It is the responsibility of the user to ensure that the products are used in the applications for which they are intended. Produced by Chevron Global Lubricants: Africa, Middle East and Pakistan.

ENVIRONMENT, HEALTH and SAFETY. Information is available on this product in the Material Safety Data Sheet (MSDS) and Customer Safety Guide. Customers are encouraged to review this information, follow precautions and comply with laws and regulations concerning product use and disposal. To obtain a MSDS for this product, visit the [Product Information Center](#).

This Product Data Sheet (PDS) was produced for the Asia Pacific region based on the best available information at the time of issue. The specific information included may not directly reflect the market or condition and may vary. For the most up-to-date, country-specific information, please contact your local customer service center.

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