Brake and Clutch Fluid DOT 4

Automotive Brake & Clutch Fluid

Product description

Brake and Clutch Fluid DOT 4 is a premium, non-petroleum automotive brake fluid designed for use in conventional hydraulic brake and clutch systems, particularly in severe service conditions or where DOT 4 fluids are recommended.

Brake and Clutch Fluid DOT 4 provides an additional safety margin against “vapor lock” compared with brake fluids meeting less stringent specification requirements.

Customer benefits

- **Helps maintain braking performance longer**
  Higher boiling point, and the ability to retain boiling point in service, minimizes vapor formation at high temperatures, enabling braking performance to be maintained in service for longer than DOT 3 types.
- **Contributes to inventory savings**
  Widespread suitability for different motor vehicles may provide inventory benefits. In addition, vehicle manufacturers are increasingly specifying DOT 4 performance.
- **Helps to protect metal surfaces**
  Buffered formulation helps provide protection from acidic oxidation products for cast iron and steel components by maintaining the pH of the fluid in the alkaline range. Advanced technology inhibitors work to enhance protection for other metals such as aluminium, brass, copper, zinc and tin from corrosion by forming a protective layer on the surface.
- **Helps minimize leakage and loss of pressure**
  Correct seal swell and lubricity characteristics help minimize leakage through seal shrinkage and component wear caused by excessive seal swelling and/or inadequate lubrication of moving parts.
- **Enhanced performance during service life**
  High thermal and oxidation stability resists fluid degradation and formation of harmful deposits, helping enhance the retention of key performance features over the full life of the fluid.

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Applications

All hydraulically operated motor vehicle braking systems (drum and disc types) for which a DOT4 or SAE J1704 fluid is specified.
This may include:

- Vehicles with anti-lock braking systems (ABS).
- Hydraulic clutch systems requiring conventional fluids.
- Passenger cars, commercial road transport, and motorcycles.
- Make-up or service fill of braking systems requiring SAE J1703 fluids.
- Make-up or service fill of braking systems requiring DOT 3 fluids, unless the OEM specifically recommends against the use of DOT 4 fluids (e.g. certain Toyota models).

Not to be used in systems designed for mineral oil-based fluids (LHM), e.g., certain Citroen models and many off-highway vehicles and tractors, or where Silicone-type DOT 5 fluids are recommended.

Product approvals, performance and recommendations

Developed to comply with the following performance standards and specifications:

BRAKE AND CLUTCH FLUID	DOT 4
FMVSS 116 DOT 3	Meets the requirements
FMVSS 116 DOT 4	Meets the requirements
ISO 4925	Meets the requirements
JIS K2233 TYPE 3	Meets the requirements
JIS K2233 TYPE 4	Meets the requirements
NATO H-542 (OX-8)	Meets the requirements
SAE J1703	Meets the requirements
SAE J1704	Meets the requirements

Consult OEM representatives for independent verification, updates and recommendations.

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Service considerations

Typical brake fluids absorb moisture from the air. This lowers the boiling point of the fluid and reduces the margin of protection against “vapor lock”, a phenomenon which arises from the formation of vapor bubbles in the brake system and causes spongy pedal action or complete loss of braking effectiveness. Conditions conducive to vapor 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 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, Chevron recommends that brake fluid is changed at 24 monthly intervals in order to avoid the danger of vapor 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 vapor lock in service. Absolute cleanliness is essential to avoid these problems.

Under no circumstances should Caltex Brake and Clutch Fluid DOT4 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.

Caltex Brake and Clutch Fluid DOT 4 is compatible with other brands of DOT 4/DOT 3 brakefluid andd may be used as make-up or service refill wherever DOT 4 or DOT 3 brake fluid is recommended, unless the OEM specifically recommends against the use of DOT 4 fluids. Note that Toyota recommends against the use of DOT 4 fluids in some of their current vehicle models, with a requirement for DOT 3 fluids instead. Chevron recommends that customers follow OEM guidelines.

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Typical test data

BRAKE AND CLUTCH FLUID 260 DOT 4	TEST METHODS	RESULTS
FMVSS Grade		**DOT 4**
Product Code		**510663**
Color	FMVSS 116 (13)	Amber
Equilibrium Reflux Boiling Pt., °C	FMVS 116 (1)	239
pH Value	FMVSS 116 (4)	8.5
Viscosity, Kinematic		
mm²/s @ -40°C	FMVSS 116 (3)	1310
mm²/s @ 100°C	FMVSS 116 (3)	2.24

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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 in good faith from the best information available at the time of issue. The specific information included may not directly reflect the local market or conditions. While the values and characteristics are considered representative, some variation, not affecting performance, can be expected. For the most up-to-date, country-specific information, please contact your local customer service center.