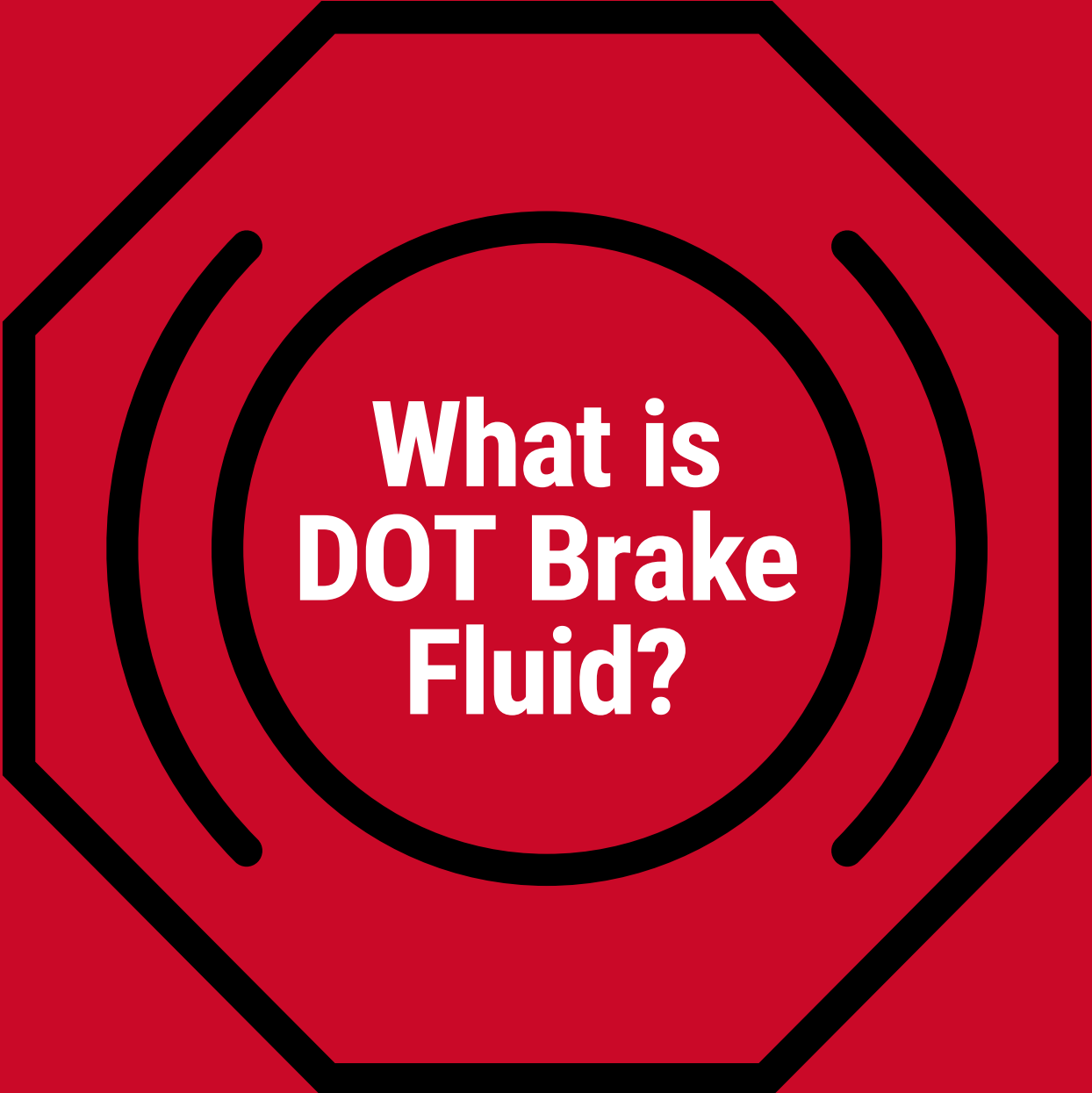


THE ULTIMATE BRAKING GUIDE

– VOLUME 1



**What is
DOT Brake
Fluid?**



What is brake fluid and what does it do?



Brake fluid – also known as hydraulic fluid – is an essential part of your braking system.



It is used to transfer force into pressure as you press down on your brake pedal.



It is delivered via your car's brake lines and it operates under extremely high temperature and pressure, to safely stop your vehicle.

What types of brake fluid are available?

There are **2 main types** of brake fluid on the market:

Glycol-based Brake Fluids: DOT 3, DOT 4, DOT 5.1

– or –

Silicon-based Brake Fluids: DOT 5

Brake fluid is classified by the *US Department of Transportation (DOT)* using a number between **1** and **5.1**. This DOT number indicates the boiling point of the fluid. The higher the DOT number the better quality the hydraulic fluid and the greater the ability to withstand a high temperature and performance environment.

Glycol-based brake fluids are more common in performance cars with anti-lock brake systems (ABS).

Silicone-based brake fluids are typically used in cars with hydraulic braking systems and **NOT** ABS technology. This type of fluid is hydrophobic and will not absorb water.

Brake Fluid Compatibility Chart

–	DOT 3	DOT 4	DOT 5	DOT 5.1
DOT 3	Yes	Yes	No	Yes
DOT 4	Yes	Yes	No	Yes
DOT 5	No	No	Yes	No
DOT 5.1	Yes	Yes	No	Yes

Yes = Fully compatible – fluids may be mixed and used interchangeably.

No = No compatibility – fluids **must not** be mixed under any circumstances.

Important note – you must **never** mix silicon-based DOT 5 fluid with any other glycol-based fluids. This is because small amounts of glycol will remain in your brake lines and can dangerously compromise the integrity of the DOT 5 fluid.



What is the difference between DOT 4 and DOT 5.1 Brake Fluid?

Whilst both **DOT 4** and **DOT 5.1** brake fluid are both glycol-based – meaning they are compatible with each other and can be readily mixed without harming your brake system – they have a key difference in their viscosity level.

For brakes to reliably and consistently operate the brake fluid must maintain a constant viscosity over a wide range of temperatures, including extreme heat and cold.

DOT 5.1 fluids are specified with low viscosity (900 mm²/s) across different temperatures which is especially important in vehicles with anti-lock braking systems (ABS) and traction or stability control. This is because these systems often use micro-valves and require rapid activation.

DOT 4 fluids have a much higher viscosity limit of around 1800 mm²/s. The higher the value, the more difficult it is for the fluid to flow and if the value is high when the air temperature is low, the fluid can have a negative effect on ABS performance.

Therefore **DOT 5.1** fluids are typically recommended for road and race cars using ABS.

How often should brake fluid be changed?

Most high-performance cars use **Glycol-based fluids** which aggressively absorb moisture. This means that almost immediately when the seal is broken on the brake fluid bottle the product is absorbing moisture from the air and then when in your system, from the rubber hoses and seals within your car. This is why you should avoid opening your brake fluid reservoir and always seal fluid bottles tightly.

This absorbed moisture can change the performance characteristics of the brake fluid.

For this reason, brake fluids typically have very high boiling points (to combat this) but as moisture is absorbed the boiling points drop.

If brake fluid boils (and becomes gas) it will lose its ability to transmit force. This can either partially or completely disable braking compromising performance and more importantly safety!

We suggest that you consult the manufacturers' recommended guidelines as to how often you should change your brake fluid.

Selecting the right brake fluid for my car.

To select the best brake fluid for your car you need to carefully consider the weight and performance of the car and the stress on the braking system against the cost and spec of the braking fluid.
















CAM Auto's brake fluid range includes tried and tested products recommended for high performance cars, driving under demanding conditions to suit a variety of price points.

See the comparison chart on the next page for help, plus our experts are always happy to advise on the right brake fluid for your vehicle so feel free to give us a call on (01727) 827717.

Buy your brake fluid online at camauto.com



Selecting the right brake fluid for my car.

	 AP DOT 5.1	 Ferodo DOT 5.1	 AP R2	 AP R3	 AP R4	 Castrol SRF
 Performance	✓	✓	✗	✗	✗	✗
 Track	✓	✓	✓	✓	✓	✓
 Race	✗	✗	✓	✓	✓	✓
 Dry Boiling Point	275°C	260°C	300°C	320°C	340°C	> 300°C
 Type	DOT 5.1	DOT 5.1	—	DOT 4	—	—
 Bottle Size	500ml	500ml	500ml	500ml	500ml	1000ml
 How Often Change?	Manufacturer's Recommendation	Manufacturer's Recommendation	Subject to Application	Subject to Application	Subject to Application	Subject to Application
 ABS (Road)	✓	✓	✗	✗	✗	✗
 Price	£7.14 BUY	£7.45 BUY	£22.15 BUY	£23.34 BUY	£39.29 BUY	£60 BUY