

UNDERSTANDING CHAMPION BRAKE FLUIDS

By Champion Brand April 4, 2019

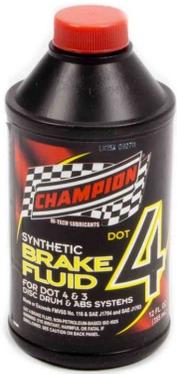
Brake fluid is an important component in any hydraulic braking system. The fluid is subjected to hundreds of pounds of pressure but also needs to lubricate rubber components in the master cylinder, wheel cylinders, calipers and hoses. In addition, brake fluid has corrosion inhibitors that keep the bores of hydraulic cylinders from rusting and pitting.

Most of today's brake fluids are made of polyalkylene glycol which is hygroscopic, meaning it absorbs moisture. The absorption of water prevents "pooling" of the absorbed water in the brake system, where corrosive acids can form and make the components deteriorate. Water in a brake system will also cause fluids to freeze or boil faster.



DOT 3

Champion DOT 3 Brake Fluid is typically recommended for cars and trucks prior to the mid-1990s, but DOT 3 brake fluids still make up a large portion of service fills in newer vehicles. DOT 3 brake fluid has a dry boiling point of 490 degrees, which is fine for brake systems with large brake drums and thick disc brake rotors, where brake heat can be easily dispersed. It has a viscosity of roughly 1500cSt at -40 F. Exceeds the specifications of Federal Motor Vehicle Safety Standard #116 and SAE J1703 for DOT 3 brake fluids.



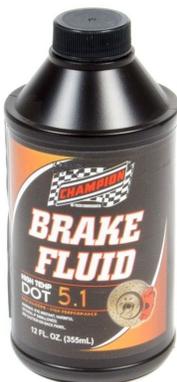
DOT 4

Champion DOT 4 Brake Fluid is recommended for most disk brake vehicles and is also a poly-glycol base. DOT 4 has a boiling point of 494 degrees F., and it is rated at a viscosity of 1800cSt at -40 F. This DOT 4 brake fluid differs from DOT 3 due to the ability it has to chemically scavenge water, reducing the rate at which performance deteriorates when the fluid is exposed to humidity in service. Exceeds the specifications of Federal Motor Vehicle Safety Standard #116 and SAE J1704 for DOT 4 brake fluids.



DOT 5

Champion DOT 5 Brake Fluid is silicone-based brake fluid and is used in applications like classic, antique or collector car or trucks where the vehicle may be in storage or used occasionally. DOT 5 is a little more expensive, but it has a dry boiling point of 530 degrees. Also, DOT 5 does not absorb any moisture. DOT 5 will not harm painted surfaces and acts as a weather barrier for your brake system, preventing rust. A DOT 5-filled system will last longer and works well in cold temperatures. It has a rated viscosity of 900cSt at -40 F. Conforms to FMVSS 116 (DOT 5) and MIL-PRF-46176B.



DOT 5.1

Champion DOT 5.1 Brake Fluid is a recent to the market, performance-oriented brake fluid now recommended by some OEMs in high horsepower applications. This fluid is identical to DOT 5 silicone in both boiling point and viscosity; however, it is poly-glycol based like DOT 3 and DOT 4. DOT 5.1 has a dry boiling point of 530 degrees F, and has a higher wet boiling point than DOT 3 and DOT 4 fluids, with a viscosity of 900cSt at -40 F. Meets or exceeds FMVSS no. 571.116.



SERIES 600

Champion SERIES 600 Brake Fluid is a competition brake fluid used for on and off-road racing where a dry boiling point exceeding minimum requirements is preferred. Champion 600 Series Racing Brake Fluid is glycol based and maintains its viscosity and lubricity under extreme conditions, plus it is designed to withstand excessive heat without boiling or affecting brake performance. It has a dry boiling point of 585 degrees F. and a rated viscosity of 1550cSt at -40 F. Meets and exceeds FMVSS116 DOT4 and SAE J1704.