



Brake Fluid: What you should pay attention to when considering a purchase....

Dry Boiling Point: Is the temperature upon which the fluid will boil when fresh out of a new unopened can. This number is important for race car drivers who have *frequent* changes of brake fluid. Fluid changes twice a season does not count! If you are using the remains of an open can from a previous change, rest assured you have some moisture in your fluid.

Wet Boiling Point: This is the number that 99% of the weekend warriors should pay attention to as much as the Dry Boiling Point. This number is the boiling point of the fluid when 3% of the volume becomes saturated with water. 3% might seem like a little, but consider that water is absorbed thru the air, rubber hose connections, rubber seals, heating and cooling of brake cylinders.

Brake fluid is “Hydroscopic”: Brake fluid by nature and design will absorb water. There is nothing we can do to stop it. Only method to help us rid the water in our brake system is to change the fluid frequently and properly.

Silicone Based Fluids: Silicone based fluids are often found in military vehicles. Silicone fluids are non-hydroscopic thus they do not absorb water, but they are more compressible than our DOT3 or 4 fluid. A compressible fluid will flow more in the brake system and will feel spongy when the brake pedal is pressed. The result is a less linear pedal feel and let's face it, that is not what we want when we start to run out of room to stop.

DOT Standards: Our U.S. Gov't has set up standards upon which the brake fluid in our vehicles must abide by. There are 16 points upon which all fluids must meet or else they fail and can not be sold in the U.S. To read more about these points, check out the link [here](#).

DOT Fluid Ratings:

DOT3: Mainly glycol ether based fluid. This fluid features a minimum dry boiling point of 401°F and a minimum wet boiling point of 284°F.

DOT4: Also glycol ether based fluid, but has borate esters properties mixed in for improved performance including higher wet and dry boiling points. DOT4 fluids must have a minimum dry boiling point of 446°F and a minimum wet boiling point of 311°F. The DOT4 fluid has one downfall, a rapid fall off in boiling point performance over time.

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DOT 5.1: In essence, this fluid is a DOT4 that is on steroids. This is also a glycol ether based fluid that due to modern technological advances has the performance characteristics of a DOT5 fluid. The great feature of this product is that due to the chemical base of this fluid, it can be easily mixed with other DOT4 or DOT3 fluids without concern of mechanical problems. The only catch- 5.1 fluid is very expensive.

Is there one better than the other? That is a question of personal taste. Some drivers swear by Motul while others will only use ATE or Castrol SRF. We suggest using the DOT classifications, intended use of the vehicle, frequency of fluid change, and boiling points as a guide to make your decision.

A NOTE OF CAUTION: When choosing fluid it is important that you make every effort stay with the DOT standard that your car came with. Vehicle brake systems are tested and fitted from the factory with that DOT fluid in mind. Chemical compositions of all three DOT fluids above are different and the braking system components of your vehicle may not react well or can break down over time if the wrong DOT fluid is used.

That being said, in modern hydraulic braking systems, it has been found acceptable to use a higher DOT rating fluid on a lower DOT rated system (DOT 5 excluded)

For Example: A DOT4 fluid at times can be used on a DOT3 system, but a DOT3 fluid should not be used for DOT 4 system.