

 The factory recommendation for replacing your brake fluid is measured in years, which can work for a street driven vehicle. However, on the track during drivers education, you brake differently, which can place significant additional stress on the braking system. What happens is that lots of focused braking in a short time span gets the brakes hot, which can boil your brake fluid. When this happens, air bubbles are created which can lead to a soft pedal, or in the worst case, no brakes at all! Zowie! One way to minimize this is to use a quality brake fluid and bleed your brakes more often than the factory recommendations. For brake fluid, you want to use either a DOT (Dept of Transportation) 4 or a DOT 5 synthetic (not silicone) brake fluid. DOT 4 and 5-rated fluids have higher boiling points (degrees F) than DOT 3 fluids, as shown in the table below:

	Min.Dry <u>Boiling</u>	Min.Wet <u>Boiling</u>
DOT 3	401	284
DOT 4	446	311
DOT 5	500	356

You want to avoid DOT 5 silicone-based fluids, as there's some discussion regarding their appropriate usage, except for long term vehicle storage at which they excel (Silicone-based fluids don't absorb water like the polyglycol-based fluids). Which brings us to the wet boiling points. All polyglycol-based brake fluids, over time, absorb water, which lowers the boiling point. So, while the dry boiling point is relevant when you first open the brake fluid container, the wet boiling point becomes relevant after that. Here again, higher is better. For example, ATE Super Blue/Type 200 both have dry/wet temps of 536/392 (remember, temperatures in the table are minimums). One available DOT 5 synthetic is Valvoline Synpower. ATE Super Blue, ATE Type 200, Ford heavy-duty truck, and Castrol are some popular aftermarket DOT 4 brake fluids. The brake fluid with the highest dry/wet boiling points is Castrol SRF at 590/518 degrees, however it will set you back \$75/liter vs \$9-\$16/liter for ATE Super Blue/Type 200 or \$5 per quart for Valvoline synthetic. Castrol LMA, which has been around for years, can also be used, however, it's dry/wet boiling points (446/311) are lower than the others. ATE Type 200 is the same as ATE Super Blue, excepting it's golden in color and DOT 4 approved. Some people alternate between the two when they completely flush and change their brake fluids. There are also brake fluids made by AP and Motul which have fairly high boiling points.

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