

Silicone Brake Fluid

We're often asked for our opinion of silicone brake fluid. The bottom line is that we generally recommend against it. Here's why:

Back when silicone came into widespread enthusiast use 30 or so years ago, it was hailed as the perfect brake fluid for collector cars. In some ways, it is. For one, silicone fluid won't damage paint if accidentally spilled (not that we've ever done that), a key advantage for all but the most unconcerned car owner. Further, silicone does not absorb as much airborne water as does conventional fluid. With water being the mortal enemy of every ferrous-metal component in your braking system, low moisture absorption is of great benefit to little-used collector cars. But, a regularly used car filled with conventional fluid should get hot enough often enough to effectively evaporate built-up moisture. Regular maintenance will do this as well.

So, if you're funnel-challenged or rarely drive your car, silicone just might be the brake fluid for you. Hey, silicone seems to be work for half of Hollywood.

But silicone has drawbacks. First, it contains more dissolved air than glycol fluid – about 15 percent vs. 5 percent. Since your car's hydraulic system works best when it's filled with fluid and not air (that's what bleeding is for, after all), silicone fluid can often lead to a spongy brake pedal. What's worse, when the system gets hot, all that air expands and exacerbates the problem. In older braking systems with lots of pedal travel, you may run out of travel before the brakes stop the car and a dump truck does the job instead. Air expansion is the reason silicone isn't used for racing; the high temperatures experienced on the racetrack could render the brakes virtually useless.

Seal compatibility is another potential problem. Glycol fluid is designed to swell the rubber seals in various cylinders to a controlled degree. They wouldn't work otherwise. Silicone, however, must rely on additives to swell the seals. The additives work fine with current-technology rubber, but the older seals found in many British applications don't fare so well, often softening and swelling too much. Did we mention a dump truck?

Finally, silicone and glycol fluids are incompatible, meaning a complete tear-down and fastidious cleaning to remove every last drop of glycol fluid would be required before a fluid switch could be contemplated.

Our recommendation is to simply stick with a well-known glycol fluid such as Castrol GT-LMA or the Delphi (nee Lockheed) DOT 5.1 fluid we sell under part number GR-PFB501. It is completely compatible with DOT 3 and DOT 4 fluids but offers a higher boiling point. Simply flush and bleed your hydraulic system every year or so and you should enjoy years of trouble-free motoring. We leave you with this note from the Delphi Brake and Clutch Hydraulics catalog: "Delphi Lockheed does not recommend the use of Silicone Fluids in our own or any other braking system."