



This is a "pilot plant" at Shell's Emeryville Research Center near San Francisco—it is one of many that help Shell scientists to find new and better ways of making gasoline.

## BULLETIN:

# Shell discloses the nine ingredients in today's Super Shell—and the remarkable things they do to give your car top performance

Super Shell gasoline, with nine ingredients, is now in Medford. Today's formula contains cresyl-diphenyl-phosphate—a new, improved version of TCP. Read how this patented additive increases mileage, releases power, and helps your car give top performance

**T**ODAY, every Shell dealer in this area has remarkable Super Shell in his pumps.

A notice on each Super Shell pump promises that this gasoline will give your car top performance. Shell's scientists want you to know why they can make this promise.

### Ingredient #1 is TCP for power, mileage and longer plug-life

Super Shell now contains an even better version of this famous additive. Its chemical name is cresyl-diphenyl-phosphate.

TCP\* additive can give your car up to 15 per cent more power; up to 17 extra miles per tankful; and can make plugs last up to twice as long.

New TCP does this by neutralizing certain harmful effects of combustion deposits. It is scientifically formulated to keep them from glowing when hot—a major cause of power loss. Also to keep them from diverting your spark—a major cause of "missing."

### Ingredient #2 is "cat-cracked" gasoline for power with a purr

This is petroleum that has actually *cracked* under 900-degree heat and catalytic action. Its heavier molecules have been shattered into livelier, lighter ones.

The result is a super-octane ingredient that makes your engine purr with power the moment you put your foot down.

NOTE: "Cat-cracking" refers to the use of a catalyst—the mysterious substance that can alter molecules without changing itself.

### Ingredient #3 is Alkylate, noted for knock control in hot engines

Jimmy Doolittle helped pioneer this outstanding high-octane ingredient for Shell aviation fuel.

Alkylate—the ingredient that took the dream of 100-octane gasoline out of the lab and put it into the skies—is now in Super Shell. It controls knocking in hot engines at high speeds better than anything else yet available.

NOTE: The engine in your car may frequently turn even faster than the engines of a DC-7 at cruising speed. Think of this next time you are passing on the highway.

### Ingredient #4 is anti-knock mix for extra resistance to knocks

You might think that two high-octane ingredients are enough for knock-free performance. But Shell's scientists have ears like musicians.

They insist on adding a special anti-knock mix. A mix, so effective, one teaspoon per gallon can boost anti-knock rating by five points.

This mix has the tricky job of regulating combustion so that Super Shell gives each piston a firm, even push rather than a sharp blow which would cause a knock.

### Ingredient #5 is Butane for quick starts on cold mornings

Butane is so eager to get going that Shell keeps it under pressure 400 feet below

ground to stop it from vaporizing by itself. Think what this extra volatility means in cold weather. Your engine fires in seconds. There is less strain on your battery. And none on your patience.

NOTE: Super Shell is primed with Butane all year round. In winter, Shell scientists simply increase the quick-start dose.

### Ingredient #6 is Pentane mix for fast warm-ups on cold days

Pentanes are made by tearing gasoline apart, much as you split kindling to start a log fire.

In this case, the "logs" are petroleum's heavier hydrocarbons. A special process transforms their molecules from slow-burning "logs" into the quicker-fring "kindling."

NET RESULT: Fast warm-up and top performance in a hurry.

### Ingredient #7 is an "anti-icer" to check cold-weather stalling

Super Shell's formula is adjusted as often as eight times a year to beat the weather. For example, whenever the temperature is likely to be less than forty-five degrees, a carburetor anti-icer is added.

Why add anti-icer at forty-five degrees? Because, even then, frost can form in your carburetor just as it does in your refrigerator. It can choke your engine dead.

### Ingredient #8 is gum preventive to keep carburetors clean inside

Even the purest gasoline can form gum when stored. This can clog carburetors and foul automatic chokes. But, with Super Shell, you needn't worry. A special gum preventive does the trick. ☉

It acts like a policeman controlling a mob. Regulates unstable elements to help keep them from clotting. Hence no gum problem.

### Ingredient #9 is Platformate for extra energy, more mileage

It takes eight million dollars' worth of platinum catalyst for Shell to produce Platformate. But fortunately for you and for us, this precious stuff can be used over and over again.

The platinum re-forming process, which gives Platformate its odd name, converts petroleum into super-energy components—such as benzene, xylene and toluene.

These three alone release 11 per cent more energy per gallon than the finest 100-octane gasoline.

But make no mistake. This is not untamed energy. Far from it. The super-energy of Platformate is harnessed by the eight other ingredients in Super Shell, where it behaves so well you scarcely know it's there. That is until you note your extra mileage. After that, there is no doubt.

### Test Super Shell for yourself

Try Super Shell next time you fill up. You'll soon feel and hear a difference in the way your engine runs.

That difference is top performance.



4 BULLETIN FROM SHELL RESEARCH — Where 1,997 scientists are working to help your car go better and better.



Shell test driver checks top performance in a specially instrumented car. Stop watches, speedometers, gauges and tachometers enable every detail of performance to be recorded and checked. The knowledge gained helps

Shell scientists to plan ahead of engine developments—and leads to constantly improving products. The new, improved TCP in today's Super Shell is a typical result of such continuous research.