'Magic' gas additive cuts pollution, boosts mileage

By Keith Mulvihill

WASHINGTON, Aug 24 (Reuters Health) - Some things sound too good to be true. Take, for instance, a chemical that scientists call PIB. With PIB mixed into gasoline, your car might emit 70% less pollution and go faster and farther, according to Dr. Paul Waters of American University in Washington, DC. PIB enhances the way fuel is burned in a car's engine, with quite an array of benefits, he explained.

"Add this stuff to your gas tank and it performs magic," Waters said in an interview with Reuters Health at the American Chemical Society's national meeting.

"We saw about a 10% increase in horsepower, a 20% increase in mileage, and a decrease in pollutants like nitrous oxide and carbon dioxide over 70%," Waters noted.

According to the Environmental Protection Agency, "The health threat from exposure to CO is most serious for those who suffer from cardiovascular disease." In healthy people, carbon monoxide (CO) can affect exercise capacity, vision, manual dexterity and learning.

But of course, magic is not the reason why PIB makes gasoline perform better. To explain how PIB works you have to know a little bit about how a car engines operates. In the engine, you have cylinders with moving pistons. Like a syringe, the piston moves up and down inside the cylinder. Gasoline and oxygen enter the cylinder and are compressed in the chamber and ignited by the spark plug. The explosion forces the piston down and up. The exhaust gases are forced out of the cylinder to the tailpipe.

When PIB is mixed with gasoline it increases the size of tiny gas droplets when it enters the cylinder, and makes droplet size of the gas more uniform. Both of these characteristics help the gas to burn more efficiently. This means that you get the most 'bang' possible when the fuel ignites--pushing the piston with optimal force, Waters explained.

"PIB also acts as an anti-knocking agent, which simply means that it reduces the unwanted vibrations that occur in the cylinder--causing the engine to run more efficiently," Waters told Reuters Health.

Lastly, PIB causes "the chemical energy to be converted more to work--pushing the piston--and less to heat, which can promote the formation of more pollutants," Waters said.

So when is PIB going to be available in gasoline? Gas manufacturers have not expressed a huge interest, Waters noted. But he believes it could also be sold as an additive that people add to their tanks when they fill up their cars with gas.

So far, Waters has only tested PIB in about 50 cars. He and his fellow researchers are hoping for more funding so they can do further research.