AR6200 FUEL MODIFICATION COMPLEX - FREQUENTLY ASKED QUESTIONS

1. Q - Why do you call AR6200 a fuel treatment? How is it different from a fuel additive?

A - There are many fuel additives in the marketplace today. These are single purpose formulations intended to correct a specific condition in a given fuel situation. Examples would include the use of a pour point suppressant in extreme cold conditions, a lubricity agent with low sulfur fuels, a cetane improver with low cetane fuels, a biocide to remove bacteria from fuel that may generate during storage, anti-oxidants, etc.

AR6200 is called a fuel treatment, because it is a complex formulation that is, by design, multi-purpose. The formulation includes a combustion catalyst, a dispersant (removes water), a polymerization retardant, a rust inhibitor, a biocide, a lubricity agent, and a cetane enhancer all combined into one patented formula. This patented formula is so effective that an extremely low treatment rate (1 oz treats 80 gallons) is optimal. The result is a highly cost effective fuel treatment that improves engine performance and fuel economy, reduces maintenance costs, reduces emissions, and maintains indefinitely the utility of fuel in storage.

2. Q - You claim that AR6200 alters the combustion process. How is this done and what are the benefits?

A - With the use of AR6200, the combustion process is altered in two significant ways. First, because the product is a catalyst, it both reduces the temperature at which combustion occurs (in a diesel engine, from 1200°F to 800°F) and accelerates the rate at which the combustion occurs. Second, the chemical properties of the product are such as to cause a reduction in the fuel droplet size that is injected into the combustion chamber, thereby increasing the surface area available to the combustion process (think of splitting a log into kindling). The combined result is a much more complete bum generating more power, and/or requiring less fuel to generate the same power, per pound of fuel consumed. This results in the reduction of hydrocarbons from un-burnt fuel, and particulate matter (soot). Obviously, other things being equal, a more complete bum is going to be a cleaner bum resulting in a substantial reduction in emissions. Furthermore, because of the dispersant, water is removed prior to combustion, resulting in less oxygen produced, which is the anchor element in the formation of pollutants CO, NO_x and SOx.

3. Q - What impact will the use of AR6200 have on the maintenance costs and engine life expectancy of my tractors?

A - Because the genesis of the product was to prevent the inevitable formation of sludge (polymerization) and water (dispersant) in fuel storage systems, the entire fuel delivery system will benefit. This includes the fuel tanks, lines, pumps, filters, injectors and stacks. With the addition of a corrosion inhibitor and a lubricity agent in the current product, these benefits are further enhanced. Accordingly, the replacement cycle of these components will be extended significantly with commensurate savings in both parts and labor. In fact, some clients are seeing maintenance savings that exceed the already substantial savings in fuel costs. The engine also benefits, with valves pistons, rings and cylinders rendered essentially free of carbon build up appreciably increasing engine life.

4. Q - Do you have documentation from the manufacturer of my tractors stating that the use of your product will not breach the warranty?

A - **In** the USA, under the terms of the Magnuson-Moss Warranty Act, no engine manufacturer may endorse, or discriminate against, the use of a particular fuel additive. Accordingly, the manufacturers uniformly take the position that the use of a fuel additive does NOT void the engine warranty unless it can be proven to have specifically been the source of failure. Typically the manufacturers will assert that the use of certain additives that are designed to do such things as act as a pour point depressant, a cetane enhancer, a combustion improver, a biocide or fungicide, or a lubricity agent, or etc. may prove useful.

5. Q - How can I be assured that the use of AR6200 Fuel Modification Complex will not cause my engine to malfunction or worse, to fail?

A - Unlike other fuel additives, the AR6200 Fuel Modification Complex product was specifically tested to ensure complete compliance with all of the applicable standards associations' performance criteria. These include American Society of Technology and Materials (ASTM), Engine Manufacturers Association (EMA), and American Trucking Association (ATA). Furthermore, the product has been evaluated by, and is registered with, the Environmental Protection Agency (EPA). The purpose of these bodies, that represent the complete range of stakeholders, is to develop the standards to ensure that those products, that comply, will perform satisfactorily in the intended applications for which they are sold.

6. Q - What testing was done to determine that the product meets the above referenced associations' standards and what were the results?

A - The applicable ASTM test is the ASTM D975 performed at the Phoenix Chemical Laboratories, Chicago, which determines the impact on fuel performance for specific parameters including pour point, viscosity and cloud point. The product met all the criteria. The applicable EMA tests, also conducted at the Phoenix Chemical Laboratories, include the ASTM test and add an additional test for lubricity. Again the product met all the criteria. The applicable ATA test is the SAE 11321, which measures the impact on fuel economy. This was performed at Lubetrak, Sandy, Utah, on a Cummins N14 engine, and resulted in an 8.2% improvement.

7. Q - What does the EPA registration involve and how does it benefit me?

A - **In** order to have a fuel additive/treatment registered by the EPA it must pass three phases (tiers) of evaluation. The purpose of the process is to ensure that the quality of fuels and additives being used in internal combustion engines in the USA is such as to minimize the impact on the environment.

8. Q - What is in the product?

A - AR6200 Fuel Modification Complex is a complex, highly tested, and patented formula (U.S. Patent #4,585,462, Patent #4,609.379, and Patent Application #20030172583) combining the latest in organometallic catalyst chemistry, synthetic lubrication technology, and state of the art fuel stabilizing technologies. The specific content and formulation are proprietary and protected by the aforementioned patents.

9. Q - Is the product classified as a hazardous material and are there special handling requirements?

A – AR6200 Fuel Modification Complex is considered a non-hazardous material by both the U.S. Department of Transportation (DOT) and by the standards established by the International Air Transport Association (LA.T.A.). Therefore, the product requires no specialized handling and is accepted for transportation by airfreight. The EPA has approved the chemical formulation of the product. It should be noted that AR6200 contains no alcohol. The product MSDS documentation is available upon request.

10. Q - How does the use of AR6200 impact severe cold weather performance?

A - Fuels generally become more viscous and lose BTU efficiency in extreme cold weather. Many diesel fuel consumers solve the problem by adding a pour point suppressant to their #2 Diesel Fuel, or switching to #1 Diesel Fuel, or blending #2 with #1 Diesel (typically in a *70/30* ratio). Regardless, fuel consumption generally increases in colder weather. AR6200 works effectively with all winter fuels formulations and helps combat the viscosity and BTU efficiency challenges. Further, use of the product offsets the inherent loss of fuel efficiency associated with the increased idling time that normally occurs under these conditions.

11. Q - Is the application of AR6200 limited to specific grades of diesel fuel?

A – AR6200 has proven effective in all formulations of gasoline, diesel, and propane fuels.

12. Q - What happens if over pour (add too much of) the AR6200?

A - Over pouring will NOT produce any negative effects on the engine or fuel system components. The EPA has approved AR6200 for treatment up to a ratio of 1:4000. The recommended treatment rate is 1: 10,000 (i.e. 1 gallon treats 10,000 gallons or 1 oz treats 80 gallons). Over pouring will not result in an appreciable improvement in performance benefits, and will, of course, increase the cost of the AR6200 product used and reduce the business case (net savings) proportionately.

The recommended treatment rate has proven to provide both optimum performance results and produce a highly desirable business case.