

Enviro-Flame Inc.

Manufacturer of Additives That Improve Fossil Fuel Economy and Reduce Emissions

<u>EF Hydrocarbon Fuel Treatment</u> <u>A product whose time has come!</u>

For more than 32 years, Enviro-Flame Inc. has led the way with technology in thermal combustion enhancement. Research and development makes the new "EF Fuel Additive" the most advanced logical space-age solution to all industries burning hydrocarbon fossil and renewable fuels under the open-flame combustion in larger areas such as kilns, furnaces, and boilers, etc..

Enviro-Flame Inc. will persevere in its efforts to provide innovative advances in the open-flame application industries. Our technology and products will help to meet the Kyoto Protocol and slow global warming by significantly reducing greenhouse gas emission from the combustion of hydrocarbon fuels.

How EF works to reduce the fuel consumption?

EF increases the open flame temperature up to 200 $^{\circ}$ K or 360 $^{\circ}$ F; and it also improves the heat transfer efficiency. This temperature increase is accomplished due to our unique ability to absorb radiance into the flame front, causing the internal flame temperature to be raised up. Note: The radiant heat increases with temperature to the fourth power.

APPLICATIONS with EF Fuel Additive

EF is designed for the open-flame combustion of different fossil fuels in the atmospheric air or in the richness of pure oxygen. Industries shown below are some typical examples, which may achieve significant benefit when using EF Fuel additive.

- Power Generation Plant
- Water Boiler (fueled with fossil fuels or wood waste, etc.)
- Kiln, brick/ceramic manufacturing
- Cement, Stone, Clay manufacturer
- Residential & Commercial cooking
- Furnaces for metals foundry
- Chemicals, Plastic, and food processing industries
- General cooling or heating applications

Use EF and Help to Decelerate Global Warming!

- EF is a safe and unique blend of non-carcinogenic liquid hydrocarbons
- EF works well with LNG, CNG, LPG, heating oil, biodiesel, wood waste and coal, etc.
- EF is used in only a few parts per million; it does not change the nature of the host fuel

Renewable Energy and Energy Efficiency are the "twin pillars" of sustainable energy policy. EF Hydrocarbon Fuel Treatment is one of the best solutions to improve energy efficiency!





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Radiant Containment Technology

1.One of our companies, Flamex Industries Inc, has been in the combustion enhancement business as a Florida corporation since 1968, 40 years. Flamex markets our improved technology in the United States, Canada, and Mexico to natural gas and propane companies for use in the welding supply industry. Flamex also has markets in the Far East; China, Japan, Singapore and Taiwan. RxP Products, Inc. was incorporated in 1991 to specifically market the combustion technology for internal combustion engines.

2. Our technology, *RADIANT CONTAINMENT TECHNOLOGY*, affects all hydrocarbon combustion, which includes: gasoline, diesel, ethanol, natural gas, bio-diesel, propane wood, and coal. This technology causes a change in the rate of CO2 and H2O; oxidizing and holding more of the infrared radiance in the flame area (thus the name). This "containment" increases the thermal value and reduces pollution.

3. Dr. Richard T. Schneider, former Professor of Nuclear Engineering at the University of Florida, has among his many accolades NASA's highest award for scientific achievement. Testing RxP, he has demonstrated BTU increases as high as 25% in gasoline, 17.9% in diesel and 13.2% in biomass. These tests were conducted after the discovery of the Radiant Containment phenomena. Note: Because hydrocarbons oxidize at different energy wavelengths, the amount of radiant containment will vary in commercial application due to being dependent on the degree of the molecular penetration.

4. Examples of our product's success include Chrysler's ability to eliminate stress relief ovens in the manufacture of the Abram tank. By using our technology in the enhancement of natural gas, the hardness of the metal is not changed. This saved thousands of hours of labor and millions of cubic feet of gas. Chrysler bid against General Dynamic and was awarded the contract. (reported in trade journal)

5. In 2001, our technology outperformed all other products in the world at the US Air Force testing laboratories by reducing the particulates in jet fuel by 52% at cruise power. (reported on TV)

6. A one-month test, conducted by Suburban Propane in South Carolina, gave a 21.4% fuel savings in furnaces, hot water tanks, and ovens. Tests on gasoline and propane in their service vehicles showed a 12.5% savings.

7. RxP Products demonstrated at the USF School of Engineering, the reduction of NOx by 39%. Bio-diesel normally increases NOx. Demo was shown on TV news.

8.We have verification of these positive facts, plus numerous tests conducted by governmental agencies in Canada, China, Greece, Bulgaria, Mexico and the U.K.

- * Flamex Industries Inc.: <u>http://www.flamex.com/</u>
- ** RxP Products, Inc.: <u>http://www.rxp.com/</u>



COMBUSTION PROPERTIES	EF +Natural Gas	EF +Propane	NATURAL GAS	PROPANE
Flame Temp in Open Air, deg. F	3885	3916	3542	3596
Total Heating Value after Vaporization BTU/lb	28520	22896	24800	19768
Burning Velocity in Open Air, ft/sec	15.2	14.3	15.2	12.2
Formation Reaction	Exothermic	Exothermic	Exothermic	Exothermic
Primary Combustion Heating Value BTU/ft3	NA	350	55	295
Secondary Combustion Heating Value, BTU/ft3	NA	2270	995	2268

COMPARISON OF FUEL GAS PROPERTIES

Aero Water Heater Tests



Tests Conducted December 16, 1993

Research Labs, Alachua, FL

http://www.enviroflame.net/TestResults/TestRecords.htm