THERMAL STABILITY FUEL OIL TREATMENT

The World's Most Advanced HFO Treatment Solution

PMAX INCREASE • SLUDGE REDUCTION • DEPOSIT PREVENTION • EMISSIONS CONTROL

PRI-RS is a scientifically designed additive chemistry formulated to successfully overcome the challenges associated with today's heavy fuel oil qualities worldwide. Compromised ignition quality, increased sludge precipitation and premature engine component failure are but a few of the negative impacts associated with this trend in fuel degradation.

One Product for Optimum Performance

- **PMAX INCREASE – SFOC REDUCTION: PRI-RS** elevates peak firing pressure (pmax) in a range of 4-to-6 bars. In so doing, specific fuel oil consumption (SFOC) is reduced 1.0-to-1.5 percent (0.25% reduction for every bar pmax increase).

- **SLUDGE REDUCTION: PRI-RS** contains a series of highly effective dispersant chemistries verified to inhibit organic fuel sludge by as much as 75 percent. Not only are fuel delivery systems kept sludge free, the fuel value recovered provides a very significant return on investment.

- **CARBON & VANADATE DEPOSIT PREVENTION: PRI-RS** greatly reduces post-combustion carbon and soot. Highly effective vanadium control chemistries prevent formation of low melting point vanadates - preventing damaging high temperature corrosion.

- **EMISSIONS COMPLIANCE:** The cleaner combustion proven with **PRI-RS** results in greatly reduced visible smoke (particulate reduction), and major reductions in other emissions – ensuring compliance with Marpol Annex VI standards.

Tested & Proven

• **MAN B&W MARPOL ANNEX VI TESTING:** Rigorous testing by the engine maker Man B&W under Marpol Annex VI protocol verifies **PRI-RS** capability to improve combustion and dramatically reduce harmful products of combustion.

• **WARTSILA/SULZER COMPLIANCE: PRI-RS** chemistry has been reviewed and deemed safe to use by Wartsila, meeting the company's demanding standards. Stocks are available worldwide. Call PRI today to discover the myriad of ways to optimize fleet performance.

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SPECIFICATIONS	
Color & Appearance:	Amber Liquid
Odor:	Sharp Petroleum Odor
Boiling Point:	213 C.
Flash Point:	65 C.
Specific Gravity:	0.78 - 0.81
Water Solubility:	Insoluble
USA DOT ID Number:	UN 1268
Class/Division:	Combustible Liquid
IMDG:	Not classified as dangerous under IMDG regulations.
IATA:	Not classified as dangerous under IATA regulations.

Dosage Rate:

PRI-RS is dosed at the rate of 1:4000 (250 ppm), regardless of fuel specification. The fixed dosage rate concept was developed in consideration of the fact that fuel oil quality is widely variable, and that quality standards, as proscribed under ISO 8217, do not completely account for all deficiencies associated with fuel oil combustion performance.

Hence, **PRI-RS** is formulated to address not only normal fuel oil combustion behavior, but combustion behavior that results from a matrix of “worst case” conditions that negatively affect normal engine operation. Among these often hidden conditions are blending incompatibilities, reduced ignition quality, and adverse Sodium/Vanadium (Na/V) ratios.

Dosage Method:

Power Research Inc. recommends dosing at the main bunker manifold by means of a safe and easily operated air driven gear pump arrangement. Bunker manifold dosing is preferred as the optimum method so as to provide early prevention of organic sludge precipitation – hence preventing typical losses in fuel value.

Quality Control:

PRI-RS is manufactured in accordance with strict, chemical manufacturing standards. Each blend is numbered, and a retain sample is FTIR tested against a laboratory standard to ensure optimal conformance.

Miscibility:

PRI-RS is a highly complex blend of organic chemistries that once blended with fuel oil, will not stratify or separate, even with fuel purification. In fact, purification systems remain cleaner and more efficient when processing **PRI-RS** treated fuel oils.