



## SOOT CLEANER LIQUID™

### DESCRIPTION

**SOOT CLEANER LIQUID** is a water-based, magnesium-containing liquid formulated to act as a combustion catalyst in order to easily remove soot and ash deposits from surfaces where accumulation has occurred during fuel combustion. It is applicable to all types of boiler and diesel engine exhaust systems. It is a low viscosity liquid, making handling and feeding easy.

**SOOT CLEANER LIQUID** works to control fireside slagging and fouling by decreasing the ignition point of the soot, making deposits easier to remove during normal soot blowing and out-of-service cleaning. It is also effective in controlling cold-end corrosion and acid smut emissions.

### LITERATURE - TECHNOLOGY

Combustion-related problems in boilers include slagging, fouling, high temperature corrosion and cold-end corrosion of heat transfer surfaces and other boiler components.

Deposition is related to the presence of impurities in the fuels being burned while combined with combustion practices. High temperature deposition will occur when molten ash derived from fuel impurities, comes into contact with the metal surfaces of the boiler and solidifies. When this "slag" contacts a metal surface, additional ash particles become trapped within the sticky molten mass, this results in fouling and uncontrolled heavy slagging. Once deposits have formed, corrosion can result beneath. Soot blowing may not be able to remove these tenacious deposits. Continuous build up, will result in lost efficiency and reduced throughput of the boiler. High temperature corrosion causes metal loss and eventual tube failure.

**SOOT CLEANER LIQUID** combines with various ash constituents to decrease the ignition point and weaken their deposit structure. This permits the ash to pass through the boiler as a solid and increases friability of any deposits, which do form, making deposit removal easier by means of soot blowing or off-line cleaning.

Sulfur trioxide (SO<sub>3</sub>) is formed from the combustion of sulfur contained in fuels. It combines with water vapor in the flue gas to form Sulfuric Acid. The acid corrodes metal surfaces that are below the acid dew point. This condition is typically referred to as low temperature or cold-end corrosion. In addition, the corroded products can block gas passages between tubes.

**SOOT CLEANER LIQUID** reduces the catalytic conversion of Sulfur dioxide (SO<sub>2</sub>) in the flue gas to Sulfur trioxide (SO<sub>3</sub>). Preventing the formation of SO<sub>3</sub> in the flue gas can also result in lower stack opacity.

Also, **SOOT CLEANER LIQUID** directly inhibits acid corrosion by neutralizing Sulfur trioxide (SO<sub>3</sub>) and coating the tube surfaces.

### ADVANTAGES AND CHARACTERISTICS

- ◆ Non-hazardous liquid which reduces slagging and fouling.
- ◆ Effective in controlling cold-end corrosion and acid smut emissions.
- ◆ Reduces high-temperature corrosion as well as cold-end corrosion and fouling.
- ◆ Provides better soot blowing results.
- ◆ Eliminates the risk for hazardous soot fires.
- ◆ Results to higher boiler efficiency and reliability.
- ◆ Induces fuel efficiency thus contributing to fuel saving.
- ◆ Minimizes costs associated with maintenance and downtime.
- ◆ Easy to use.
- ▶ **SOOT CLEANER LIQUID** is not harmful to the marine environment as per MARPOL MEPC 63 Annex V Amendment [MEPC. 71/17/Add.1 Annex 21, Resolution MEPC 295 (71)].

### PHYSICAL PROPERTIES

**SOOT CLEANER LIQUID** is a water-based, magnesium containing liquid, formulated with a dispersant to enhance product dispersion in fuel oil. As a water-based product, it has no flash point issues and is not sensitive to moisture ingress.

<b>Appearance/Color</b>	: Yellow to amber liquid
<b>Odor</b>	: Odorless
<b>Flash Point</b>	: Not applicable
<b>Solubility in Water</b>	: Completely soluble
<b>Specific gravity</b>	: 1.14 - 1.18 gr/cm <sup>3</sup> at 20°C
<b>pH value (conc. product)</b>	: 6.0 - 7.0

### PACKAGING

Order Number	: 563005 (30 ltrs)
Container	: Plastic jerrican



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## APPLICATION AND USE

### A. Dosing Procedure

The quantity of **SOOT CLEANER LIQUID** to be used can depend on many factors such as the type of problem and its severity; we must also take into consideration the design and operating characteristics of the boiler. The suggested quantity of **SOOT CLEANER LIQUID** is 1litre per 4–6m<sup>3</sup> of fuel. Note that the above quantity may be altered, depending on the type of system to be treated, based on particular variations in the quality of the fuel and/or the manufacturer's technical specifications.

### B. Cleaning Procedure

**SOOT CLEANER LIQUID** is applicable to many systems such as diesel exhaust gas economizers, fire tube boilers, main boilers, etc. In the case of diesel exhaust systems, the product is applied upstream, of the area being treated into the exhaust gas system. In the case of boilers, the product is applied from a suitable port point of the system, preferably with an injector, making sure that the liquid is spread right through towards the backside of the combustion chamber.

## ! SAFETY AND HANDLING

<b>HANDLING</b>	Handle with care. Store in a dry, cool and well ventilated environment.
<b>SAFETY</b>	IMMEDIATE ACTIONS
<b>Eye Contact</b>	Avoid Eye contact. Otherwise, flush with plenty of water for a few minutes. Seek medical attention.
<b>Skin Contact</b>	Avoid Skin contact. Otherwise, wash contaminated area thoroughly with water. Seek medical attention.
<b>Inhalation</b>	Avoid inhalation of vapors. Otherwise, seek fresh air source at once. Seek medical attention.
<b>If Swallowed</b>	Avoid ingestion. Otherwise, consume a considerable quantity of water. Seek medical attention.
<b>GENERAL INSTRUCTIONS</b>	Avoid spillage, splashing and mishandling. Precautionary measures for body protection are strongly recommended before use.

### Read the Material Safety Data Sheet before using this product.

For detailed information on safety and health, please refer to Material Safety Data Sheet and/or Product Label.

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