



## THE ORIGINAL HEAVY- DUTY ON-LINE AND OFF-LINE CLEANER FOR GAS TURBINE COMPRESSORS

### PRODUCT DESCRIPTION

FYREWASH® SB was the first heavy-duty hydrocarbon solvent-based chemical to be developed specifically for on-line, fired wash cleaning of gas turbine compressors. And after more than 20 years of use throughout the world and tens of millions of engine operating hours **SB** still remains in production because it is still a very popular and effective on-line compressor cleaner.

Other petroleum solvent-based cleaners have come and gone in that time, but FYREWASH® SB™ continues to stand the test of time because it simply is the best degreasing, de-oiling and decarbonising compound there is for cleaning gas turbine compressors. **SB** is the best cleaner for compressors, which operate in the more heavily polluted industrial environments where water-based detergents are much less effective.

### APPLICATION

#### ON-LINE, FIRED WASHING

On-line cleaning with FYREWASH® SB™ is normally carried out by mixing one (1) part of FYREWASH® SB™ concentrate with four (4) parts of demineralised, distilled or deionised water into a stable solution. Higher dilution rates up to 1:9 can be used if very frequent on-line washing is employed and/or fouling conditions are lighter.

Dosage, dilution and frequency of use depend on engine size, severity of fouling and operating environment. When using the Rochem FYREWASH® injection system detailed user instructions and recommendations are provided in the FYREWASH® manual and by our technical staff.

For fired-washing, optimum cleaning results are wholly dependent upon the correct method of application as well as use of the correct chemical. Rochem is a world leader in the development, manufacture and supply of a wide range of manual and fully automated atomising injection systems which are individually tailored for both the engine type and the operator's specific requirements.

**NB** The low cost Rochem **Efficiency Plus** system is also now available to provide comprehensive on-line, real time performance and efficiency monitoring of any gas turbine. Please consult our web site for details.

#### OFF-LINE, CRANK-WASHING

For crank-wash application FYREWASH® SB™ is normally mixed in a 1:4 ratio with water. Recommended water quality is distilled or demineralised with 5 ppm TDS or less. The solution is injected at normal cranking speed followed by a soak period of about 20 to 60 minutes before being thoroughly rinsed out with water at cranking speed.

When using a Rochem-supplied off-line injection system please refer to the Rochem manual for details and recommendations on washing frequencies, procedures, solution volumes etc. The manual also contains details of the optional 'short cycle' off-line wash procedure developed by Rochem, which can save down time and water usage while still giving an excellent cleaning result. If you are using any other type of off-line cleaning Rochem will also be pleased to advise on best use of its chemical in that system.

If you have no in-built off-line cleaning system or are dissatisfied with your present system we will be happy to provide you details of our full range of on- and off-line cleaning systems which can be typically installed within 1 to 3 working days depending upon engine size etc.

**USE OF UNPROVEN CLEANING SYSTEMS OR CHEMICALS, PARTICULARLY FOR ON-LINE, FIRED WASHING, COULD EASILY RESULT IN SERIOUS DAMAGE.**

### FEATURES & BENEFITS

- ▶ Can be used to clean compressors running at full speed and load to help maintain output and fuel efficiency without any interruption to plant operation.
- ▶ Can remove oil, grease, carbon, salt and general atmospheric compressor fouling much more effectively than water-based detergents and at similar cost.
- ▶ Leaves no residue.
- ▶ 100% safety record over tens of millions of operating hours.
- ▶ Approved by leading gas turbine suppliers. Meets US Mil Spec requirements.
- ▶ Fired washing with **SB** substantially reduces need to shut down for costly, time consuming and laborious off-line cleaning and reduces dependence on standby plant.
- ▶ Fired washing completely avoids damaging shutdown/start-up thermal cycles and the heavy wear and tear on starting systems associated with crank-washing.
- ▶ Non-flammable in solution. Mixes well with most antifreeze agents to allow on line washing even in sub zero air temperatures.
- ▶ Compatible with the engine materials and special blade coatings.
- ▶ Supplied as 100% concentrate to reduce transport, handling and storage costs.
- ▶ Worldwide sales and service product support.
- ▶ Backed by Rochem's unique high value product liability insurance.

### APPLICATIONS

On-line cleaning of any type of gas turbine compressor or process compressor.

Off-line, crank wash cleaning of any type of gas turbine compressor or process compressor.

| SAFETY AND HANDLING        |  |
|----------------------------|--|
| <b>HAZARDS</b>             | EC Hazard rating: Xn, Harmful<br>US NFPA rating: 1, 1, 0   |
| <b>PROTECTIVE MEASURES</b> | Wear suitable protective clothing, gloves and eye/face protection and use in a well-ventilated area.   |
| <b>SPILLAGE</b>            | Clean-up personnel should wear suitable protective clothing and eye/face protection. Do not run off to sewer. Collect with non-combustible absorbent material (i.e. vermiculite, sand or earth).     |
| <b>FIRE</b>                | Use foam, carbon dioxide, dry chemicals, sand or earth. Do NOT use water jets as this may spread the fire. May produce carbon monoxide.  |
| <b>FIRST AID EYES</b>      | Promptly rinse eyes with lots of clean water while lifting eyelids. Seek medical attention.  |
| <b>SKIN</b>                | Promptly wash skin with soap and water after removing any contaminated clothing from skin. If irritation persists seek medical attention.  |
| <b>INHALATION</b>          | Move affected person to fresh air/well ventilated area at once. Perform artificial respiration if breathing has stopped. Keep the affected person warm and at rest and get prompt medical attention. |
| <b>IF SWALLOWED</b>        | Do NOT induce vomiting. Let affected person drink as much water as possible and get prompt medical attention.<br><b>NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS.</b>                      |
| <b>HANDLING</b>            | Store in a well ventilated area away from oxidisers, open flames and extreme heat.   |
| <b>TRANSPORT</b>           | IMDG Class: Not Regulated<br>ADR/RID: Not Regulated<br>IATA/ICAO: Not Regulated<br><br><b>USA</b><br>DOT Hazard Class: Not Regulated<br>DOT Shipping Name: Compound, Cleaning Liquid                 |
| <b>PACKAGING</b>           | Non-returnable containers. Approx 25 60 and 210 litres depending on country and availability. Special bulk volume deliveries may be possible depending on country and availability.                  |

| TYPICAL PROPERTIES       |                                    |
|--------------------------|------------------------------------|
| <b>APPEARANCE</b>        | Clear, amber liquid                |
| <b>DENSITY</b>           | In g/ml at 15°C: 0.920             |
| <b>FLASH POINT PMCC</b>  |                                    |
| Concentrate:             | 94°C                               |
| Solution:                | None                               |
| <b>pH (20% solution)</b> | 8.5                                |
| <b>COMPATIBILITY</b>     |                                    |
| Metal:                   | No known effect                    |
| Rubber:                  | May effect some types              |
| <b>SOLUBILITY</b>        | Forms a stable emulsion with water |

| IMPORTANT ECOLOGICAL NOTE  |  |
|--|--|
| FYREWASH® SB™ contains a highly active petroleum based solvent, which makes it unbeatable as a compressor cleaner.   |  |
| However, by the same token, it is NOT a threat to the environment because, being a hydrocarbon-based compound which is at least as refined as the fuel being burned in the engine, it also burns very cleanly and does NOT cause any additional pollution.   |  |
| And, since <b>ALL</b> contaminated chemical and rinse water drainage from off-line, crank washing must also be collected and disposed of correctly no matter what type of chemical is used (solvent or detergent based) SB is also ideal for this application as well. It will always clean better than a simple detergent and can be less costly to dispose of because it can be incinerated at lower cost.   |  |
| Beware of water-based detergent suppliers who make very misleading and dangerous claims about being able to simply dump their chemical and post rinse water to earth or storm drains during and after crankwash. No matter how safe and biodegradeable a chemical solution may be before it passes through the gas turbine it is highly unlikely to be in a similar safe condition when it drains away – unless, of course, it has not come into contact or failed to remove any foulant at all. |  |

Rochem or any associated or subsidiary company's warranties of fitness and merchantability, if any, as well as any express warranties regarding the use of this product shall not be effective or actionable unless the goods are used as directed herein and in no other manner due to potential hazards from improper use of the goods described herein. Product might vary slightly depending on country of origin.



### Rochem Technical Services: Regional Offices

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