



AN ENVIRONMENTALLY FRIENDLY NATURAL SOLVENT FOR ON-LINE & OFF-LINE COMPRESSOR CLEANING

PRODUCT DESCRIPTION

FYREWASH® F2 is a powerful yet highly biodegradable water-based natural solvent cleaner.

Since other so-called 'water-based' chemicals generally contain no solvents, only surfactants, such chemicals have less ability to dissolve and remove the oily and carbonaceous deposits, which typify gas turbine compressor fouling.

And that's the crucial difference between FYREWASH® F2 and other water-based chemicals. F2 really works because it is a highly active, yet biologically soft, water-based solvent/surfactant cleaner which is capable of dissolving and removing oily/carbonaceous compressor deposits which other non-solvent water-based surfactant chemicals would not be effective against.

The pine oil solvent and the ultra pure surfactants in the FYREWASH® F2 formula make it an environmentally safe and user-friendly product for both on-line and off-line compressor cleaning. F2 is also a perfect substitute for those operators who might prefer a water-based product but find that plain water-based, non-solvent cleaners do not perform well for them.

APPLICATION

ON-LINE CLEANING

Is normally performed by mixing one part FYREWASH® F2 concentrate with four (4) parts of water into a stable solution. Higher dilutions of up to 1:9 can be used when fouling is light and/or when on-line washing is performed frequently. Distilled or demineralised water of 5ppm TDS or less is recommended.

The volume of chemical solution required per wash and the optimum cleaning frequency will depend upon engine size, fouling tendency etc. When using FYREWASH® injection systems please consult your Rochem manual. If using any other system please consult our technical staff for recommendations.

FYREWASH® F2 can be used with any on-line/off-line injection system but for optimum cleaning results and economic usage of chemicals, Rochem offers a full range of patented manual or fully automatic atomising injection systems to suit any engine type. The low cost Rochem Efficiency Plus (E+) on-line, real-time efficiency and performance monitoring system is also available for use with any type of gas turbine.

OFF-LINE, CRANK WASHING

Concentrated FYREWASH® F2 is normally mixed with four (4) parts of distilled or deionised water. The solution is injected at cranking speed, allowed to soak for about 20 to 60 minutes then thoroughly rinsed off at cranking speed. For detailed off-line washing instructions, including volume of cleaning solution per wash and washing frequencies, please refer to your OEM manual.

When using a Rochem-supplied injection system refer to your Rochem manual. Please also note that Rochem has developed an optional (short cycle) crank-washing procedure which can minimise chemical usage and downtime while still giving excellent cleaning results. This procedure is based on the initial injection of the chemical in a concentrated form, instead of a large volume of water/chemical solution. Please contact your nearest Rochem office for full information on this or any other compressor cleaning procedure.

NEVER USE UNPROVEN CHEMICALS OR INJECTION SYSTEMS FOR COMPRESSOR CLEANING - ESPECIALLY FOR ON-LINE CLEANING!

FEATURES BENEFITS

- ▶ Enables full speed, full load cleaning of gas turbine compressors. Helps maintain output and fuel efficiency without shutting down for crank washing.
- ▶ Unlike other water-based non-solvent cleaners which cannot effectively deal with hydrocarbon-based fouling, FYREWASH® F2 contains powerful naturally occurring solvents.
- ▶ These environmentally friendly natural solvents are capable of dissolving and removing oily/carbonaceous deposits, which are the root cause of compressor fouling and loss of performance.
- ▶ Complies with environmental laws and is a safe and pleasant material to handle.
- ▶ Approved and used by gas turbine manufacturers and guaranteed harmless to engine components.
- ▶ Non-flammable in solution. Mixes well with most antifreeze agents to allow on line washing even in sub zero air temperatures.
- ▶ On-line washing can substantially reduce or eliminate the need for time consuming, laborious off-line compressor washing.
- ▶ On-line washing avoids damaging thermal cycles and wear and tear on starting systems and the need to run standby plant.
- ▶ Supplied as highly economical 100% concentrate - why pay a lot for water!
- ▶ Backed by Rochem's worldwide sales and service network.
- ▶ Backed by Rochem's unique high value product liability insurance.

APPLICATIONS

For on-line, fired wash cleaning of gas turbine and process compressors.

Also for crank-wash, off-line cleaning of gas turbine and process compressors.

SAFETY AND HANDLING	
HAZARDS	EC Hazard rating: Xi, Irritant US NFPA rating: 1, 2, 0
PROTECTIVE MEASURES	Wear suitable protective clothing, gloves and eye/face protection and use in a well-ventilated area.
SPILLAGE	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).
FIRE	Use foam, carbon dioxide, dry chemicals, sand or earth. Do NOT use water jets as this may spread the fire. May produce carbon monoxide.
FIRST AID EYES	Promptly rinse eyes with lots of clean water while lifting eyelids. Seek medical attention.
SKIN	Promptly wash skin with soap and water after removing any contaminated clothing from skin. If irritation persists seek medical attention.
INHALATION	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.
IF SWALLOWED	Do NOT induce vomiting. Let affected person drink as much water as possible and get prompt medical attention. NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS.
HANDLING	Store in a well ventilated area away from oxidisers, open flames and extreme heat.
TRANSPORT	IMDG/ADR: Not classified, harmless chemical UN Number: 1993 USA DOT Hazard Class: Combustible Liquid DOT Identification No: NA 1993 DOT Shipping Name: Combustible Liquid N.O.S
PACKAGING	Non-returnable containers. Approx 25 and 210 litres depending on country and availability. Special bulk volume deliveries may be possible depending on country and availability.

TYPICAL PROPERTIES	
APPEARANCE	Clear, light yellow liquid
DENSITY	0.980
ODOUR	Pine
FLASH POINT PMCC	
Concentrate:	>62°C
Solution:	None
pH (20 Vol %)	8-9
COMPATIBILITY	
Metal:	No known effect
Rubber:	No known effect
SOLUBILITY	Fully miscible with water

IMPORTANT ECOLOGICAL NOTES

FYREWASH® F2 is a water-based product that contains highly active natural solvents and surfactants, which make it an ideal on-line and off-line compressor cleaner. During fired wash it burns very cleanly upon reaching the combustion chamber. For off-line washing it is many times more effective than plain non-solvent water-based chemicals. It's natural pine-fresh smell also make it pleasant to use.

However, remember that for off-line, crank wash cleaning all chemical solution waste and rinse water should always be collected and safely disposed of, no matter how safe or pleasant it is to handle before it passes through the the gas turbine. **DO NOT** make the potentially very costly mistake of thinking that the chemical and rinse water drainage from water-based detergents can simply be dumped to storm drains or direct to earth. Any chemical cleaning solution and rinse water may become contaminated with potentially harmful deposits from the compressor and hot section so **ALL** drain off must be collected and disposed of properly. Remember, a solvent and surfactant cleaning compound like F1 will always clean more effectively than a detergent and it will also cost less to dispose of because it can be incinerated at lower cost.

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.



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