



Product Application Sheet - SCALE AND CALCIUM REMOVAL

Mineral scale is a build-up of insoluble sulphate and carbonated salts - the result of exposure to salt water and calcium containing solutions including soaps, reagents and bacteriocides. Traditional chemistries including phosphoric acid, metasilicates and chlorine present special handling and discharge issues and most of these products are inherently toxic and non-biodegradable.

TRIPLE 7 Chemistries are a range of viable cleaning alternatives, especially designed for use in closed circuit applications and enclosed environments where human safety is the highest priority.

TRIPLE 7 EnviroScale is a non-toxic, plant based scale remover designed for its effectiveness, safety to you, the cleaning surface and the environment. The product is a unique formulation of non-ionic surfactants, fruit based acids and botanical additives which create a powerful scale remover.

TRIPLE 7 EnviroScale will not harm equipment and gives longer life cycle maintenance and consequent cost advantages. Applications include; pipework, heat exchangers, boilers, condensers, wet-scrubbers and chillers.

Benefits

- > No special storage/handling requirements
- > Fully biodegradable, no offensive odours
- > No petroleum products
- > Cost effective
- > A long term solution to scale formation
- > Non-toxic, low corrosion
- > Will not harm metals, rubber, plastics
- > Longer life cycle maintenance
- > Not affected by water hardness
- > No oxalic acid.

Heat Exchangers, Condensers and Chillers

Use a 10% solution of TRIPLE 7 Heavy Duty and circulate for 4 to 6 hours prior to scale removal. Rinse free with water. Apply a 10% solution of TRIPLE 7 EnviroScale and allow to circulate for 8 - 16 hours. Maintain a pH of less than 3.0 (ideally overnight) and then follow with a thorough water rinse. Repeat if necessary.

Bilges

Empty bilge, ensuring that correct safety practices are in place to deal with any toxic fumes present. Clean with TRIPLE 7 Heavy Duty at 10%, rinse with water, followed by TRIPLE 7 EnviroScale maintained at a pH less than 3.0.

Pipework

Soak in a hot solution of 10% TRIPLE 7 Heavy Duty overnight to unblock. Water rinse, then flush with a 10% solution of TRIPLE 7 EnviroScale maintained at a pH less than 3.0 to remove scale.

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CAMPING & WATER HANDLING EQUIPMENT

For dismantled pumps and parts:

Place in container and cover with 50:50 TRIPLE 7 EnviroScale and water.

Monitor pH level and add more TRIPLE 7 EnviroScale if pH rises above 2.5. If pH has risen too high, discard solution and recommence cleaning process. Water rinse and re-assemble.

For assembled pumps in the workshop:

Cover fully assembled pump with sufficient TRIPLE 7 EnviroScale solution (between 10% and 50%). Run the pump. Check for over-heating and that pH level is maintained below 2.5. As the pH level rises, add more TRIPLE 7 EnviroScale. Change liquid occasionally if needed.

For descaling a pump in a bore:

Add TRIPLE 7 EnviroScale at the same dilution as TRIPLE 7 EnviroBore, pouring it down the water column. Circulate the product, for at least six hours. Pump out the discharged water then reconnect the pump.

PREVENTATIVE MAINTENANCE:

TRIPLE 7 EnviroScale is pH dependent and cannot be dosed into the pump in the same way as TRIPLE 7 EnviroBore.

TRIPLE 7 EnviroBore is recommended to prevent iron bacteria or iron sludge from building-up and a simple dosing pump that adds 5-20 ppm on a regular basis, gives good results.

A complete descaling program would be to use TRIPLE 7 EnviroScale to thoroughly remove accumulation. Once clean, use TRIPLE 7 EnviroBore regularly to prevent further problems.

MARINE MAINTENANCE:

TRIPLE 7 EnviroScale is now included in the Navy Technical Acquaint for scale removing compounds. NSN 6850-66-152-0080, NSN 6850-66-152-0081.

Demister Pads

Remove pads and spray the entire pad with a 5% solution of TRIPLE 7 Heavy Duty. Soak or stand overnight then follow with a low pressure steam clean.

TRIPLE 7 EnviroScale has been successfully used to flush heat exchangers and sewer systems on one of the HMAS fleet without first removing the exchanger from the ship. This saved a lot of money and time and allowed a faster turn-around, along with a high standard of cleaning.

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CLEANING STAINLESS STEEL PIPE



A piece of stainless steel from a bore pump; the scale build-up was up to 7mm thick and laminar in appearance.



TRIPLE 7 Enviroscale in an agitated bath was applied for approximately 7 hours.

CLEANING PUMPS



An extremely scaled-up pump.



Soaked in a 10% solution of TRIPLE 7 Enviroscale overnight.

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COMPONENT CLEANING

The trial was conducted over 5 consecutive days using the same set of materials, immersed in a concentrated solution of both TRIPLE 7 Heavy Duty and EnviroScale.



Samples before treatment.



Samples after treatment.

There was no obvious change in weight, appearance, dimension or physical properties for any of the metal and rubber samples.

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VALVE CLEANING



Original valves as received.



After agitation in TRIPLE 7 Heavy Duty and TRIPLE 7 Enviroscale baths.

For further information or technical advice on this product or any other in the Triple 7 range, please contact Environmental Fluid Systems on: 03 5564 6455.



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