

APEX

QUARTERLY

FOURTH QUARTER 2021

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HEAT EXCHANGER DESCALING WITH *RYDLYME* -
DESCALE WITHOUT DISMANTLING EQUIPMENT!

CIRCULATION IS KEY - MAKE SURE TO
UTILIZE AN INDUSTRIAL DESCALING SYSTEM!

RYDLYME CLEANS A REFINERY HEAT
EXCHANGER - SAVES MILLIONS!



NEWS ON SAFE
CHEMICAL SOLUTIONS
FROM APEX ENGINEERING
PRODUCTS CORPORATION



Watch a heat exchanger
descaling video!

Descaling Heat Exchangers

Keep your equipment in tip-top shape by descaling with **RYDLYME**!

RYDLYME Descaler Preventative Maintenance

Scale accumulation in shell and tube heat exchangers can rob the equipment's efficiency. This scale build up can be made of rust, mineral deposits, calcium, limescale and many other corrosive deposits. It is crucial that a preventative maintenance program be put in place utilizing **RYDLYME** biodegradable descaler and one of Apex Engineering Product's **RYDLYME** Industrial Descaling Systems.

Even 1/32" of scale can cost thousands in extra spending to keep the equipment running! More importantly – leaving this scale build up in tubes of the heat exchanger can greatly reduce the lifespan of the equipment. Scale is corrosive to the tube material, eating away at the tubes! Removing this scale will ultimately increase the equipment's lifespan and efficiency.

Shell and Tube Heat Exchanger Cleaning Methods

Just like in any industry, there is the hard way and the smart way of getting the job done. Traditional methods of tube cleaning such as rodding and hydroblasting are expensive, time consuming and often lead to equipment downtime. In some cases, it's difficult to even get to the tubes to hydroblast or rod! This can also lead to production loss as well as revenue loss.

So, now that we've talked about the hard way to clean, let's talk about the smart way to clean. Using **RYDLYME** Biodegradable Descaler to remove unwanted scale is easy, safe and efficient! The Leading Biodegradable Descaler, **RYDLYME**, is non-corrosive, non-hazardous and can be disposed of easily!

Shell and Tube Heat Exchanger Cleaning Procedure

Apex Engineering Products has been around for more than 80 years manufacturing safe chemical solutions, so we know our way around a heat exchanger.

1. Isolate and drain the water-side of the exchanger to be cleaned.
2. Place a 1" ball valve between the isolation valves and the heat exchanger on both the supply and return.
3. Attach the **RYDLYME** pump and hoses so the **RYDLYME** will be pumped in the bottom or supply, and back out the top or return.
4. Begin pumping all the required **RYDLYME** into the exchanger. Once that is accomplished, begin to add water to complete the circulation. **Please note: The calcium deposit will take up volume within the heat exchanger, so you will not be able to add the same amount of water in the beginning.**
5. Continue circulating the solution for the recommended amount of time. As the circulation progresses and the product dissolves the deposits inside the unit, the volume will increase. To account for the increase in volume, please add water to the circulation vessel, as needed. If you begin adding a lot of water, please be aware, it is possible there is a leak in the system.
6. It is a good idea to periodically check the effectiveness of the solution while circulation is in progress. This can be accomplished by utilizing a pH meter and as long as the solution retains a low pH, the product is active. Should the circulating solution reach a pH of 5.5 to 7.0 before the recommended time is up, you will need to add more **RYDLYME** and possibly extend the circulation time..
7. Upon completion of the recommended circulation time, the solution may be purged to a normal sewer and flushed with water. This process is completed by placing the return hose in the drain and adding water to the circulation container until the discharge line runs clear.
8. The unit is ready to be returned to service.
9. The same instructions may be used for plate and frame type heat exchangers. For volumes, please follow the noted formula.

Please note: If your situation dictates that you cannot take your heat exchanger off-line, please contact the manufacturer for on-line cleaning instructions.

For detailed instructions please visit our website or contact our technical staff for assistance.

RYDLYME
World's Leading Biodegradable Descaler



INDUSTRIAL DESCALING SYSTEMS

Apex Engineering Products has been manufacturing **RYDLYME** since 1942. Any customer who has used **RYDLYME** knows how safe, effective and easy it is to use with wonderful end results and improved efficiencies on various equipment. Apex Engineering Products' technical team recommends that **RYDLYME** be circulated throughout the equipment being cleaned. An easy and convenient way to circulate is with one of our many industrial descaling pumping systems.

These descaling systems, specifically manufactured in house for the use of **RYDLYME**, make cleaning cooling towers, heat exchangers, condensers, vacuum pumps, boilers, chillers and any other water-based equipment a snap. Each of our systems come with robust circulating buckets, Ipex true union valves, Iwaki pumps and many other features that make circulating **RYDLYME** easy. View these industrial descaling systems and other biodegradable and safe products on our website www.ApexEngineeringProducts.com.



15MDC



15MDC



10PPC



10CIP



10MDC



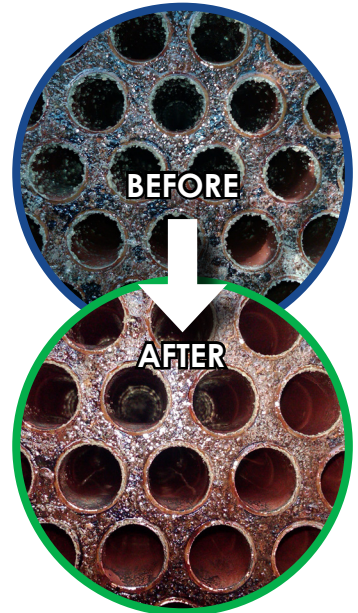
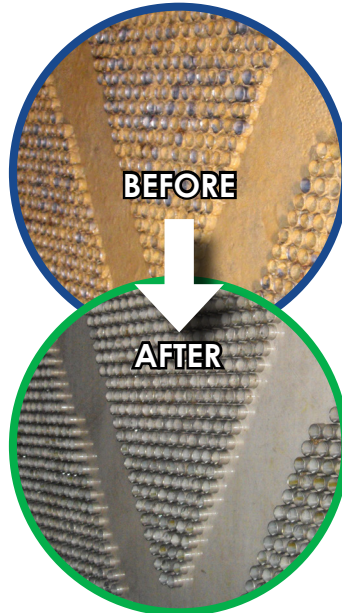
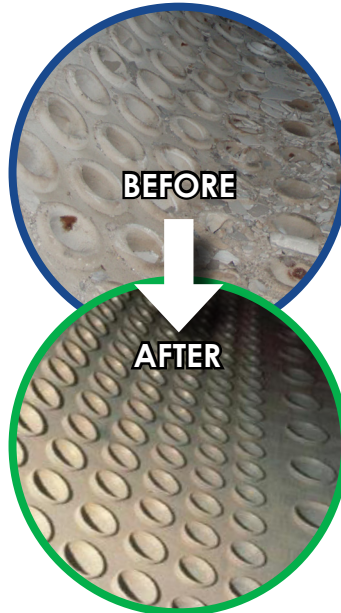
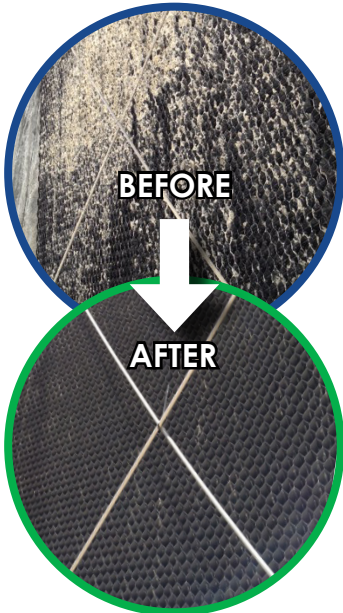
PumpMaster 115

Cooling Tower Scale

Boiler Scale

Condenser Scale

Chiller Scale



Give us a call to discuss your specific application and suitable descaling systems!



CASE STUDY

Manufactured Since 1942 by: Apex Engineering Products Corporation



REFINERY VERTICAL HEAT EXCHANGER CLEANING

A refinery was experiencing cooling issues throughout their entire cooling system. Shutting the plant down in order to replace the heat exchanger was not an option as this would cost \$1 million every day that the line is not operating! Due to the severity of the situation, the refinery needed a chemical that is reliable, has a history of dissolving scale safely, effectively and quickly! Naturally, **RYDLYME** was the only choice!

RYDLYME was delivered the same day the refinery placed their order so they could get to work immediately! 300 gallons of **RYDLYME** was diluted to 50% with an additional 300 gallons of water. The solution was circulated throughout the 30'' X 20' heat exchanger for 6 hours. Once the **RYDLYME** solution was drained, the maintenance crew was stunned! The heat exchanger was back to OEM specification! They are now firm believers in **RYDLYME** and plan to clean the rest of their cooling system!



CHALLENGE

A refinery was having a hard time keeping their cooling system efficient - one of their heat exchanges had significant scaling on the shell side of the tubes.

SOLUTION

A total of 300 gallons of **RYDLYME** was circulated through the heat exchanger for 6 hours.

RESULTS

The heat exchangers were restored to OEM specifications. **RYDLYME** saved the refinery over \$1 million a day!

DESCALER & PUMPING SYSTEMS



RYDLYME biodegradable descaler is uniquely formulated to dissolve the toughest water scale, lime scale, mud and rust deposits from virtually any water-operated equipment. NSF A3 and ANSI 60 certified.



RYDLYME Pumping Systems are specifically designed to circulate **RYDLYME** through a vast array of equipment and systems to keep your facility at peak operating condition.

CLEANERS, DEGREASERS & HAND SANITIZER



RYDALL CC Coil Cleaner is a biodegradable, concentrated solution that is safe for indoor and outdoor cleaning of air exposed surfaces on HVAC/R equipment. Dilutable and capable of being applied via foaming applicator. NSF A3 certified.



RYDALL MP Multi Purpose Degreaser is a biodegradable, versatile cleaner that quickly and safely removes oil, grease, grime and other pollutants from wettable surfaces and components. NSF A1 certified.



RYDALL HD Heavy Duty Degreaser is a biodegradable heavy duty, industrial grade degreaser. Used specifically on all carbon based derivatives that are found on the oil and/or process sides of your critical equipment or systems.



RYDALL VP Specialized Degreaser is a biodegradable, pH neutral degreaser specifically designed to safely and quickly clean and degas refinery process equipment. It can be applied in circulation or vapor phase applications.



RYDALL DC Deodorizing Cleaner is a biodegradable, ultra-concentrated cleaner designed to be used generally in janitorial applications such as floor, bathroom and window cleaning.



HAND SANITIZER is formulated according to WHO guidance, AEPC's Hand Sanitizer utilizes an Isopropyl Alcohol Antiseptic 75% Topical Solution which helps reduce bacteria that potentially can cause disease! Call for pickup!

ODOR CONTROL, WATER TREATMENT & WASTE CONVERSION



RYDALL OE Odor Eliminator is a unique, environmentally beneficial additive that is applied to landfills, compost or other organic odors. Naturally enhances methane release and production. Contains no masking agents, essential oils or fragrances.



RYDALL WO Water Optimizer is an environmentally beneficial additive that naturally reduces and prevents the formation of H_2S , COD, BOD, FOG, TDS and TSS. Thereby reducing corrosion and discharge penalties while increasing production.



AEPC Thermal is a division of Apex Engineering Products Corporation (AEPC). Our mobile waste conversion plants are trailer mounted and ready for deployment!

1241 Shoreline Drive Aurora, Illinois 60504 T: 630.820.8888 | 800.451.6291 | F: 630.820.8886 | MADE IN THE USA

Apex Engineering Products has been formulating and manufacturing safe and biodegradable specialty cleaning chemicals for a diverse range of applications around the world. From our **RYDLYME** biodegradable descaler to our versatile **RYDALL** line of degreaser/cleaner, odor control and water treatment products, we aim to decrease downtime and increase efficiency.

We are a fourth-generation, family-owned company acclaimed not only for our biodegradable line of products, but also our in-depth and exceptional customer support. With decades of knowledge and experience in a wide array of applications, our professional technicians will work closely with you to determine the best solution for your facility's unique challenges.

Apex Engineering Products also takes great pride in being an ISO 9001 Certified Company providing the highest level of support and quality of products to our customers... **another formula that hasn't changed in 80 years!**