

APEX

QUARTERLY

FOURTH QUARTER 2015

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RYDLYME TAKES ON AN EVAOPRATIVE CONDENSER, COOLING TOWER & PIPEWORK - ALL IN ONE JOB.

VIVIANITE IN A WASTE WATER SYSTEM IS NO MATCH FOR **RYDLYME**.

SEE WHY HVAC PROFESSIONALS TRUST AND REACH FOR **RYDLYME**.

FOUL TERRITORY: CASH WHILE YOU PEE?



NEWS ON SAFE
CHEMICAL SOLUTIONS
FROM APEX ENGINEERING
PRODUCTS CORPORATION



NO MATCH FOR RYDLYME

RYDLYME was used at a Waste Plant to clean an evaporative condenser as well as a cooling tower. The evaporative condenser is used to condense steam while its cooling water is fed through pipework to a cooling tower system. Over its life cycle, a build-up of scale in the evaporative condenser spread through the piping and formed in the cooling tower as well, thus decreasing the system's ability to process the desired tonnage of steam per hour, making the equipment less efficient. The majority of the scale existed in the evaporative condenser system, while smaller amounts nested in the cooling tower system.



The next step was to

“After the RYDLYME cleaning, an increase of 55% of steam per hour was achieved.”

descale the system. Naturally, **RYDLYME** was the proper tool for the job due to the descaler being safe, highly effective, 100% biodegradable & completely safe for personnel! Three totes of **RYDLYME** were pumped into the cooling tower basins where the solution was mixed with the cooling water and circulated throughout the system via the cooling tower's built-in pump. As the dilution was below 10% (7.5%), circulation of the **RYDLYME** was left over a 24-hour period allowing ample time for the solution to descale the system.



As soon as **RYDLYME** entered the system, bubbling and fizzing occurred showing that **RYDLYME** was already hard at work descaling the water-based system. In addition to these visual indicators, system efficiency checks carried out after circulation also showed enhanced productivity from the system due to the descaling process. This feedback showed that prior to the **RYDLYME** clean the evaporative condenser and cooling towers were able to process 17T of steam per hour while after the **RYDLYME** clean and increase of 55% to 26.5T of steam per hour was achieved. Due to this success, a safe chemical clean using **RYDLYME** has been added to the yearly maintenance plan for the evaporative condenser and cooling towers!





VIVIANITE IN WASTEWATER SYSTEMS



— CASE STUDY —

Vivianite: A hydrated iron phosphate mineral found in a number of geological environments. Small amounts of manganese Mn^{2+} , magnesium Mg and calcium Ca may substitute for iron Fe^{2+} in the structure.

A wastewater treatment plant (WWTP) had a severe buildup of vivianite throughout 175 feet of 4" diameter piping. Often in wastewater treatment, vivianite and struvite are menacing deposits which form and drastically reduce flow. The deposits are likely to be present in turbulent areas such as elbows and bends in the line. Both vivianite and struvite can completely restrict flow if not periodically removed from equipment and piping.

A 90 degree pipe section containing a substantial amount of the vivianite deposit (1" thick) was provided to Apex Engineering Products for testing and evaluation. Through laboratory tests it was determined that a concentration of 100% RYDLYME is needed to effectively dissolve the vivianite.

RYDLYME approach

- Concentration of 100% RYDLYME
- Circulation of 13 hours through 4" 90 degree pipe

RYDLYME results

- After 13-hour session, the vivianite was dissolved and flow rate was *tripled!*

For more than 70 years, RYDLYME biodegradable descaler has been used to safely and efficiently dissolve tough mineral deposits, such as water scale, lime scale, calcium, rust and even struvite. This revolutionary descaler is fortified with a complex formula of wetting and penetrating agents that dissolve mineral deposits into solution for quick and easy disposal.



HVAC service professionals trust and turn to RYDLYME



DISSOLVE THE TOUGHEST MINERAL DEPOSITS

For more than 70 years, RYDLYME biodegradable descaler has been used to safely and efficiently dissolve tough mineral deposits

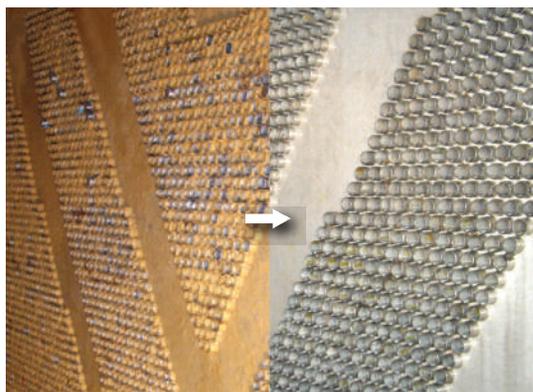
TRULY SAFE & BIODEGRADABLE

RYDLYME is the ONLY product of its kind that is truly non-toxic and non-hazardous! Unlike other chemical descalers and traditional harsh acids, RYDLYME can be safely handled by personnel

DISSOLVE THE TOUGHEST MINERAL DEPOSITS

RYDLYME is as much as 12x faster than other chemical descalers, with most cleaning applications completed within a few hours

Actions speak louder than words



Stainless steel condenser at a power plant



Boiler at a commercial building



Cooling tower (hot deck) at an institutional facility



Absorption unit at a university

FOUL TERRITORY

A whimsical concoction of information in the world of scale, grease, odors and more.

Cash while you pee?

China's new public toilets feature an ATM, a lounge with vending machines, a machine for paying utility bills and even an electric-car charging station. Every toilet is furnished with a flat-screen television, and use grey water for flushing

With the appearance of a bright convenience store, Beijing's "5th space" was opened outside government offices in the city's Fangshan district. Officials say more "5th space" toilets will be opened in the city's outlying Tongzhou, Shunyi and Pingu districts.

A spokesperson for the Beijing Environmental Sanitation Engineering Group said the "5th space" moniker is meant to declare that these state of the art public toilets will coincide nicely with China's other four spaces: family space, work space, leisure space and cyber space. 🚰



Dirty Pictures

Have a dirty piece of equipment? It can be anything from a scale-filled tube to a grease-covered machine. Send us photos of your fouled equipment and it could be used in a future edition of *Apex Quarterly*.

Email a high resolution jpg or tif (1MB or higher) with a brief description of the equipment (type/model, age, function, etc.) and type of contaminant to:

Patrick Cummings at pjc@rydlyme.com

Farts may get you fired.

A Pennsylvania man claims a pork company fired him for letting it rip so many times at work that the stench started masking the smell of their popular hickory-smoked ham, he told the Daily News.

The 70-year-old said he couldn't help his flatulence after he underwent gastric bypass surgery in 2010 and his symptoms of "extreme gas and uncontrollable diarrhea" worsened in 2013.

"It was very dangerous. More than once, I'm arriving for work and

"extreme gas and uncontrollable diarrhea"

I'm up the steps and into the bathroom right away," he said. "You don't hold it in. You don't do it. You're not going to make it. I always kept a change of clothes at work just in case." 🚰



ELIMINATE H₂S, AMMONIA, MERCAPTANS & SKATOLE!

RYDALL OE Odor Eliminator is a unique, environmentally beneficial non-active biocatalyst containing a complex mixture of natural nutrients, vitamins, and trace elements specifically designed to eliminate industrial odors and corrosion problems without the need for hazardous chemicals or masking fragrances!





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For 70 years, 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 cleaners and degreasers, our products will decrease downtime and increase efficiency.

We are a fourth-generation, family-owned company renowned 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 knowledgeable technicians will work closely with you to determine the best solution for your facility's unique challenges. To further minimize your downtime, virtually all orders are shipped out within 24 hours.

Apex Engineering Products also takes great pride in being an ISO 9001:2008 Certified Company providing the highest level of support and quality of products to our customers...**another formula that hasn't changed in 70 years!**

Made in the USA

DESCALER & PUMPING SYSTEMS



RYDLYME biodegradable descaler is specifically designed to dissolve the toughest water scale, lime scale, mud and rust deposits from virtually any piece of water-based equipment. **NSF-certified.**



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

CLEANERS & DEGREASERS



RYDALL CC Coil Cleaner is a biodegradable coil cleaner specifically designed to clean dirt, grease and soil residue from air-exposed surfaces of critical cooling or heating equipment. **NSF-certified.**



RYDALL MP Multi Purpose Degreaser is a biodegradable, highly concentrated degreaser/cleaner that quickly and safely removes oil, grease, grime and other pollutants from all surfaces and components. **NSF-certified.**



RYDALL DD Definitive Degreaser is a biodegradable, heavy-duty degreaser used specifically on all carbon-based derivatives found on the oil and/or process side of your equipment or system.



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.

ODOR CONTROL & WATER TREATMENT



RYDALL OE Odor Eliminator is a unique, environmentally beneficial biocatalyst containing a complex mixture of natural nutrients, vitamins, and trace elements designed to eliminate industrial odors and corrosion problems.



RYDALL WO Water Optimizer is an environmentally beneficial additive that disallows the formation of H₂S, COD, BOD, FOG, TDS and TSS. This unique biocatalyst is also effective in enhancing methane production and O₂ content.



BUCKED SCENT ELIMINATOR is born and bred from our industrial products, BUCKED is designed to eliminate the scent hunters carry in order to be invisible! For more information, visit our dedicated website at www.geimebucked.com!

[click on logos to learn more]