

APEX

QUARTERLY

FOURTH QUARTER 2017

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PULP AND PAPER MILL CLEANING WITH *RYDLYME* -
FIND OUT MORE!

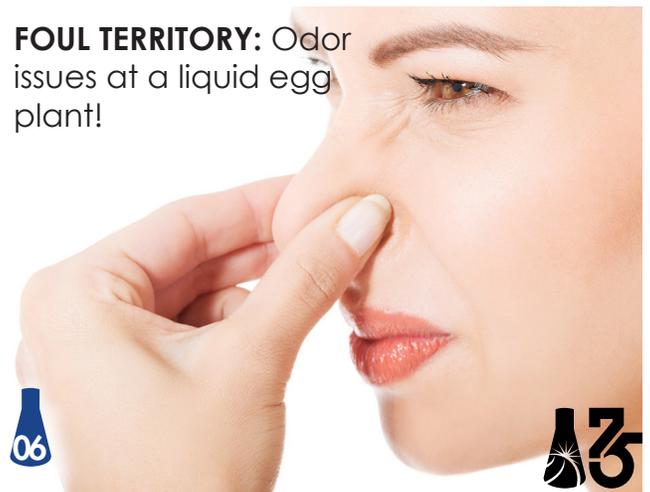
GREEN LIQUOR DEPOSITS ARE NO MATCH
FOR *RYDLYME*!

FOUL TERRITORY: LIQUID EGG
PLANT AND FOUL ODORS!



NEWS ON SAFE
CHEMICAL SOLUTIONS
FROM APEX ENGINEERING
PRODUCTS CORPORATION

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RYDLYME AND PAPER MILLS

Don't let costly shut downs wreck your productivity - the following will explain where, how and why **RYDLYME** should be used in pulp and paper mills!

Pulp and paper operations are highly dependent on the use and responsible management of water resources. Water is used in all major process stages, including raw materials preparation (e.g., wood chip washing), pulp washing and screening, and paper machines (e.g., pulp slurry dilution and fabric showers).

Water is also used, for process cooling, materials transport, equipment cleaning, general facilities operations, and to generate steam for use in processes and on-site power generation. The diagram below illustrates in general terms the ways in which water enters and leaves a manufacturing operation.^{Figure 1}

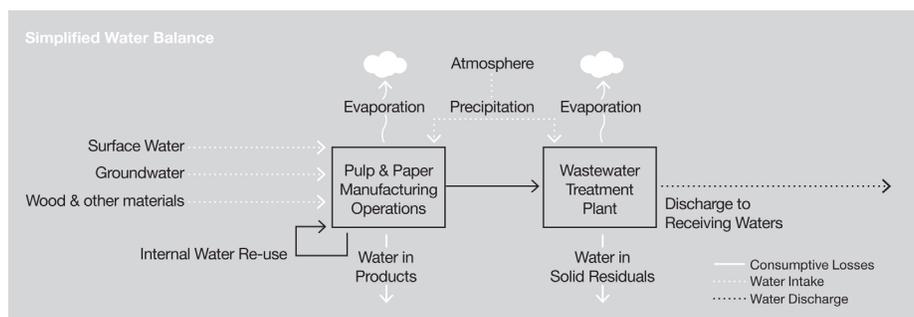


Figure 1

Scaling Issues

A consequence of heavy process water use in pulp and paper manufacturing and an ongoing challenge for many pulp and paper mills is the accumulation of scale -- mineral deposits from water that can plug and corrode equipment, restrict flows, reduce efficiencies, and lead to even greater operational problems including unscheduled downtime and equipment failure.

Left untreated, mineral deposits can be particularly detrimental to heat transfer systems, according to Michael Ostermeier. "Water scale acts like an insulating barrier, impeding heat transfer and forcing the equipment to work harder," he said. "It only takes a thin layer of scale for the economies of power consumption to jump considerably -- just a 1/16th of an inch of scale equates to an approximate 10 percent loss in efficiency. This loss occurs every single hour of operation and increases."

RYDLYME Biodegradable Descaler has been used in the pulp and paper industry for decades to safely and easily dissolve mineral deposits. It has been used on various water-operated equipment, including evaporators, boilers, vacuum pumps, green liquor lines, heat exchangers and cooling towers.

Non-hazardous and 100% biodegradable without neutralization, **RYDLYME** is safe for personnel and equipment, and in most cases, can be easily circulated through equipment without dismantling. This method, along with the speed and effectiveness of **RYDLYME**, allows mills to decrease downtime and increase production.

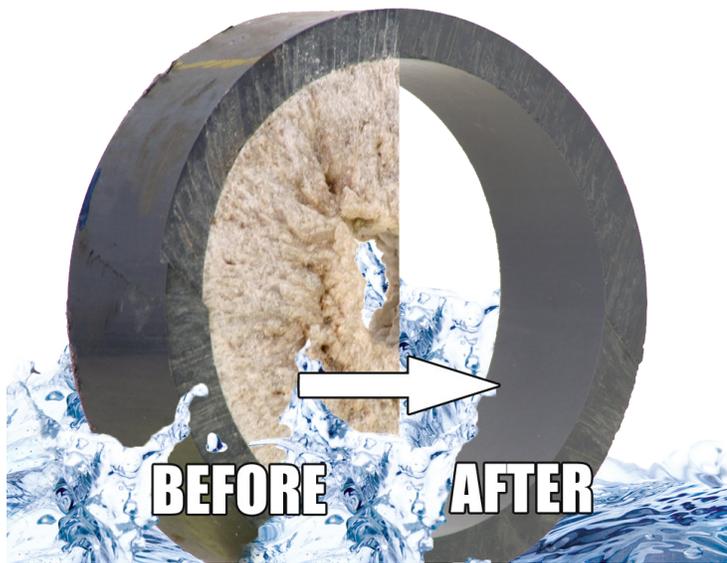


Once crystallization has occurred,
water-formed deposits accumulate
EXPONENTIALLY!

Where can **RYDLYME** be used?

- De-inking Lines
- Drying Cylinders/Vacuum Pumps
- Water Treatment Plants
- Green Liquor Lines
- Boilers
- Air Humidifiers
- Black Liquor Evaporators
- Heat Exchangers

RYDLYME can resolve the negative effects of water scale in the pulp and paper industry, such as:



- Heat-transfer loss
- Increased downtime
- Flow restrictions
- Increased cost
- Inaccurate flow measurements
- Decreased equipment life
- Reduced efficiency
- Stock lumps
- Reduced machine speed
- Machine breakdowns
- Electrical costs
- Inefficient operation
- Shutdowns
- Costly breakdowns
- Scale deposition
- & much more!

THANK YOU RSD CREW!

The guys of RSD representing **RYDLYME**

To the right are the guys of RSD in California wearing RSD and **RYDLYME** branded shirts! It's wonderful to see the hard working team represent our product, on their apparel and to other customers who frequent their store.

Another thank you to Mike King of Hydra Flow West in California for providing the shirts to the RSD Crew!

- Apex Engineering Products Corporation
Management Team



RYDLYME DISSOLVES GREEN LIQUOR



A large paper mill was experiencing significant fouling in their 800' section of 4" green liquor lines. A call was made to Apex Engineering Products to assess how much **RYDLYME** would be needed to complete the job.

Solution

- 330 gallons (1 tote) of **RYDLYME**.
- Circulated via 1-1/2" pneumatic pump for 8 hours.

Results

- Flow rate prior to cleaning was 36 GPM; after the cleaning was complete, the flow rate increased to over 100 GPM! An increase close to **300%**!
- The customer was extremely satisfied and is looking to have additional liquor lines cleaned during the next shutdown!

A Gulf Coast global paperboard and paper-based packaging company was plagued with deposits in their green liquor lines – predominantly in their primary and weak wash processes.

Solution

- 330 gallons (1 tote) of **RYDLYME**.
- Circulated via 1-1/2" pneumatic pump for 9 hours.

Results

- The flow rate of the green liquor had a **92% increase** after cleaning!
- The customer was so pleased that other fouled equipment are being assessed for cleaning!



RYDALL MP REMOVES GREASE!



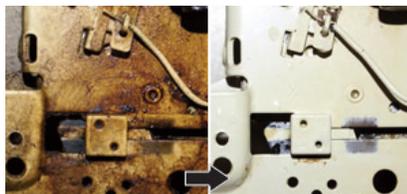
RYDALL MP Multi Purpose Degreaser is a biodegradable, medium-duty surface degreaser/cleaner ideal for industrial and commercial facilities, institutions and even households. It quickly and safely removes oil, grease, grime, dirt and other contaminants from all surface types and components. This versatile degreaser/cleaner is one of the strongest, non-solvent based products on the market.

Is it safe to use in food processing facilities...?
Of course **RYDALL MP** is food-grade certified by NSF as a safe general cleaner (A1) for food processing facilities!

RYDALL MP is a water-soluble, mineral oil-free, alkaline solution containing specially modified additives for improved oil holding capacity, surface wetting and low-foaming attributes. This non-acidic, non-flammable degreaser is also a powerful oil and fat remover effective in removing heavy organic components. **RYDALL MP** completely rinses off pollutants without danger of combustion or leaving behind a greasy film.

RYDALL MP comes in a highly concentrated, non-hazardous liquid and in a variety of containers sizes:

- 24 oz spray bottle (case of 6)
- 1-gallon Jug
- 4-gallon Case (1 gal. container x 4)
- 5-gallon Jug
- 55-gallon Drum
- 330-gallon Totes



RYDALL DD Put To Test!
RYDALL DD
 BIODEGRADABLE Definitive Degreaser™

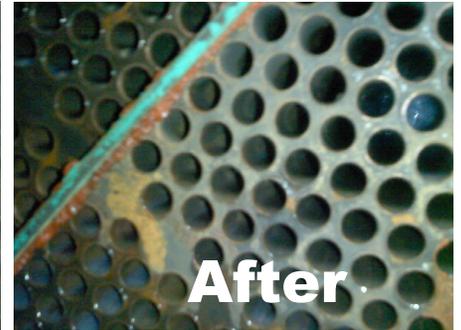
A company's lube oil system had a breach in one of the tubes which caused oil to leak into the open cooling water side of the tower system. This application called for **RYDALL DD** on the water side of one of the heat exchangers. Using 140°F water and a 15% solution of **RYDALL DD**, they were able to get the majority of the oil out of the water side of this heat exchanger. This worked so well that the company purchased (2) totes, 660 gallons of **RYDALL DD** to help remove the oil from the rest of the open side of the estimated 20,000 gallon tower system.

Size of equipment/system: 8' X 60''.

Amount of RYDALL DD: 5 gallons.

Circulation Method: Centrifugal pump with 15-20 gpm.

Circulation Time: 8 hours.



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

A liquid egg company has residents complaining of foul odors coming from their plant - the verdict? It smells like raw sewage and rotting eggs! "Smells like... just sewage, like someone went to the restroom outside," a resident had said during an interview.

The plant is not ignoring the people of this town, they are trying different remedies to fix the issue, but none have sufficed just yet. Another concern of the town is the level of H2S that may be developing from the plant.

The plant is also adding an aerobic wastewater treatment system to help with this odor issue. Launched in the summer of 2016, the treatment system is going through some fine tweaking.

Apex Engineering Products Corporation recommends **RYDALL WO** to fix this issue. **RYDALL WO** Water Optimizer is an environmentally beneficial alternative to wastewater treatment problems. **RYDALL WO** contains a complex mixture of nutrients, vitamins and trace elements that reduce hydrogen sulfide (H2S), chemical oxygen demand (COD), biochemical oxygen demand (BOD), fats, oil, and grease (FOG), total dissolved solids (TDS) and total suspended solids (TSS) from your wastewater.



This unique non-active biocatalyst promotes the development of microflora, stimulating the effectiveness of beneficial bacteria in wastewater anaerobically. This not only enhances the natural biological cleaning process, but also enhances valuable methane (CH4) production and dissolved oxygen (O2) content.

story via www.fox17online.com



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.



RYDALL DC Deodorizing Cleaner is a biodegradable, ultra-concentrated product that vitalizes microorganisms already present on surfaces and help speed up their metabolic process to naturally rid surfaces of odor and disease-causing bacteria.

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 H_2S , COD, BOD, FOG, TDS and TSS. This unique biocatalyst is also effective in enhancing methane production and O_2 content.

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For 75 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 9001:2015 Certified Company providing the highest level of support and quality of products to our customers...**another formula that hasn't changed in 75 years!**