

# APEX

QUARTERLY

THIRD QUARTER 2024

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**NEWS ON SAFE  
CHEMICAL SOLUTIONS  
FROM APEX ENGINEERING  
PRODUCTS CORPORATION**

Manufactured Since 1942 by: Apex Engineering Products Corporation



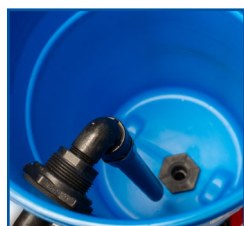
## Heat Exchanger Cleaning Kit

**RYDLYME** dissolves water scale, lime, struvite, vivianite, mud and rust deposits safely, quickly and effectively!

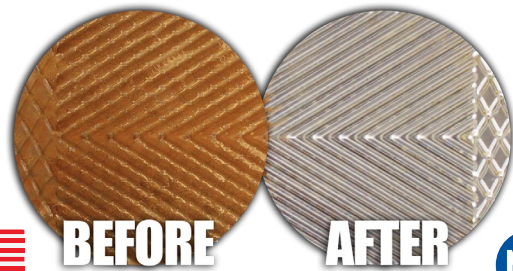


### RYDLYME Heat Exchanger Cleaning Kit includes:

- A recommended quantity of **RYDLYME** Biodegradable Descaler (NSF/ANSI/CAN 60)
- An Industrial Descaling System for circulation
- Including multiple hoses (3 hoses for 10CIP)
- Technical support and sales representatives around the globe
- **FREE** desposit test! (\$299 **VALUE!**)



Industrial Descaling System 10CIP



Certified to NSF/ANSI 60  
Nonfood Compounds (A3)

| Product Size                   | SKU           |
|--------------------------------|---------------|
| <b>RYDLYME</b> 4X1 Gallon Case | <b>RYD04</b>  |
| <b>RYDLYME</b> 1 Gallon Jug    | <b>RYD01</b>  |
| <b>RYDLYME</b> 5 Gallon Pail   | <b>RYD05</b>  |
| <b>RYDLYME</b> 30 Gallon Drum  | <b>RYD30</b>  |
| <b>RYDLYME</b> 55 Gallon Drum  | <b>RYD55</b>  |
| <b>RYDLYME</b> 330 Gallon Tote | <b>RYD330</b> |

# Calcium and Water Scaling: A Threat to Industrial Equipment

## What is Calcium and Water Scaling?

Water is never pure; it carries dissolved minerals, primarily calcium and magnesium, which can precipitate when exposed to certain conditions, forming hard, crystalline deposits known as "scale." Scaling most commonly forms in heat exchange systems, piping, and cooling towers due to temperature changes and water evaporation, leaving behind calcium deposits. Over time, these deposits grow thicker and restrict water flow.

## How Scaling Develops

As water flows through industrial systems, it encounters pressure and temperature changes. These changes cause the dissolved calcium and other minerals to crystallize and adhere to surfaces. In high-heat applications, such as boilers and heat exchangers, the scaling process is accelerated because heat encourages faster mineral precipitation. Over time, this leads to hard, stubborn calcium deposits that can coat internal surfaces, reducing equipment efficiency.



## Why Scaling is Damaging to Equipment

Calcium scale is not just a cosmetic issue. Once formed, it acts like an insulator, inhibiting heat transfer in critical equipment like boilers, heat exchangers, condensers, and cooling towers. The insulating effect forces equipment to work harder, raising energy consumption and operational costs. Scale also obstructs water flow, reducing the capacity of systems to transfer heat or cool efficiently.



## Underdeposit Corrosion

The mechanical strain caused by the additional pressure and heat required to overcome the scale accelerates wear and tear. This increases the risk of breakdowns and reduces the lifespan of the equipment. Scale is also corrosive to equipment and can lead to underdeposit corrosion.

## Decreased Efficiency and Lifespan

A mere 1/16th inch of calcium scale can increase energy consumption by up to 15%. As the scale thickens, this energy waste multiplies, directly affecting the bottom line by raising utility bills. In addition, the scale's insulating properties force equipment to overheat, pushing it beyond its design limits. Not only does this decrease efficiency, but it also compromises the integrity of system components, leading to more frequent maintenance, repairs, and eventually, premature replacement.

# The Solution: How RYDLYME Dissolves Calcium Scale and Restores Efficiency

## RYDLYME: A Proven Descaler

**RYDLYME**, Apex Engineering Products' flagship descaling solution, has been trusted by industries worldwide to tackle calcium and water scaling. **RYDLYME** is specifically designed to dissolve calcium carbonate and other mineral deposits on contact. It safely removes scale without damaging the underlying equipment or creating downtime for disassembly.

## The Chemical Magic Behind RYDLYME

Unlike harsh acids that can corrode equipment or require intensive safety protocols, **RYDLYME** is a biodegradable, non-hazardous formula. It selectively targets calcium carbonate and other hard mineral deposits, dissolving it into a water-soluble solution that can be easily flushed away. The process is fast, often completing within hours, returning equipment to peak performance without the need for disassembly.



## Immediate Impact: Efficiency Restored

Once the scale is dissolved, heat transfer surfaces are exposed again, restoring equipment efficiency almost instantly. With improved water flow, reduced strain on pumps and motors, and optimal heat transfer, energy consumption returns to normal levels. This translates into significant cost savings. Equipment lifespans are extended, and costly emergency repairs are avoided.

## Extending Equipment Life

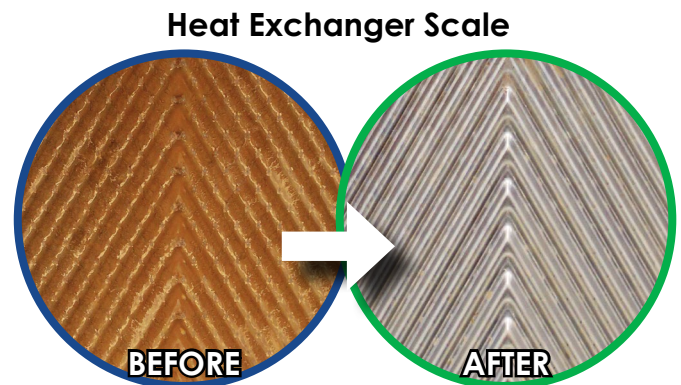
By keeping systems clean and scale-free, **RYDLYME** ensures that equipment runs within its design specifications, significantly extending operational life. Routine, preventative **RYDLYME** treatments can also prevent the buildup of future scale, maintaining high efficiency and reducing maintenance frequency.

## Proactive Scale Removal with RYDLYME

Don't wait for performance to drop or energy bills to rise! Regular descaling with **RYDLYME** is a simple, cost-effective way to protect your investment and ensure that your systems operate at their peak efficiency. Contact Apex Engineering Products today to learn more about how **RYDLYME** can safeguard your equipment and keep your operations running smoothly.

## RYDLYME Features:

- Biodegradable
- Dissolves 2.2 lbs of scale per gallon
- NSF/ANSI/CAN 60 certified
- Non-corrosive and safe for personnel





## RYDALL MP: The Multi-Purpose Degreaser for Industrial Equipment

Industrial machinery and equipment endure a constant barrage of dirt, grease, oil, and grime from everyday operations. Over time, this buildup can reduce equipment efficiency, cause premature wear, and even pose safety hazards. To ensure optimal performance and extend the life of your equipment, regular cleaning is essential. That's where **RYDALL MP** steps in.

**RYDALL MP** is a biodegradable, non-corrosive, multi-purpose degreaser designed to tackle the toughest cleaning jobs in various industrial environments. From degreasing heavy machinery to cleaning floors and surfaces, **RYDALL MP** is the go-to solution for fast, effective, and safe degreasing.

### How RYDALL MP Works

**RYDALL MP** contains a powerful blend of surfactants that penetrate and break down grease, oils, and other contaminants on contact. Once applied, it lifts and emulsifies the grime, making it easy to wipe away or rinse off without leaving residue. What sets **RYDALL MP** apart is its non-corrosive and environmentally friendly formula, which means it can be used on a wide range of surfaces without risk of damage to the equipment or harm to the environment. Phosphate and PFAS free - safe for our turtle friends!

Unlike traditional degreasers that rely on harsh solvents or toxic chemicals, **RYDALL MP** is safe for users, the equipment, and the surrounding environment. It can be used in confined spaces, on sensitive materials, or in facilities where safety and environmental regulations are strict.

### Applications of RYDALL MP

**RYDALL MP** is versatile and effective in a variety of industries, including manufacturing, food

processing, transportation, marine, and more. Some common applications include:

**Degreasing Heavy Machinery:** **RYDALL MP** cuts through layers of grease and grime that accumulate on equipment surfaces, gears, and motors, allowing for improved performance and reducing the risk of overheating due to buildup.

**Cleaning HVAC Systems:** HVAC systems, air handlers, and ductwork often collect dust, dirt, and oil, reducing airflow efficiency. **RYDALL MP** quickly dissolves these contaminants, restoring efficient operation.

**Degreasing Engines and Mechanical Parts:** Whether it's an engine block, transmission, or hydraulic system, **RYDALL MP** can remove oil and grease, improving heat dissipation and preventing mechanical issues caused by grime accumulation.

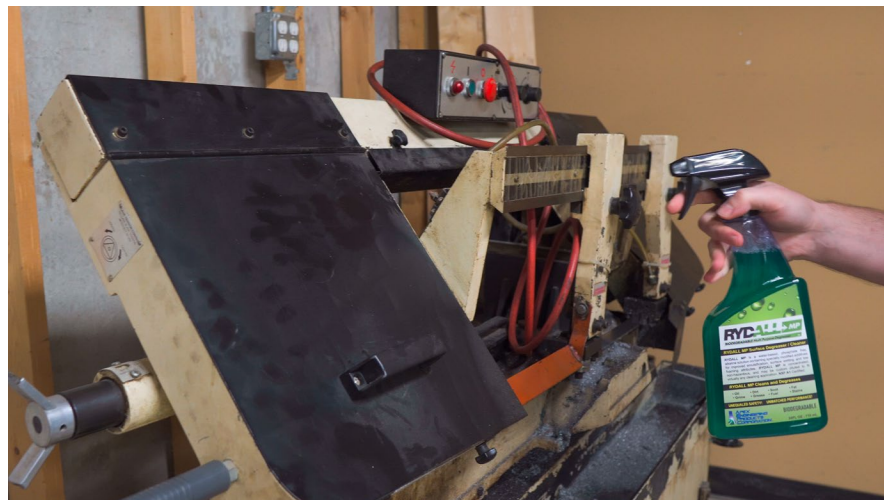
**General Surface Cleaning:** **RYDALL MP** is effective on floors, walls, workstations, and equipment surfaces, keeping facilities clean and reducing the risk of contamination or accidents due to slippery surfaces.

**Food Processing Equipment:** Its non-toxic formula makes **RYDALL MP** safe for cleaning food processing and packaging machinery, where cleanliness is critical to product safety and quality.

## How to Use RYDALL MP

Using **RYDALL MP** is simple. It can be diluted with water depending on the level of grease or dirt buildup. For light cleaning, a 10:1 water to **RYDALL MP** ratio is effective, while more challenging degreasing tasks may require a stronger concentration. The solution is applied directly to the equipment using a sprayer, brush, or wipe, allowed to sit for a few minutes to penetrate the grime, and then rinsed or wiped clean.

For tough or large-scale applications, **RYDALL MP** can be used in conjunction with pressure washers or foamers for even more effective results. It is versatile enough for use in both routine maintenance and emergency cleaning situations.



## A Safe, Eco-Friendly Solution

In today's world, where environmental regulations are increasingly stringent, **RYDALL MP** provides a solution that is both highly effective and eco-friendly. It is fully biodegradable, free from harmful chemicals like phosphates or petroleum distillates, and completely safe for the environment when disposed of properly. This makes it a great choice for companies looking to maintain equipment while adhering to sustainability goals.

## COOLING TOWER, RISERS & HEAT PUMP CLEANING

A southeastern state condo association was having cooling issues with their AC unit heat pumps. The determination of the issue was water scale had developed and reduced water flow. Rather than replacing thousands of feet of pipe and AC unit heat pumps, **RYDLYME** was the easiest, lowest cost and safest solution.

700 gallons of **RYDLYME** and 700 gallons of water (50% dilution) was introduced into the cooling tower and circulated using the cooling tower pumps and external pumps through the risers and heat pumps for six hours. After the six hours, the results were incredible! Prior to the **RYDLYME** cleaning, the heat pumps were producing 160 PSI on the low side and 500 PSI on the high side. After the **RYDLYME** cleaning, the heat pumps were producing 100 PSI on the low side and 325 on the high side! Before the **RYDLYME** cleaning, the heat pumps were producing 100°F water on the inlet and 135°F on the outlet. After the **RYDLYME** cleaning, the heat pumps were producing 77°F water on the inlet and 90°F on the outlet!



### CHALLENGE

A condo association was facing cooling issues due to severe scale build up in their heat pumps & risers.

### SOLUTION

A total of 700 gallons of **RYDLYME** was circulated through the cooling tower, risers & heat pumps for 6 hours.

### RESULTS

The heat pump reduced the low side PSI by 60 and the high side PSI by 175! The temperature for the water-in side dropped by 23°F and the water-out side by 45°F!

## 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



**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.

## ODOR CONTROL & WATER TREATMENT



**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<sub>2</sub>S, COD, BOD, FOG, TDS and TSS. Thereby reducing corrosion and discharge penalties while increasing production.



**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!

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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 over 80 years!**