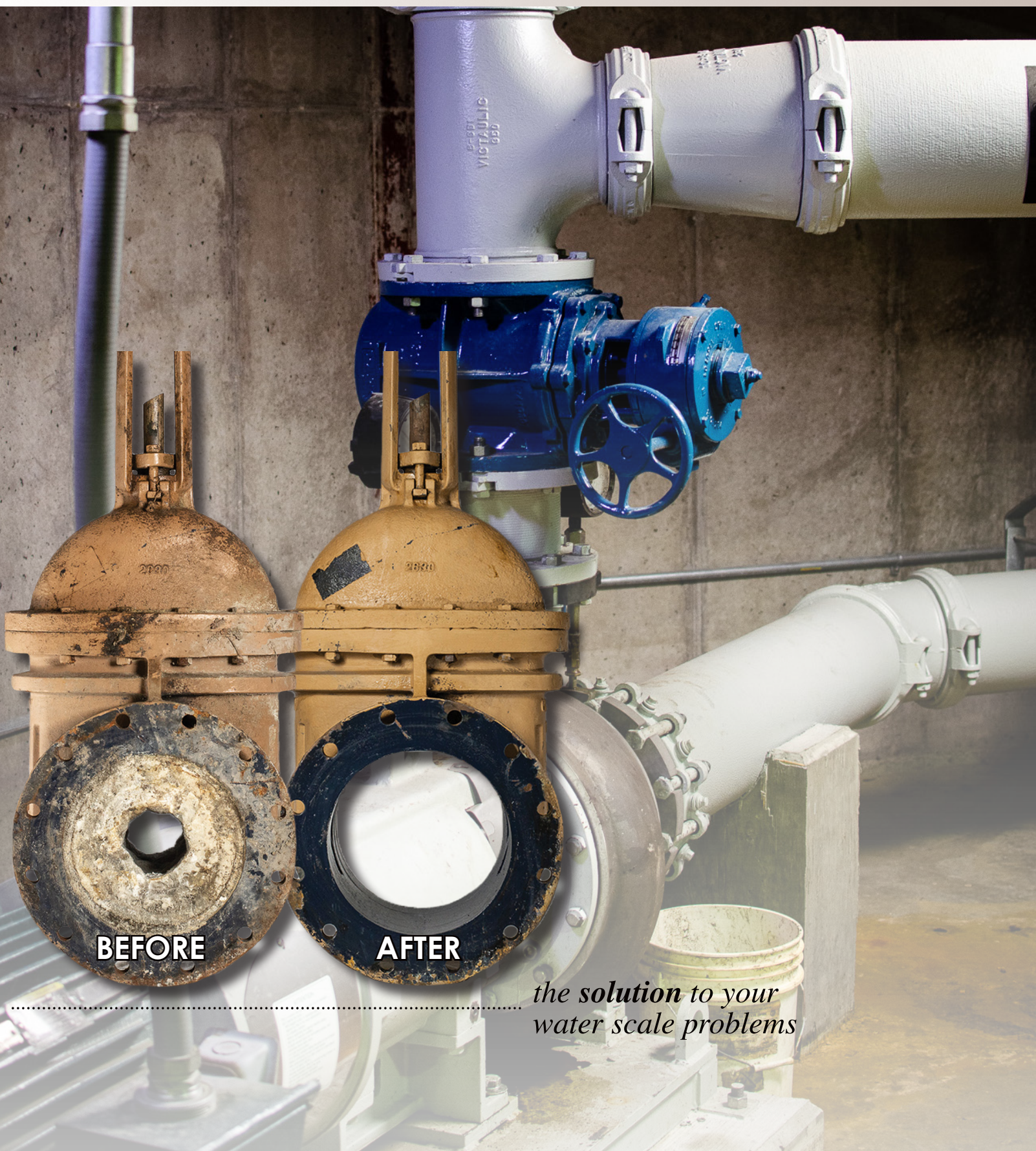


Manufactured Since 1942 by: Apex Engineering Products Corporation

RYDLYME[®]
World's Leading Biodegradable Descaler

Struvite Removal

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



*the solution to your
water scale problems*

Struvite, scientifically known as magnesium ammonium phosphate, is a crystalline compound that commonly forms in environments where wastewater or organic matter is processed. This mineral typically precipitates in places with high concentrations of magnesium, ammonia, and phosphate, which are often found in wastewater treatment plants, agricultural runoff, and some industrial processes.

The formation of struvite is influenced by factors such as pH, temperature, and the concentration of its constituent ions in the solution. It often appears as a white or yellowish crystalline deposit and can be a significant issue in various industries due to its tendency to adhere to pipes, pumps, and other equipment. This buildup can lead to blockages, decreased efficiency, and increased maintenance costs. Struvite's unique composition makes it challenging to remove, requiring specialized treatments like chemical descalers.

But not all descalers are created equal... **RYDLYME** biodegradable descaler can dissolve even the toughest struvite buildup and deposits throughout equipment!

Struvite buildup is a notable challenge in several industries, primarily where wastewater treatment and organic waste management are key processes.

In **wastewater treatment plants**, struvite commonly forms in pipes, pumps, and other equipment, potentially causing blockages and reducing operational efficiency.

The **agriculture and livestock sectors**, particularly in facilities managing animal waste or operating biogas plants, also face struvite-related issues.

The **food processing industry**, especially segments that handle high-nitrogen waste streams, can be impacted by struvite precipitation.

Additionally, **aquaculture operations**, including **fish farms**, may encounter struvite buildup in their water circulation systems.

The **pharmaceutical industry** is not immune either, especially in manufacturing processes involving fermentation or biological waste streams, where struvite buildup can affect the efficiency and cleanliness of production equipment. In all these sectors, struvite formation presents a significant maintenance challenge, necessitating regular intervention to ensure smooth and efficient operations.

Struvite buildup poses a significant maintenance challenge across a range of industrial equipment, notably impacting the functionality and efficiency of key components. **Pipes** are particularly susceptible, as struvite precipitates and



adheres to their inner surfaces, leading to blockages and reduced flow capacity. **Pumps**, essential for the movement of fluids in many industrial processes, can suffer from decreased performance, lower flow rates and increased wear due to struvite accumulation, necessitating frequent cleanings and repairs.



Before



After

Heat exchangers, crucial for temperature regulation in various applications, face reduced thermal efficiency when struvite forms on their surfaces, impacting overall system performance. Reactors, used in numerous chemical and biological processes, can experience reduced mixing

efficiency and process imbalances due to struvite buildup on their internal components.

Lastly, **centrifuges**, vital for separation processes, are prone to efficiency loss and operational interruptions when struvite clogs their rotating parts. In each case, struvite's presence demands regular maintenance and cleaning, often requiring specialized treatment methods to restore equipment functionality and protect against further accumulation.



Before



After

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Remove struvite buildup easily, safely and effectively -Choose **RYDLYME** Descaler!

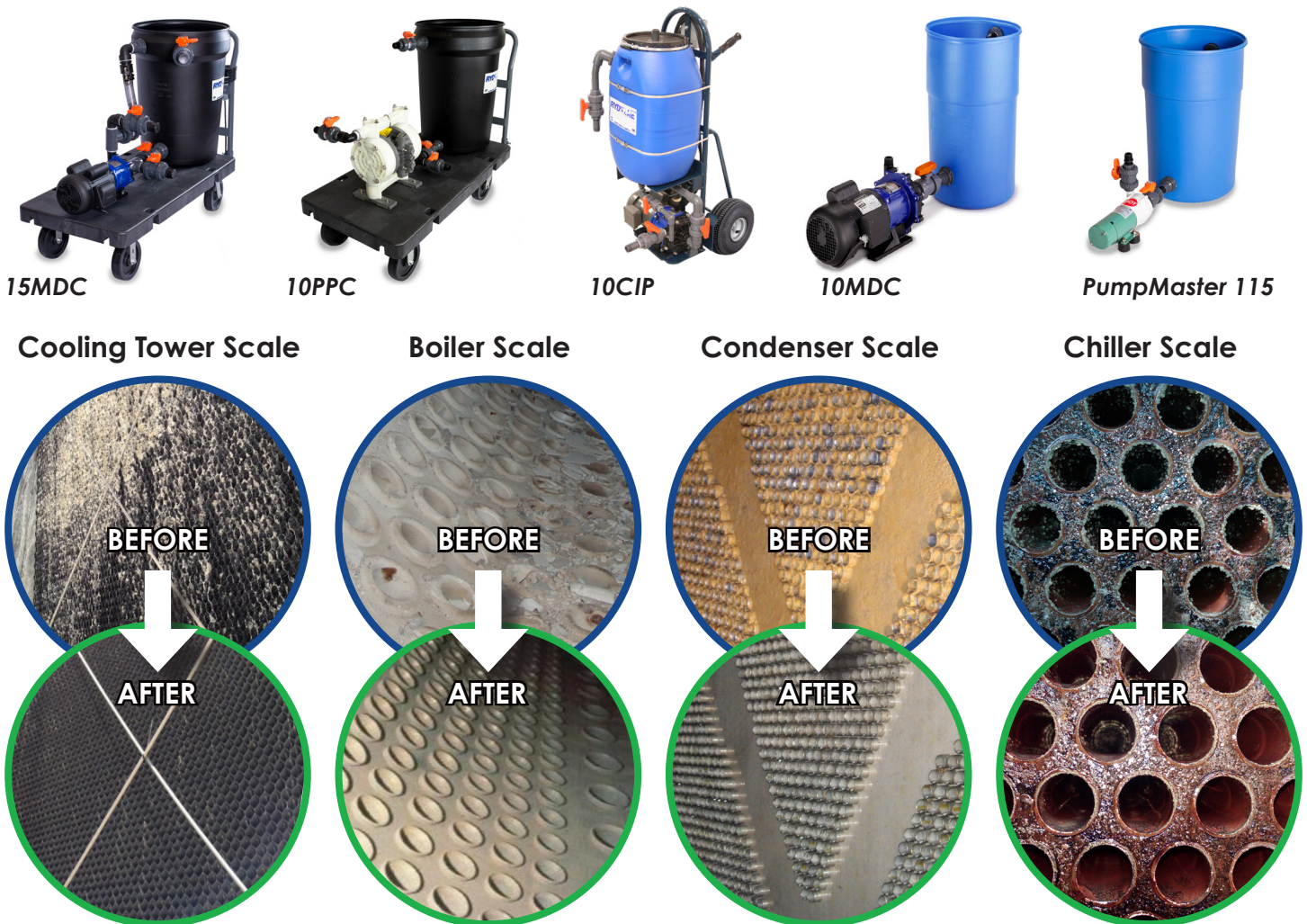
RYDLYME biodegradable descaler is as much as 12x faster than other chemical descalers, with most cleaning applications completed within a few hours. Unlike mechanical cleaning methods (e.g. brushing, rodding, hydro blasting), **RYDLYME** descaler can be circulated through equipment or system without arduous and costly dismantling. For many plants and facilities, a shutdown can cost thousands, even millions of dollars. In most cases, an online or direct injection cleaning with **RYDLYME** descaler can be set up for circulation or single-pass to avoid a shutdown!

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

personnel (you can even hold it in your hand without injury!) and there are NO transportation or handling restrictions! It can be safely disposed of in normal plant sewers, even in the case of an accidental spill at full-concentration!

Since 1942, **RYDLYME** biodegradable industrial chemical descaler has been used to safely and efficiently dissolve tough mineral deposits such as water scale, limescale, calcium, and rust. This revolutionary descaler is fortified with a complex formula of wetting and penetrating agents that dissolve into a solution for quick and easy disposal.

Pair **RYDLYME** with an industrial descaling system to circulate throughout your equipment!



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